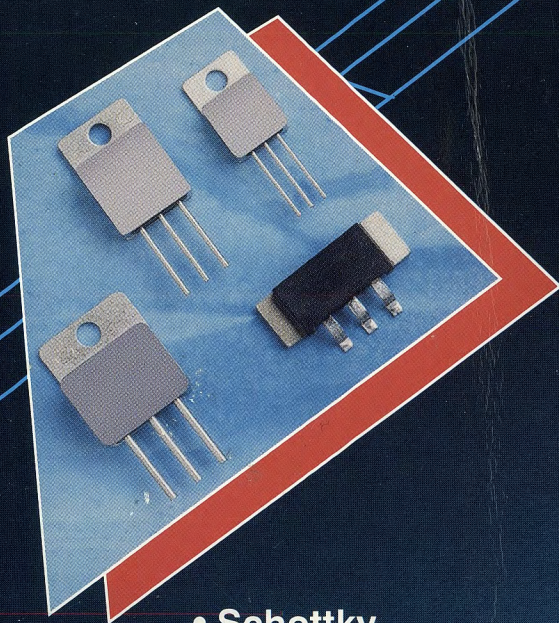
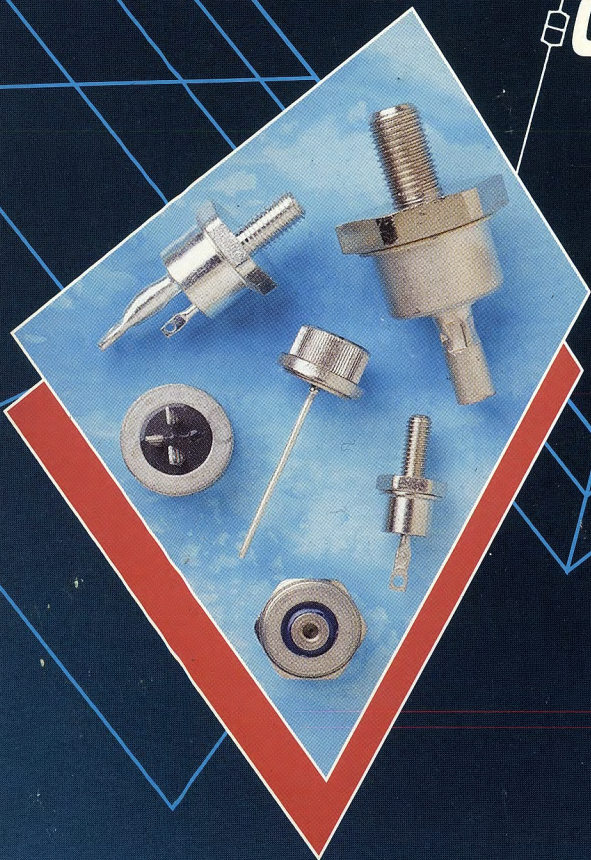
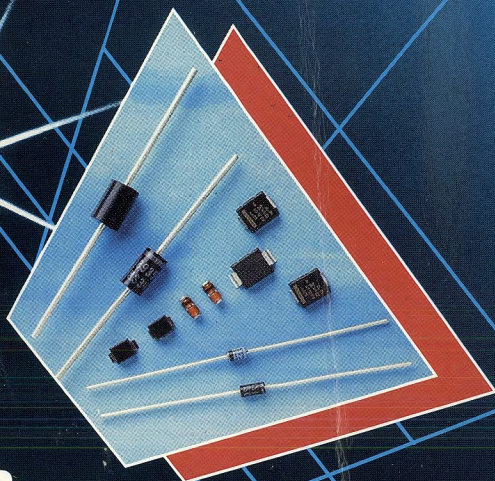


# DATA BOOK

## *Microsemi Corp.* *Colorado*



- Schottky
- Ultra Fast
- Phase Control Rectifiers
- SCRs
- Assemblies
- Chips



# **Microsemi Corp. Colorado**

## **YOUR SOURCE FOR POWER RECTIFIERS AND DIODES**

Microsemi Corp.-Colorado is a dynamic, growth-oriented company that manufactures a broad line of Schottky, Ultrafast, Standard Recovery Rectifiers, and SCRs.

Built on a solid foundation of over 25 years experience, the company has significantly expanded its product line, which enables us to offer our customers the convenience of "one source shopping" for power rectifiers and diodes. In addition, we manufacture custom and semi-custom products, and assemblies, to meet your specific and unique needs.

As a natural extension of Microsemi Corporation's involvement in military programs at the Santa Ana, California and Scottsdale, Arizona facilities, the Colorado operation has received DESC approval for Military qualification and production, and has received many MIL-S-19500 ultrafast recovery and Schottky rectifiers currently in production. (See Page III for a listing of current QPL approved devices, and additional Hi Rel capabilities.)

We know that a diverse line of quality products is only as good as the service that supports it. Microsemi-Colorado is committed to offering the best mix of product, reliability and service available.

For your information, a comprehensive cross reference is included in this data book. We are only a phone call away to provide application assistance or other additional information you may seek to service your semiconductor requirements. We look forward to hearing from you!

Ph: 303-469-2161

Fax: 303-466-3775

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# DATA BOOK OVERVIEW

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**Military Qualified Products List**  
**MIL-S-19500**  
**JAN, JANTX, JANTXV Levels**

1N1184 & R - 1N1190 & R .....	/297
1N1202A & RA - 1N1206A & RA .....	/260
1N1614 & R - 1N1616 & R .....	/162
1N3671A & RA, 1N3673A & RA .....	/260
1N3766 & R, 1N3768 & R .....	/297
1N3890 & R, 1N3891 & R, 1N3893 & R .....	/304
1N3890A & RA, 1N3891A & RA, 1N3893A & RA .....	/304
1N3909 & R - 1N3913 & R .....	/308
1N3909A & RA - 1N3913A & RA .....	/308
1N4458 & R - 1N4459 & R .....	/162
1N5812 & R - 1N5816 & R .....	/478
1N6304 & R - 1N6306 & R .....	/550
1N6391 .....	/553
1N6392 .....	/554

Note: In addition to the above, Microsemi-Colorado has the following new package types to complement our line:

DO-8 .....	(Metal Stud)
DO-9 .....	(Metal Stud)
DO-13 .....	(Metal Case)
DO-41 .....	(Glass Case)
DO-213AB .....	(Glass Surface Mount)
TO-65 .....	SCR (Metal Stud)
TO-3 .....	(Metal Case)
TO-254 .....	(Metal Case)
TO-257 .....	(Metal Case)
TO-258 .....	(Metal Case)

We are pleased to announce that we have the capability to screen all of the above package types to the JANS level, should your needs require it.

Consult the factory for information.

PH: 303-469-2161

FAX: 303-466-3775

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INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER
1N248	S30405	1N1197	S30450	1N1348	S20460
1N248A	S30405	1N1197A	S30460	1N1348A	S20470
1N248B	S30405	1N1198	S30460	1N1348B	S20470
1N249	S30410	1N1198A	S30470	1N1396	S4305
1N249A	S30410	1N1199	S20405	1N1397	S4310
1N249B	S30410	1N1199A	S20405	1N1398	S4315
1N249C	S30410	1N1199B	S20405	1N1399	S4320
1N250	S30420	1N1200	S20410	1N1400	S4330
1N250A	S30420	1N1200A	S20410	1N1401	S4340
1N250B	S30420	1N1200B	S20410	1N1402	S4350
1N250C	S30420	1N1201	S20415	1N1403	S4360
1N411B	S4305	1N1201A	S20415	1N1434	S30405
1N412B	S4310	1N1201B	S20415	1N1435	S30410
1N413B	S4320	1N1202	S20420	1N1436	S30420
1N1064	S20405	1N1202A	S20420	1N1437	S30430
1N1065	S20405	1N1202B	S20420	1N1438	S30460
1N1066	S20410	1N1203	S20430	1N1581	S20405
1N1067	S20420	1N1203A	S20430	1N1582	S20410
1N1068	S20430	1N1203B	S20430	1N1583	S20420
1N1069	S20440	1N1204	S20440	1N1584	S20430
1N1124	S20420	1N1204A	S20450	1N1585	S20440
1N1125	S20430	1N1204B	S20450	1N1586	S20450
1N1126	S20440	1N205A	S20460	1N1587	S20460
1N1127	S20450	1N1205	S20450	1N1612	S20405
1N1128	S20460	1N1205B	S20460	1N1613	S20410
1N1183	S30405	1N1206	S20460	1N1614	S20420
1N1183A	S30405	1N1206A	S20470	1N1615	S20440
1N1184	S30410	1N1206B	S20470	1N1616	S20460
1N1184A	S30410	1N1301	S30405	1N1660	S50405
1N1185	S30410	1N1302	S30410	1N1661	S50410
1N1185A	S30420	1N1304	S30420	1N1662	S50415
1N1186	S30420	1N1306	S30430	1N1663	S50420
1N1186A	S30420	1N1341	S20405	1N1664	S50430
1N1187	S30420	1N1341A	S20405	1N1665	S50440
1N1187A	S30430	1N1341B	S20405	1N1666	S50450
1N1188	S30430	1N1342	S20410	1N1670	S50405
1N1188A	S30440	1N1342A	S20410	1N1671	S50410
1N1189	30440	1N1342B	S20410	1N1672	S50415
1N1189A	S30450	1N1343	S20415	1N1673	S50420
1N1190	S30450	1N1343A	S20415	1N1674	S50430
1N1190A	S30460	1N1343B	S20415	1N1675	S50440
1N1191	S30405	1N1344	S20420	1N1676	S50460
1N1191A	S30405	1N1344A	S20420	1N2021	S30415
1N1192	S30410	1N1344B	S20420	1N2022	S30430
1N1192A	S30410	1N1345	S20430	1N2023	S30430
1N1193	S30415	1N1345A	S20430	1N2024	S30440
1N1193A	S30415	1N1345B	S20430	1N2025	S30440
1N1194	S30420	1N1346	S20440	1N2054	S50405
1N1194A	30420	1N1346A	S20450	1N2055	S50410
1N1195	S30430	1N1346B	S20450	1N2056	S50420
1N1195A	S30430	1N1347	S20450	1N2057	S50420
1N1196	S30440	1N1347A	S20460	1N2058	S50430
1N1196A	S30450	1N1347B	S20460	1N2059	S50430

INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER
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1N2061	S50440	1N2244	S21120	1N2440	S4330
1N2062	S50450	1N2244A	S21120	1N2441	S4330
1N2063	S50450	1N2246	S20405	1N2442	S4340
1N2064	S50460	1N2246A	S20405	1N2443	S4330
1N2065	S50470	1N2248	S20410	1N2444	S4350
1N2066	S50480	1N2248A	S20410	1N2445	S4360
1N2067	S50490	1N2250	S20420	1N2458	S30605
1N2068	S504100	1N2250A	S20420	1N2459	S30610
1N2128	S30605	1N2252	S20430	1N2460	S30620
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1N2129	S30610	1N2254	S20440	1N2462	S30630
1N2129A	S30610	1N2254A	S20440	1N2463	S30630
1N2130	S30620	1N2256	S20450	1N2464	S30640
1N2130A	S30620	1N2256A	S20450	1N2465	S30640
1N2131	S30620	1N2258	S20460	1N2466	S30650
1N2131A	S30620	1N2258A	S20460	1N2467	S30660
1N2132	S30630	1N2260	S2180	1N2491	S20405
1N2132A	S30630	1N2260A	S2180	1N2492	S20410
1N2133	S30630	1N2262	S21100	1N2493	S20420
1N2133A	S30630	1N2262A	S21100	1N2494	S20430
1N2134	S30640	1N2264	S21120	1N2495	S20440
1N2134A	S30640	1N2264A	S21120	1N2496	S20450
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1N2136A	S30650	1N2275	S30430	1N2785	S2140
1N2137	S30650	1N2276	S30440	1N2786	S3420
1N2137A	S30650	1N2277	S30450	1N2787	S3440
1N2138	S30660	1N2278	S30460	1N2788	S3420
1N2138A	S30660	1N2279	S3480	1N2789	S3440
1N2154	S30605	1N2280	S34100	1N2793	S30405
1N2155	S30610	1N2281	S34120	1N2794	S30410
1N2156	S30620	1N2282	S30430	1N2795	S30420
1N2157	S30630	1N2283	S30440	1N2796	S30420
1N2158	S30640	1N2284	S30450	1N2797	S30430
1N2159	S30650	1N2285	S30460	1N2798	S30430
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1N2232	S20420	1N2428	S4320	1N3142	S4320
1N2232A	S20420	1N2429	S4320	1N3161	S50405
1N2234	S20440	1N2430	S4330	1N3162	S50410
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1N2236	S20440	1N2432	S4340	1N3164	S50420
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1N2238	S20460	1N2434	S4350	1N3166	S50430
1N2238A	S20460	1N2435	S4360	1N3167	S50430
1N2240	S2180	1N2436	S4305	1N3168	S50440
1N2240A	S2180	1N2437	S4310	1N3169	S50450
1N2242	S21100	1N2438	S4320	1N3170	S50460

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1N3172	S50480	1N3620	S2140	1N3970	S3440
1N3172A	S50480	1N3621	S2150	1N3971	S3480
1N3173	S50490	1N3622	S2160	1N3972	S4320
1N3173A	S50490	1N3623	S2180	1N3973	S4340
1N3174	S504100	1N3624	S21100	1N3974	S4360
1N3174A	S504100	1N3670	S2170	1N3975	S4380
1N3208	S30405	1N3670A	S2170	1N3976	S50420
1N3209	S30410	1N3671	S2180	1N3977	S50440
1N3210	S30420	1N3671A	S2180	1N3978	S50460
1N3211	S30430	1N3672	S2190	1N4036	MT200
1N3212	S30440	1N3672A	S2190	1N4044	S50405
1N3213	S30450	1N3673	S21100	1N4045	S50410
1N3214	S30460	1N3673A	S21100	1N4046	S50420
1N3260	S50405	1N3735	S50410	1N4047	S50420
1N3261	S50410	1N3736	S50420	1N4048	S50430
1N3262	S50420	1N3737	S50430	1N4049	S50430
1N3263	S50420	1N3738	S50440	1N4051	S50450
1N3264	S50430	1N3739	S50450	1N4052	S50460
1N3265	S50430	1N3740	S50460	1N4053	S50470
1N3266	S50440	1N3741	S50480	1N4054	S50480
1N3267	S50440	1N3742	S504100	1N4055	S50490
1N3268	S50450	1N3743	S504120	1N4056	S504100
1N3269	S50460	1N3744	S504140	1N4136	S30720
1N3270	S50470	1N3765	S3470	1N4137	S30740
1N3271	S50480	1N3766	S3480	1N4138	S30760
1N3272	S50490	1N3767	S3490	1N4437	MT400
1N3273	S504100	1N3768	S34100	1N4438	MT600
1N3274	S504120	1N3879	UFR3005	1N4506	S2120
1N3288	S4310	1N3880	UFR3010	1N4507	S2140
1N3288A	S4310	1N3881	UFR3120	1N4508	S2160
1N3289	S4320	1N3882	UFR3130	1N4509	S2180
1N3289A	S4320	1N3883	UFR3140	1N4510	S21100
1N3290	S4330	1N3889	UFR3005	1N4511	S21120
1N3290A	S4330	1N3890	UFR3010	1N4525	S3420
1N3291	S4340	1N3891	UFR3120	1N4526	S3440
1N3291A	S4340	1N3892	UFR3130	1N4527	S3460
1N3292	S4350	1N3893	UFR3140	1N4528	S3480
1N3292A	S4350	1N3899	UFR7005	1N4529	S34100
1N3293	S4360	1N3900	UFR7010	1N4530	S34120
1N3293A	S4360	1N3901	UFR7120	1N4587	S4310
1N3294	S4380	1N3902	UFR7130	1N4588	S4320
1N3294A	S4380	1N3903	UFR7140	1N4589	S4330
1N3295	S43100	1N3909	UFR7005	1N4590	S4340
1N3295A	S43100	1N3910	UFR7010	1N4591	S4350
1N3296	S43120	1N3911	UFR7120	1N4592	S4360
1N3296A	S43120	1N3912	UFR7130	1N4593	S4380
1N3297	S43140	1N3913	UFR7140	1N4594	S43100
1N3297A	S43140	1N3964	S2120	1N4595	S43120
1N3615	S20405	1N3965	S2140	1N4596	S43140
1N3616	S20410	1N3966	S2160	1N5331	S21120
1N3617	S2120	1N3967	S2180	1N5332	S34120

INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER
1N5812	UFR3005	2N2503	15101GOA	3FR100	R20100
1N5813	UFR3010	2N2504	15101GOA	6F05A	S20405
1N5814	UFR3010	2N2505	15102GOA	6F10A	S20410
1N5815	UFR3015	2N2506	15103GOA	6F20A	S20420
1N5816	UFR3015	2N2507	15104GOA	6F30A	S20430
1N5826	SBR2520	2N2508	15105GOA	6F40A	S20440
1N5828	SBR3040	2N3884	175C10GOA	6F50A	S20450
1N5834	SBR6040	2N3885	175C10GOA	6F60A	S20460
1N6095	SD41	2N3886	175C20GOA	6F70A	S2070
1N6096	SD4140	2N3887	175C30GOA	6F80A	S2080
1N6097	SD51	2N3888	175C40GOA	6F90A	S2090
1N6098	SD5140	2N3889	175C50GOA	6F100A	S20100
1N6262	S3420	2N3890	175C60GOA	6FL05	UFR3005
1N6304	UFR7005	2N3891	175C70GOA	6FL10	UFR3010
1N6305	UFR7010	2N3892	175C80GOA	6FL20	UFR3120
1N6306	UFR7015	2N3893	175C90GOA	6FL30	UFR3130
1N6391	SD41	2N3894	175C100GOA	6FL40	UFR3140
1N6392	SBR8035	2N3895	175C120GOA	6FL50	UFR3150
1N6459	FST20040	2N4361	70C10B	6FL60	UFR3260
1N6460	FST20050	2N4362	70C20B	6FLR05	UFR3005R
2N1792	05201GOD	2N4363	70C40B	6FLR10	UFR3010R
2N1793	05202GOD	2N4364	70C60B	6FLR20	UFR3120R
2N1794	70C20BF	2N4365	70C80B	6FLR30	UFR3130R
2N1795	70C30BF	2N4366	70C100B	6FLR40	UFR3140R
2N1796	70C40BF	2N4367	70C120B	6FLR50	UFR3150R
2N1797	70C30BF	2N4371	70C10BF	6FLR60	UFR3260R
2N1798	70C50BF	2N4372	70C20BF	6FR05A	R20405
2N1799	70C60BF	2N4373	70C40BF	6FR10A	R20410
2N1800	70C80BF	2N4374	70C60BF	6FR20A	R20420
2N1801	70C70BF	2N4375	70C80BF	6FR30A	R20430
2N1802	70C80BF	2N4376	70C100BF	6FR40A	R20440
2N1803	70C90BF	2N4377	70C120BF	6FR50A	R20450
2N1804	70C100BF	3F05	S20405	6FR60A	R20460
2N1805	70C50B	3F10	S20410	6FR70A	R2070
2N1806	70C60B	3F20	S20420	6FR80A	R2080
2N1807	70C70B	3F30	S20430	6FR90A	R2090
2N1909	70C10B	3F40	S20440	6FR100A	R20100
2N1910	70C10B	3F50	S20450	6FT05	UFR3005
2N1911	70C10B	3F60	S20460	6FT10	UFR3010
2N1912	70C20B	3F70	S2070	6FT20	UFR3120
2N1913	70C20B	3F80	S2080	6FT30	UFR3130
2N1914	70C30B	3F90	S2090	6FT40	UFR3140
2N1915	70C30B	3F100	S20100	6FT50	UFR3150
2N1916	70C40B	3FR05	R20405	6FT60	UFR3260
2N2023	70C10B	3FR10	R20410	6FTR05	UFR3005R
2N2024	70C10B	3FR20	R20420	6FTR10	UFR3010R
2N2025	70C10B	3FR30	R20430	6FTR20	UFR3120R
2N2026	70C20B	3FR40	R20440	6FTR30	UFR3130R
2N2027	70C20B	3FR50	R20450	6FTR40	UFR3140R
2N2028	70C30B	3FR60	R20460	6FTR50	UFR3150R
2N2029	70C30B	3FR70	R2070	6FV05	UFR3005
2N2030	70C40B	3FR80	R2080	6FV10	UFR3010
2N2031	70C50B	3FR90	R2090	6FV20	UFR3120

INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER
6FV30	UFR3130	12FLR20	UFR3120R	12FVR60	UFR3260R
6FV40	UFR3140	12FLR30	UFR3130R	20CTQ030	FST2030
6FV50	UFR3150	12FLR40	UFR3140R	20CTQ035	FST2035
6FV60	UFR3260	12FLR50	UFR3150R	20CTQ040	FST2040
6FVR05	UFR3005R	12FLR60	UFR3260R	20CTQ045	FST2045
6FVR10	UFR3010R	12FR05B	R20405	21FQ030	SBR2530
6FVR20	UFR3120R	12FR10	R20410	21FQ035	SBR3035
6FVR30	UFR3130R	12FR10B	R20410	21FQ040	SBR3040
6FVR40	UFR3140R	12FR20	R20420	21FQ045	SBR3045
6FVR50	UFR3150R	12FR20B	R20420	30FQ030	SBR3030
6FVR60	UFR3260R	12FR30	R20430	30FQ035	SBR3035
10TQ030	MS1003	12FR30B	R20430	30FQ040	SBR3040
10TQ035	MS1004	12FR40	R20440	30FQ045	SBR3045
10TQ040	MS1004	12FR40B	R20440	36RA50	05205GOA
10TQ045	MS1005	12FR50	R20450	36RA60	05206GOA
11DQ03	MSP130	12FR50B	R20450	36RA70	55C70B
11DQ04	MSP140	12FR60	R20460	36RA80	55C80B
11DQ05	MSP150	12FR60B	R20460	36RA90	55C90B
11DQ06	MS106	12FR70	R2170	36RA100	55C100B
11DQ08	MS108	12FR70B	R2170	36RA110	55C110B
11DQ09	MS109	12FR80	R2180	36RA120	55C120B
11DQ100	MS110	12FR80B	R2180	36RA130	55C130B
12F05	S20405	12FR90	R2190	36RA140	55C140B
12F05B	S20405	12FR90B	R2190	36RA150	55C150B
12F10	S20410	12FR100	R21100	36RC10A	05201GOA
12F10B	S20410	12FR100B	R21100	36RC20A	05202GOA
12F20	S20420	12FT05	UFR3005	36RC30A	05203GOA
12F20B	S20420	12FT10	UFR3010	36RC40A	05204GOA
12F30	S20430	12FT20	UFR3120	36RC50A	05205GOA
12F30B	S20430	12FT30	UFR3130	36RC60A	05206GOA
12F40	S20440	12FT40	UFR3140	36RC70A	55C70
12F40B	S20440	12FT50	UFR3150	36RC80A	55C80
12F50	S20450	12FT60	UFR3260	37RA50	05205GOD
12F50B	S20450	12FTR05	UFR3005R	37RA60	05206GOD
12F60	S20460	12FTR10	UFR3010R	37RA70	55C70BF
12F60B	S20460	12FTR20	UFR3120R	37RA80	55C80BF
12F70	S2170	12FTR30	UFR3130R	37RA90	55C90BF
12F70B	S2170	12FTR40	UFR3140R	37RA100	55C100BF
12F80	S2180	12FTR50	UFR3150R	37RA110	55C110BF
12F80B	S2180	12FTR60	UFR3260R	37RA120	55C120BF
12F90	S2190	12FV05	UFR3005	37RA130	55C130BF
12F90B	S2190	12FV10	UFR3010	37RA140	55C140BF
12F100	S21100	12FV20	UFR3120	37RA150	55C150BF
12F100B	S21100	12FV30	UFR3130	37RC10A	05201GOD
12FL05	UFR3005	12FV40	UFR3140	37RC20A	05202GOD
12FL10	UFR3010	12FV50	UFR3150	37RC30A	05203GOD
12FL20	UFR3120	12FV60	UFR3260	37RC40A	05204GOD
12FL30	UFR3130	12FVR05	UFR3005R	37RC50A	05205GOD
12FL40	UFR3140	12FVR10	UFR3010R	37RC60A	05206GOD
12FL50	UFR3150	12FVR20	UFR3120R	37RC70A	55C70F
12FL60	UFR3260	12FVR30	UFR3130R	37RC80A	55C80F
12FLR05	UFR3005R	12FVR40	UFR3140R	40CDQ030	SBT3030
12FLR10	UFR3010R	12FVR50	UFR3150R	40CDQ035	SBT3035

INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER
40CDQ040	SBT3040	45LR50	R4250	70HR20	S3620
40CDQ045	SBT3045	45LR60	R4260	70HR30	S3630
40HF05	S30405	45LR70	R4270	70HR40	S3640
40HF10	S30410	45LR80	R4280	70HR50	S3650
40HF20	S30420	45LR90	R4290	70HR60	S3660
40HF30	S30430	45LR100	R42100	70HR70	S3670
40HF40	S30440	50HQ030	SBR6030	70HR80	S3680
40HF50	S30450	50HQ035	SBR6035	70HR90	S3690
40HF60	S30460	50HQ040	SBR6040	70HR100	S36100
40HF70	S3470	50RCS5	05005GOF	70U05A	S50405
40HF80	S3480	50RCS10	05001GOF	70U10A	S50410
40HF90	S3490	50RCS20	05002GOF	70U20A	S50420
40HF100	S34100	50RCS30	05003GOF	70U30A	S50430
40HFR05	R30405	50RCS40	05004GOF	70U40A	S50440
40HFR10	R30410	50RCS50	05005GOF	70U50A	S50450
40HFR20	R30420	50RCS60	05006GOF	70U60A	S50460
40HFR30	R30430	50RCS70	05007GOF	70U70A	S50470
40HFR40	R30440	50RCS80	05008GOF	70U80A	S50480
40HFR50	R30450	50RCS90	05009GOF	70U90A	S50490
40HFR60	R30460	50RCS100	05010GOF	70U100A	S504100
40HFR70	R3470	50RCS110	05011GOF	70U110A	S504110
40HFR80	R3480	50SQ060	MS506	70U120A	S504120
40HFR90	R3490	50SQ080	MS508	70UR05A	R50405
40HFR100	R34100	50SQ090	MS509	70UR10A	R50410
40RCS05	40C05	50SQ100	MS510	70UR20A	R50420
40RCS10	40C10	51HQ045	SD5145	70UR30A	R50430
40RCS20	40C20	52HQ045	SD5145	70UR40A	R50440
40RCS30	40C30	60CDQ030	SBT3030	70UR50A	R50450
40RCS40	40C40	60CDQ035	SBT3035	70UR60A	R50460
40RCS50	40C50	60CDQ040	SBT3040	70UR70A	R50470
40RCS60	40C60	60CDQ045	SBT3045	70UR80A	R50480
40RCS70	40C70	60CNQ030	FST6030	70UR90A	R50490
40RCS80	40C80	60CNQ045	FST6045	70UR100A	R504100
40RCS90	40C90	60CNQ100	FST60100	70UR110A	R504110
40RCS100	40C100	60HQ035	SD51	70UR120A	R504120
40RCS110	40C110	60HQ045	SD51	71RA50A	07105GOA
40RCS120	40C120	61CMQ035	FST6035	71RA60	07106GOA
45L05	S4205	61CMQ040	FST6040	71RA70	70C70B
45L10	S4210	61CMQ045	FST6045	71RA80	70C80B
45L20	S4220	61CMQ050	FST6050	71RA90	70C90B
45L30	S4230	70H05	S3605	71RA100	70C100B
45L40	S4240	70H10	S3610	71RA110	70C110B
45L50	S4250	70H20	S3620	71RA120	70C120B
45L60	S4260	70H30	S3630	71RA130	70C130B
45L70	S4270	70H40	S3640	71RA140	70C140B
45L80	S4280	70H50	S3650	71RA150	70C150B
45L90	S4290	70H60	S3660	71RB50	07105GOA
45L100	S42100	70H70	S3670	71RB60	07106GOA
45LR05	R4205	70H80	S3680	71RB70	70C70B
45LR10	R4210	70H90	S3690	71RB80	70C80B
45LR20	R4220	70H100	S36100	71RB90	70C90B
45LR30	R4230	70HR05	S3605	71RB100	70C100B
45LR40	R4240	70HR10	S3610	71RB110	70C110B

INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER
71RB120	70C120B	72RC10B	07101GOD	150K60A	S4360
71RB130	70C130B	72RC20A	07102GOD	150K70A	S4370
71RB140	70C140B	72RC20B	07102GOD	150K80A	S4380
71RB150	70C150B	72RC30A	07103GOD	150K90A	S4390
71RC5B	071005GOA	72RC30B	07103GOD	150K100A	S43100
71RC10A	07101GOA	72RC40A	07104GOD	150K110A	S43110
71RC10B	07101GOA	72RC40B	07104GOD	150K120A	S43120
71RC20A	07102GOA	72RC50A	07105GOD	150K130A	S43130
71RC20B	07102GOA	72RC60A	07106GOD	150K140A	S43140
71RC30A	07103GOA	72RC70A	70C70BF	150KR05A	R4305
71RC30B	07103GOA	72RC80A	70C80BF	150KR10A	R4310
71RC40A	07104GOA	72REH50	07105GOD	150KR20A	R4320
71RC40B	07104GOA	72REH60	07106GOD	150KR30A	R4330
71RC50A	07105GOA	72REH70	70C70BF	150KR40A	R4340
71RC60A	07106GOA	72REH80	70C80BF	150KR50A	R4350
71RC70A	70C70B	72REH90	70C90BF	150KR60A	R4360
71RC80A	70C80B	72REH100	70C100BF	150KR70A	R4370
71REH50	07105GOA	72REH110	70C110BF	150KR80A	R4380
71REH60	07106GOA	72REH120	70C120BF	150KR90A	R4390
71REH70	70C70B	72REH130	70C130BF	150KR100A	R43100
71REH80	70C80B	72REH140	70C140BF	151RA50	15105GOA
71REH90	70C90B	72REH150	70C150BF	151RA60	15106GOA
71REH100	70C100B	75HQ030	SBR8030	151RA70	150C70B
71REH110	70C110B	75HQ035	SBR8035	151RA80	150C80B
71REH120	70C120B	75HQ040	SBR8040	151RA90	150C90B
71REH130	70C130B	75HQ045	SBR8045	151RA100	150C100B
71REH140	70C140B	75HQ050	SBR8050	151RA110	150C110B
71REH150	70C150B	85HQ030	SBR8030	151RA120	150C120B
72RA50	07105GOD	85HQ035	SBR8035	151RA130	150C130B
72RA60	07106GOD	85HQ040	SBR8040	151RA140	150C140B
72RA70	70C70BF	85HQ045	SBR8045	151RA150	150C150B
72RA80	70C80BF	85HQ050	SBR8050	151RC10	15101GOB
72RA90	70C90BF	101RA50	15105GOA	151RC10A	15101GOB
72RA100	70C100BF	101RA60	15106GOA	151RC20	15102GOB
72RA110	70C110BF	101RA70	100C70B	151RC20A	15102GOB
72RA120	70C120BF	101RA80	100C80B	151RC30	15103GOB
72RA130	70C130BF	101RA90	100C90B	151RC30A	15103GOB
72RA140	70C140BF	101RA100	100C100B	151RC40	15104GOB
72RA150	70C150BF	101RA110	100C110B	151RC40A	15104GOB
72RB50	07105GOD	101RA120	100C120B	151RC50	15105GOB
72RB60	07106GOD	101RC20	100C20B	151RC50A	15105GOB
72RG70	70C70BF	101RC30	100C30B	151RC60	15106GOB
72RB80	70C80BF	101RC40	100C40B	151RC60A	15106GOB
72RB90	70C90BF	101RC50	100C50B	151RC70	150C70
72RB100	70C100BF	101RC60	100C60B	151RC70A	150C70
72RB110	70C110BF	101RC70	100C70B	151RC80	150C80
72RB120	70C120BF	101RC80	100C80B	151RC80A	150C80
72RB130	70C130BF	150K05A	S4305	160CMQ030	FST16030
72RB140	70C140BF	150K10A	S4310	160CMQ035	FST16035
72RB150	70C150BF	150K20A	S4320	160CMQ040	FST16040
72RC2B	071005GOD	150K30A	S4330	160CMQ045	FST16045
72RC5B	071005GOD	150K40A	S4340	160CMQ050	FST16050
72RC10A	07101GOD	150K50A	S4350	201CNQ030	FST20030

INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER
201CNQ035	FST20035	303K	S30450	371M	S30460
201CNQ040	FST20040	303M	S30460	371P	S3470
201CNQ045	FST20045	303P	S3170	371S	S3480
201CNQ050	FST20050	303S	S3180	371V	S3490
300U10A	S50410	303V	S3190	371Z	S34100
300U15A	S50415	303Z	S31100	371RA	R30405
300U20A	S50420	304A	S20405	371RB	R30410
300U30A	S50430	304B	S20410	371RD	R30420
300U40A	S50440	304D	S20420	371RF	R30430
300U50A	S50450	304F	S20430	371RH	R30440
300U60A	S50460	304H	S20440	371RK	R30450
300U70A	S50470	304M	S20460	371RM	R30460
300U80A	S50480	335A	R30405	371RP	R3470
300U90A	S50490	335B	R30410	371RS	R3480
300U100A	S504100	335D	R30420	371RV	R3490
300UR05A	R50405	335F	R30430	371RZ	R34100
300UR10A	R50410	335H	R30440	400CNQ030	CPT40030
300UR20A	R50420	335K	R30450	400CNQ035	CPT40035
300UR30A	R50430	335M	R30460	400CNQ040	CPT40040
300UR40A	R50440	335P	R3470	400CNQ045	CPT40045
300UR50A	R50450	335S	R3480	400CNQ050	CPT40050
300UR60A	R50460	335V	R3490	402A	S30405
300UR70A	R50470	335Z	R34100	402B	S30410
300UR80A	R50480	367A	R20405	402D	S30420
300UR90A	R50490	367B	R20410	402F	S30430
300UR100A	R504100	367D	R20420	402H	S30440
301CNQ030	FST30030	367F	R20430	402K	S30450
301CNQ035	FST30035	367H	R20440	402M	S30460
301CNQ040	FST30040	367M	R20460	402P	S3470
301CNQ045	FST30045	367RA	R20405	402S	S3480
301CNQ050	FST30050	367RB	R20410	402V	S3490
301U80	S50480	367RD	R20420	402Z	S34100
301U90	S50490	367RF	R20430	402RA	R30405
301U100	S504100	367RH	R20440	402RB	R30410
301UR80	R50480	367RM	R20460	402RD	R30420
301UR90	R50490	368A	S20405	402RF	R30430
301UR100	R504100	368B	S20410	402RH	R30440
302A	S30405	368D	S20420	402RK	R30450
302B	S30410	368F	S20430	402RM	R30460
302D	S30420	368H	S20440	402RP	R3470
302F	S30430	368M	S20460	402RS	R3480
302H	S30440	368RA	R20405	402RV	R3490
302K	S30450	368RB	R20410	402RZ	R34100
302M	S30460	368RD	R20420	407A	S20405
302P	S3470	368RF	R20430	407B	S20410
302S	S3480	368RH	R20440	407C	S20415
302V	S3490	368RM	R20460	407D	S20420
302Z	S34100	371A	S30405	407F	S20430
303A	S30405	371B	S30410	407H	S20440
303B	S30410	371D	S30420	407M	S20460
303D	S30420	371F	S30430	407AR	R20405
303F	S30430	371H	S30440	407BR	R20410
303H	S30440	371K	S30450	407CR	R20415



INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER
407DR	R20420	418B	S30410	710V	S50490
407FR	R20430	418D	S30420	710Z	S504100
407HR	R20440	418F	S30430	710RA	R50405
407MR	R20460	418H	S30440	710RB	R50410
408A	S20405	418K	S30450	710RD	R50420
408B	S20410	418M	S30460	710RF	R50430
408D	S20420	418P	S3270	710RH	R50440
408F	S20430	418S	S3280	710RK	R50450
408H	S20440	418V	S3290	710RM	R50460
408M	S20460	418Z	S32100	710RP	R50470
408RA	R20405	418RA	R30405	710RS	R50480
408RB	R20410	418RB	R30410	710RV	R50490
408RD	R20420	418RD	R30420	710RZ	R504100
408RF	R20430	418RF	R30430	714A	S30405
408RH	R20440	418RH	R30440	714B	S30410
408RK	R20450	418RM	R30460	714D	S30420
408RM	R20460	418RP	R3470	714F	S30430
408RP	R2170	418RS	R3480	714H	S30440
408RS	R2180	418RV	R3490	714K	S30450
408RV	R2190	418RZ	R34100	714M	S30460
408RZ	R21100	419A	S30405	714P	S3470
409A	S20405	419B	S30410	714S	S3480
409B	S20410	419D	S30420	714V	S3490
409D	S20420	419F	S30430	714Z	S34100
409F	S20430	419H	S30440	714RA	R30405
409H	S20440	419K	S30450	714RB	R30410
409M	S20460	419M	S30460	714RD	R30420
409AR	R20405	419P	S3470	714RF	R30430
409RB	R20410	419S	S3480	714RH	R30440
409RD	R20420	419V	S3490	714RK	R30450
409RF	R20430	419Z	S34100	714RM	R30460
409RH	R20440	419RA	R30405	714RP	R3470
409RK	R20450	419RB	R30410	714RS	R3480
409RM	R20460	419RD	R30420	714RV	R3490
417A	S30405	419RF	R30430	714RZ	R34100
417B	S30410	419RH	R30440	40108	S2105
417D	S30420	419RK	R30450	40108R	R2105
417F	S30430	419RM	R30460	40109	S2110
417H	S30440	419RP	R3470	40109R	R2110
417K	S30450	419RS	R3480	40110	S2120
417M	S30460	419RV	R3490	40110R	R2120
417P	S3470	419RZ	R34100	40111	S2130
417S	S3480	440CNQ025	CPT50125	40111R	R2130
417V	S3490	440CNQ030	CPT50130	40112	S2140
417Z	S34100	710A	S50405	40112R	R2140
417RA	R30405	710B	S50410	40113	S2150
417RB	R30410	710D	S50420	40113R	R2150
417RD	R30420	710F	S50430	40114	S2160
417RF	R30430	710H	S50440	40114R	R2160
417RK	R30450	710K	S50450	40115	S2180
417RH	R30440	710M	S50460	40115R	R2180
417RM	R30460	710P	S50470	40208	S3405
418A	S30405	710S	S50480	40208R	R3405

INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER
40209	S3410	A71P	R42100	C50F	07101G0A
40209R	R3410	A71PA	R42110	C50A	07101G0A
40210	S3420	A71PB	R42120	C50G	071A1G0A
40210R	R3420	A129E	UFR3150	C50B	07102G0A
40211	S3430	A129M	UFR3260	C50H	071A2G0A
40211R	R3430	BYS75-20	SBR8020	C50C	07103G0A
40212	S3440	BYS75-30	SBR8030	C50D	07104G0A
40212R	R3440	BYS75-45	SBR8045	C50J	07101G0A
40213	S3450	BYV19-35	MS1635	C50E	07105G0A
40213R	R3450	BYV19-40	MS1640	C50M	07106G0A
40214	S3460	BYV19-45	MS1645	C50S	70C70BIL
40214R	R3460	BYW30-50	UFR3005	C50N	70C80BIL
A28F	UFR3005	BYW30-100	UFR3010	C52J	07101G0A
A28A	UFR3010	BYW30-150	UFR3015	C52F	07101G0A
A28B	UFR3120	BYW30-200	UFR3020	C52A	07101G0D
A28C	UFR3130	BYW31-50J	UFR3005	C52G	07101G0D
A40F	S30405	BYW31-100	UFR3010	C52B	07102G0D
A40A	S30410	BYW31-150	UFR3015	C52H	071A2G0D
A40B	S30420	BYW31-200	UFR3020	C52C	07103G0D
A40C	S30430	BYW77-50	UFR3005	C52D	07104G0D
A40D	S30440	BYW77-100	UFR3010	C52E	07105G0D
A40E	S30450	BYW77-150	UFR3015	C52M	07106G0D
A40M	S30460	BYW78-50	UFR7005	C60U	07101G0A
A41F	R30405	BYW78-100	UFR7010	C60F	07101G0A
A41A	R30410	BYW78-150	UFR7015	C60A	07101G0A
A41B	R30420	BYV92-200	UFR7120	C60G	07101G0A
A41C	R30430	BYV92-300	UFR7130	C60B	07102G0A
A41D	R30440	BYV92-400	UFR7140	C60H	071A2G0A
A41E	R30450	BYV92-500	UFR7150	C60C	07103G0A
A41M	R30460	BYW93-50J	UFR7005	C60D	07104G0A
A70F	S4205	BYW93-100	UFR7010	C60E	07105G0A
A70A	S4210	BYW93-150	UFR7015	C62J	07101G0A
A70B	S4220	BYW93-200	UFR7020	C62F	07101G0A
A70C	S4230	C45J	05205G0A	C62A	07101G0D
A70D	S4240	C45F	05205G0A	C62G	07101G0D
A70E	S4250	C45A	05201G0A	C62B	07102G0D
A70M	S4260	C45B	05202G0A	C62H	07101G0D
A70S	S4270	C45C	05203G0A	C62C	07103G0D
A70N	S4280	C45D	05204G0A	C62D	07104G0D
A70T	S4290	C45E	05205G0A	C62E	07105G0D
A70P	S42100	C45M	05206G0A	C147A	40C10B
A70PA	S42110	C45S	55C70B	C147B	40C20B
A70PB	S42120	C45N	55C80B	C147C	40C30B
A71F	R4205	C46J	05201G0D	C147D	40C40B
A71A	R4210	C46F	05201G0D	C147E	40C50B
A71B	R4220	C46A	05201G0D	C147M	40C60B
A71C	R4230	C46B	05202G0D	C147S	40C70B
A71D	R4240	C46C	05203G0D	C147N	40C80B
A71E	R4250	C46D	05204G0D	C147T	40C90B
A71M	R4260	C46E	05205G0D	C147P	40C100B
A71S	R4270	C46M	05206G0D	C147PA	40C110B
A71N	R4280	C46S	55C70BF	C147PB	40C120B
A71T	R4290	C46N	55C80BF	C150E	07105G0F

INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER
C150M	07106G0F	MBR1645	MS1645	MR1128	S2180
C150S	70C70B	MBR2035CT	FST2035	MR1130	S21100
C150N	70C80B	MBR2040CT	FST2040	MUR105	UF105
C150T	70C90B	MBR2045CT	FST2045	MUR110	UF110
C150P	70C100B	MBR3035CT	SBT3035	MUR115	UF115
C150PA	70C110B	MBR3040CT	SBT3040	MUR120	UF120
C150PB	70C120B	MBR3045CT	SBT3045	MUR130	UF130
C150PC	70C130B	MBR3045CT	SBR24145	MUR140	UF140
C152E	07105G0D	MBR3535	SBR3035	MUR150	UF150
C152M	07106G0D	MBR3540	SBR3040	MUR160	UF160
C152S	70C70BF	MBR3545	SD4145	MUR170	UF170
C152N	70C80BF	MBR6035	SBR6035	MUR180	UF180
C152T	70C90BF	MBR6040	SBR6040	MUR505	UF505
C152P	70C100BF	MBR6045	SBR6045	MUR510	UF510
C152PA	70C110BF	MBR7530	SBR8035	MUR515	UF515
C152PB	70C120BF	MBR7535	SBR8035	MUR520	UF520
C152PC	70C130BF	MBR7540	SBR8040	MUR530	UF530
C180A	15101G0B	MBR8035	SBR8035	MUR540	UF540
C180B	15102G0B	MBR8045	SBR8045	MUR550	UF550
C180C	15103G0B	MBR12035CT	CPT12035	MUR560	UF560
C180D	15104G0B	MBR12045CT	CPT12045	MUR570	UF570
C180E	15105G0B	MBR12050CT	CPT12050	MUR580	UF580
C180M	15106G0B	MBR12060CT	CPT12060	MUR2505	UFR3005
C180S	150C70B	MBR20035CT	CPT20035	MUR2510	UFR3010
C180N	150C80B	MBR20045CT	CPT20045	MUR2515	UFR3015
C180T	150C90B	MBR20050CT	CPT20050	MUR2520	UFR3020
C180P	150C100B	MBR20060CT	CPT20060	MUR7005	UFR7005
C180PA	150C110B	MBR20015CTL	CPT20120	MUR7010	UFR7010
C180PB	150C120B	MBR20020CTL	CPT20120	MUR7015	UFR7015
C180PC	150C130B	MBR20025CTL	CPT20125	MUR7020	UFR7020
C185A	175C10B	MBR20030CTL	CPT20130	MUR10005CT	UFT12505
C185G	175C10B	MBR30035CT	CPT30035	MUR10010CT	UFT12510
C185B	175C20B	MBR30040CT	CPT30040	MUR10015CT	UFT12515
C185C	175C30B	MBR30045CT	CPT30045	MUR10020CT	UFT12520
C185D	175C40B	MBR30050CT	CPT30050	MUR20005CT	UFT20005
C185E	175C50B	MBR30060CT	CPT30060	MUR20010CT	UFT20010
C185M	175C60B	MBR6035	S051	MUR20015CT	UFT20015
MBR030	LSM130G	MBR6045	S051	MUR20020CT	UFT20020
MBR040	LSM140G	MBR7545	SBR8045	MUR20030CT	UFT20030
MBR320	MS302	MR860	UFR7005	MUR20040CT	UFT20040
MBR330	MS303	MR681	UFR7010	NLC45A	05201GOA
MBR340	MS304	MR862	UFR7120	NLC45B	05202GOA
MBR350	MS305	MR863	UFR7130	NLC45C	05203GOA
MBR360	MS306	MR864	UFR7140	NLC45D	05204GOA
MBR735	MS835	MR865	UFR7150	NLC45E	05205GOA
MBR740	MS840	MR866	UFR7160	NLC45M	05206GOA
MBR745	MS845	MR1120	S20405	NLC45S	55C70
MBR1035	MS1004	MR1121	S20410	NLC45N	55C80
MBR1040	MS1004	MR1122	S20420	NLC45T	55C90
MBR1045	MS1005	MR1123	S20430	NLC62A	07101G0D
MBR1050	MS1005	MR1124	S20440	NLC62B	07102G0D
MBR1635	MS1635	MR1125	S20450	NLC62C	07103G0D
MBR1640	MS1640	MR1126	S20460	NLC62D	07104G0D

INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER
NLC62E	07105G0D	R3020412	UFR3140	R4030030	UFR3150R
NLC150B	07102G0A	R3020506	UFR3150	R4030120	UFR3110R
NLC150C	07103G0A	R3020512	UFR3150	R4030130	UFR3110R
NLC150D	07104G0A	R3020606	UFR3260	R4030220	UFR3120R
NLC150E	07105G0A	R3020612	UFR3260	R4030230	UFR3120R
NLC150M	07106G0A	R3030006	UFR3150R	R4030320	UFR3130R
NLC150N	70C80B	R3030012	UFR3005R	R4030330	UFR3130R
NLC150P	70C100B	R3030106	UFR3010R	R4030420	UFR3140R
NLC150S	70C70B	R3030112	UFR3110R	R4030430	UFR3140R
NLC150T	70C90B	R3030206	UFR3120R	R4030520	UFR3150R
NLC152B	07102G0D	R3030212	UFR3120R	R4030530	UFR3150R
NLC152C	07103G0D	R3030306	UFR3130R	R4030620	UFR3260R
NLC152D	07104G0D	R3030312	UFR3130R	R4030630	UFR3260R
NLC152E	07105G0D	R3030406	UFR3140R	R4040070	S3605
NLC152M	07106G0D	R3030412	UFR3140R	R4040160	S3610
NLC152N	70C80BF	R3030506	UFR3150R	R4040170	S3610
NLC152P	70C100BF	R3030512	UFR3150R	R4040260	S3620
NLC152S	70C70BF	R3030606	UFR3260R	R4040270	S3620
NLC152T	70C90BF	R3030612	UFR3260R	R4040360	S3630
NLC180A	15101G0A	R3100016	S20405	R4040370	S3630
NLC180B	15102G0A	R3100116	S20410	R4040460	S3640
NLC180C	15103G0A	R3100216	S20420	R4040470	S3640
NLC180D	15104G0A	R3100316	S20430	R4040560	S3650
NLC180E	15105G0A	R3100416	S20440	R4040570	S3650
NLC180M	15106G0A	R3100616	S20460	R4040660	S3660
NLC180S	150C70B	R3100716	S2170	R4040670	S3660
NLC180N	150C80B	R3100816	S2180	R4040760	S3670
NLC180T	150C90B	R3100916	S2190	R4040770	S3670
NLC180P	150C100B	R3101016	S21100	R4040860	S3680
NLC180PA	150C110B	R3110016	R20405	R4040870	S3680
NLC180PB	150C120B	R3110116	R20410	R4040960	S3690
NLC180PC	150C130B	R3110216	R20420	R4040970	S3690
PHS801	UFR7005	R3110316	R20430	R4041060	S36100
PHS802	UFR7010	R3110416	R20440	R4041070	S36100
PHS803	UFR7015	R3110516	R20450	R4050070	R3605
PHS804	UFR7020	R3110616	R20460	R4050160	R3610
R711	ST3010	R3110716	R2170	R4050170	R3610
R712	ST3020	R3110816	R2180	R4050260	R3620
R714	ST3040	R3110916	R2190	R4050270	R3620
R716	ST3060	R3111016	R21100	R4050360	R3630
R711X	UFT3010	R4020120	UFR3150	R4050370	R3630
R712X	UFT3020	R4020130	UFR3010	R4050460	R3640
R714X	UFT3140	R4020220	UFR3120	R4050470	R3640
R716X	UFT3260	R4020230	UFR3120	R4050560	R3650
R3020006	UFR3005R	R4020320	UFR3130	R4050570	R3650
R3020012	UFR3005R	R4020330	UFR3130	R4050660	R3660
R3020106	UFR3010R	R4020420	UFR3140	R4050670	R3660
R3020112	UFR3010	R4020430	UFR3140	R4050760	R3670
R3020206	UFR3120	R4020520	UFR3150	R4050770	R3670
R3020212	UFR3120	R4020530	UFR3150	R4050860	R3680
R3020306	UFR3130	R4020620	UFR3260	R4050870	R3680
R3020312	UFR3130	R4020630	UFR3260	R4050960	R3690
R3020406	UFR3140	R4030020	UFR3150R	R4050970	R3690

INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER
R4051060	R36100	R5000515	S4350	R6001230XXYA	S504120
R4051070	S36100	R5000610	S4360	R6001420XXYA	S504140
R4100022	S30405	R5000615	S4360	R6001425XXYA	S504140
R4100122	S30410	R5000710	S4370	R6001620XXYA	S504160
R4100222	S30420	R5000715	S4370	R6001625XXYA	S504160
R4100322	S30430	R5000810	S4380	R6010120XXYA	R50410
R4100422	S30440	R5000815	S4380	R6010125XXYA	R50410
R4100522	S30450	R5000910	S4390	R6010130XXYA	R50410
R4100622	S30460	R5000915	S4390	R6010220XXYA	R50420
R4100722	S3470	R5001010	S43100	R6010225XXYA	R50420
R4100822	S3480	R5001015	S43100	R6010230XXYA	R50420
R4100922	S3490	R5001110	S43110	R6010420XXYA	R50440
R4101022	S34100	R5001115	S43120	R6010425XXYA	R50440
R4100240	S30420	R5001210	S43120	R6010430XXYA	R50440
R4100340	S30430	R5001215	S43120	R6010620XXYA	R50460
R4100440	S30440	R5001310	S43130	R6010625XXYA	R50460
R4100540	S30450	R5001315	S43130	R6010630XXYA	R50460
R4100640	S30460	R5001410	S43140	R6010820XXYA	R50480
R4100740	S3470	R5001415	S43140	R6010825XXYA	R50480
R4100840	S3480	R5010115	R4310	R6010830XXYA	R50480
R4100940	S3490	R5010215	R4320	R6011020XXYA	R504100
R4101040	S34100	R5010315	R4330	R6011025XXYA	R504100
R4110040	R30405	R5010415	R4340	R6011030XXYA	R504100
R4110122	R30410	R5010515	R4350	R6011220XXYA	R504120
R4110140	R30410	R5010615	R4360	R6011225XXYA	R504120
R4110222	R30420	R5010715	R4370	R6011230XXYA	R504120
R4110240	R30420	R5010815	R4380	R6011420XXYA	R54140
R4110322	R30430	R5010915	R4390	R6011425XXYA	R54140
R4110340	R30430	R5011015	R43100	R6011620XXYA	R54160
R4110422	R30440	R5011115	R43110	R6011625XXYA	R54160
R4110440	R30440	R5011215	R43120	R6100120XXYA	R50410
R4110522	R30450	R5011315	R43130	R6100125XXYA	R50410
R4110540	R30450	R5011415	R43140	R6100130XXYA	R50410
R4110622	R30460	R6000120XXYA	S50410	R6100220XXYA	R50420
R4110640	R30460	R6000125XXYA	S50410	R6100225XXYA	R50420
R4110722	R3470	R6000130XXYA	S50410	R6100230XXYA	R50420
R4110740	R3470	R6000220XXYA	S50420	R6100420XXYA	R50440
R4110822	R3480	R6000225XXYA	S50420	R6100425XXYA	R50440
R4110840	R3480	R6000230XXYA	S50420	R6100430XXYA	R50440
R4110925	R3490	R6000420XXYA	S50440	R6100620XXYA	R50460
R4110940	R3490	R6000425XXYA	S50440	R6100625XXYA	R50460
R4111025	R34100	R6000430XXYA	S50440	R6100630XXYA	R50460
R4111040	R34100	R6000620XXYA	S50460	R6100820XXYA	R50480
R5000015	S4305	R6000625XXYA	S50460	R6100825XXYA	R50480
R5000110	S4310	R6000630XXYA	S50460	R6100830XXYA	R50480
R5000115	S4310	R6000820XXYA	S60480	R6101020XXYA	R504100
R5000210	S4320	R6000825XXYA	S60480	R6101025XXYA	R504100
R5000215	S4320	R6000830XXYA	S60480	R6101030XXYA	R504100
R5000310	S4330	R6001020XXYA	S504100	R6110120XXYA	R50410
R5000315	S4330	R6001025XXYA	S504100	R6110125XXYA	R50410
R5000410	S4340	R6001030XXYA	S504100	R6110130XXYA	R50410
R5000415	S4340	R6001220XXYA	S504120	R6110220XXYA	R50420
R5000510	S4350	R60012225XXYA	S504120	R6110225XXYA	R50420

INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER
R6110230XXYA	R50420	T500054005AA	05205G0D	T510045007AA	05204G0D
R6110420XXYA	R50440	T500064005AA	05206G0D	T510055007AA	05205G0D
R6110425XXYA	R50440	T500074005AA	55C70BF	T510065007AA	05206G0D
R6110430XXYA	R50440	T500084005AA	55C80BF	T510015007AQ	05201G0A
R6110620XXYA	R50460	T500094005AA	55C90BF	T510025007AQ	05202G0A
R6110625XXYA	R50460	T500104005AA	55C100BF	T510035007AQ	05203G0A
R6110630XXYA	R50460	T500114005AA	55C110BF	T510045007AQ	05204G0A
R6110820XXYA	R50480	T500124005AA	55C120BF	T510055007AQ	05205G0A
R6110825XXYA	R50480	T500134005AA	55C130BF	T510065007AQ	05206G0A
R6110830XXYA	R50480	T500144005AA	55C140BF	T510018005AA	08001G0D
R6111020XXYA	R504100	T500154005AA	55C150BF	T510028005AA	08002G0D
R6111025XXYA	R504100	T500014005AQ	05201G0A	T510038005AA	08003G0D
R6111030XXYA	R504100	T500024005AQ	05202G0A	T510048005AA	08004G0D
SD41	SD41	T500034005AQ	05203G0A	T510058005AA	08005G0D
SD51	SD51	T500044005AQ	05204G0A	T510068005AA	08006G0D
SD241	SD241	T500054005AQ	05205G0A	T510018005AQ	08001G0A
SDR504	UFR7140	T500064005AQ	05206G0A	T510028005AQ	08002G0A
SDR506	UFR7260	T500074005AQ	55C70B	T510038005AQ	08003G0A
SDR508	UFR7280	T500084005AQ	55C80B	T510048005AQ	08004G0A
SDR600	UFR3105	T500094005AQ	55C90B	T510058005AQ	08005G0A
SDR601	UFR3110	T500104005AQ	55C100B	T510068005AQ	08006G0A
SDR602	UFR3120	T500114005AQ	55C110B	T510018007AA	05201G0D
SDR603	UFR3130	T500124005AQ	55C120B	T510028007AA	05202G0D
SDR604	UFR3140	T500134005AQ	55C130B	T510038007AA	05203G0D
SDR605	UFR3150	T500154005AQ	55C150B	T510048007AA	05204G0D
SDR606	UFR3260	T500144005AQ	55C140B	T510058007AA	05205G0D
SDR900	UFR7105	T500018005AA	08010G0D	T510068007AA	05206G0D
SDR901	UFR7110	T500028005AA	08020G0D	T510018007AQ	05201G0A
SDR902	UFR7120	T500038005AA	08030G0D	T510028007AQ	05202G0A
SDR903	UFR7130	T500048005AA	08040G0D	T510038007AQ	05203G0A
SDR904	UFR7140	T500058005AA	08050G0D	T510048007AQ	05204G0A
SDR905	UFR7150	T500068005AA	08060G0D	T510058007AQ	05205G0A
SUES501	UFR7005	T500018005AQ	07110G0B	T510068007AQ	05206G0A
SUES502	UFR7010	T500028005AQ	07120G0B	T600011304BT	15101G0A
SUES503	UFR7010	T500038005AQ	07130G0B	T600021304BT	15102G0A
SUES504	UFR7015	T500048005AQ	07140G0B	T600031304BT	15103G0A
SUES505	UFR7015	T500058005AQ	07150G0B	T600041304BT	15104G0A
SUES701	UFR3005	T500068005AQ	07160G0B	T600051304BT	15105G0A
SUES702	UFR3010	T510015005AA	05201G0D	T600061304BT	15106G0A
SUES703	UFR3015	T510025005AA	05202G0D	T600071304BT	150C70B
SUES704	UFR3120	T510035005AA	05203G0D	T600081304BT	150C80B
SUES705	UFR3130	T510045005AA	05204G0D	T600091304BT	150C90B
SUES706	UFR3140	T510055005AA	05205G0D	T600101304BT	150C100B
SUES801	UFR7005	T510065005AA	05206G0D	T600111304BT	150C110B
SUES802	UFR7010	T510015005AQ	05201G0A	T600121304BT	150C120B
SUES803	UFR7015	T510025005AQ	05202G0A	T600131304BT	150C130B
SUES804	UFR7120	T510035005AQ	05203G0A	T600011504BT	15101G0A
SUES805	UFR7130	T510045005AQ	05204G0A	T600021504BT	15102G0A
SUES806	UFR7140	T510055005AQ	05205G0A	T600031504BT	15103G0A
T500014005AA	05201G0D	T510065005AQ	05206G0A	T600041504BT	15104G0A
T500024005AA	05202G0D	T510015007AA	05201G0D	T600051504BT	15105G0A
T500034005AA	05203G0D	T510025007AA	05202G0D	T600061504BT	15106G0A
T500044005AA	05204G0D	T510035007AA	05203G0D	T600071504BT	150C70B

INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER	INDUSTRY NUMBER	MICROSEMI NUMBER
T600081504BT	150C80B	VSK945	MS1645	UES2606HR	UFT3140A
T600091504BT	150C90B	VSK1020	MS1002	USD320C	SBT3020
T600101504BT	150C100B	VSK1035	MS1003	USD335C	SBT3035
T600111504BT	150C110B	VSK1045	MS1005	USD345C	SBT3045
T600121504BT	150C120B	VSK1520	SBR2520	USD320HR	SBT3020
T600011804BT	175C10	VSK1530	SBR2530	USD335HR	SBT3035
T600021804BT	175C20	VSK1540	SBR2540	USD345HR	SBT3045
T600031804BT	175C30	VSK2003	FST20050	USD620	MS1620
T600041804BT	175C40	VSK2004	FST20060	USD635	MS1635
T600051804BT	175C50	VSK2020	FST2025	USD640	MS1640
T600061804BT	175C60	VSK2035	FST2035	USD645	MS1645
T600071804BT	175C70	VSK2045	FST2045	USD720	FST2020
T600081804BT	175C80	VSK3020S	SBR3020	USD735	FST2035
T610011304BT	15101GOB	VSK3030S	SBR3035	USD740	FST2040
T610021304BT	15102GOB	VSK3040S	SBR3040	USD745	FST2045
T610031304BT	15103GOB	VSK3020T	SBT2520	USD1120	1N5817
T610041304BT	15104GOB	VSK3030T	SBT2530	USD1130	1N5818
T610051304BT	15105GOB	VSK3040T	SBT2540	USD1140	1N5819
T610061304BT	15106GOB	VSK3040	SD41	USD3030C	FST3030
VHE701	UFR3005	VSK4020	SBR6020	USD3040C	FST3040
VHE702	UFR3010	VSK4030	SBR6030	USD3045C	FST3045
VHE703	UFR3015	VSK4040	SBR6040	USD4530C	FST5030
VHE704	UFR3020	VSK41	SD41	USD4540C	FST5040
VHE801	UFR7005	VSK4030	SD51	USD4545C	FST5045
VHE802	UFR7010	VSK4040	SD51		
VHE803	UFR7015	VSK51	SD51		
VHE804	UFR7020	VT200	MT200		
VHE1401	UFR1005	VT400	MT400		
VHE1402	UFR1010	VT600	MT600		
VHE1403	UFR1015	VTA200	MT200C		
VHE1404	UFR1020	VTA400	MT400C		
VHE2401	UFT2005	VTA600	MT600C		
VHE2402	UFT2010	VTB200	MT200A		
VHE2403	UFT2015	VTB400	MT400A		
VHE2404	UFT2020	VTB600	MT600A		
VSK31	SBR3050	VT600	MT600		
VSK32	SBR3060	UES701	UFR3005		
VSK51	SD5145	UES702	UFR3010		
VSK62	MS1002	UES703	UFR3015		
VSK63	MS1003	UES704	UFR3120		
VSK64	MS1004	UES705	UFR3130		
VSK71	SBR8060	UES706	UFR3140		
VSK72	SBR8050	UES801	UFR7005		
VSK231	SBT6060	UES802	UFR7010		
VSK232	SBT6050	UES803	UFR7015		
VSK320	1N5820	UES804	UFR7120		
VSK330	1N5821	UES805	UFR7130		
VSK340	1N5822	UES806	UFR7140		
VSK520	MS502	UES2604	UFT3020		
VSK530	MS503	UES2605	UFT3130		
VSK540	MS504	UES2606	UFT3140		
VSK920	MS1625	UES2604HR	UFT3020A		
VSK935	MS1635	UES2605HR	UFT3130A		

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SCHOTTKY

<u>1 Amp Surface Mount</u>	Page Number
5817SM, 5818SM, 5819SM,.....	C1 - C3
5817SM, 5818SM, 5819SM,.....(GULL WING & J LEAD).....	C4 - C6
LSM140, LSM145, LSM150,.....	C7 - C8
LSM140, LSM145, LSM150,.....(GULL WING & J LEAD).....	C9 - C10
HSM150, HSM160,.....	C11 - C12
HSM150, HSM160,.....(GULL WING & J LEAD).....	C13 - C14
HSM180, HSM190,.....	C15 - C16
HSM180, HSM190,.....(GULL WING & J LEAD).....	C17 - C18
<u>3 Amps Surface Mount</u>	Page Number
5820SM - 5822SM,.....	C19 - C20
LSM335, LSM340, LSM345,.....	C21 - C22
HSM350, HSM360,.....	C23 - C24
HSM380, HSM390,.....	C25 - C26
<u>5 Amps Surface Mount</u>	Page Number
LSM535, LSM540, LSM545,.....	C27 - C28
HSM550, HSM560,.....	C29 - C30
HSM580, HSM590,.....	C31 - C32
<u>8 Amps Surface Mount</u>	Page Number
LSM835 - LSM845,.....	C33 - C34
HSM825 - HSM845,.....	C35 - C36
HSM880, HSM890,.....	C37 - C38
<u>70 - 80 Amps Power Surface Mount</u>	Page Number
FST7130 - FST7145, SM1 - SM6.....	C39 - C40
FST8130 - FST8145, SM1 - SM6.....	C41 - C42
<u>1 Amp Axial</u>	Page Number
1N5817, 1N5818, 1N5819,.....	C43 - C45
1N5817G, 1N5818G, 1N5819G,.....	C46 - C48
MS104, MS105, MS106,.....	C49 - C50
MSG104, MSG105, MSG106,.....	C51 - C52
MSP140, MSP145, MSP150,.....	C53 - C54
MSG140, MSG145, MSG150,.....	C55 - C56
MS108, MS109, MS110,.....	C57 - C58
MSG108, MSG109, MSG110,.....	C59 - C60
<u>3 Amps Axial</u>	Page Number
1N5820, 1N5821, 1N5822,.....	C61 - C62
MS304, MS305, MS306,.....	C63 - C64
MS308, MS309, MS310,.....	C65 - C66
MS345,.....	C67 - C68
MSP345,.....	C69 - C70

SCHOTTKY

<u>5 Amps Axial</u>	Page Number
MS502, MS503,.....	C71 - C72
MS504, MS505, .....	C73 - C74
MS506,.....	C75 - C76
MS508, MS509, MS510,.....	C77 - C78
MS545,.....	C79 - C80
MSP535, MSP540, MSP545,.....	C81 - C82

<u>8 Amps Axial</u>	Page Number
MS825 - MS845,.....	C83 - C84
MSP835 - MSP845,.....	C85 - C86
MS880 - MS890,.....	C87 - C88

<u>25 - 30 Amps Discrete DO-4</u>	Page Number
1N6391.....(MILITARY 19500/553).....	C89 - C90
SBR25,.....	C91 - C92
SBR30,.....	C93 - C94
SD41,.....	C95 - C96

<u>25 - 30 Amps TO-3P</u>	Page Number
SBT25,.....	C97 - C99
SBT30,.....	C100 - C102
SD241, SD24145,.....	C103 - C105

<u>60 - 85 Amps Discrete DO-5</u>	Page Number
1N6392 .....(MILITARY 19500/554).....	C106 - C107
SBR60,.....	C108 - C109
SBR80,.....	C110 - C111
SBR82,.....(ORING DIODE).....	C112 - C113
SD51, SD5145,.....	C114 - C115

<u>50 Amps Pressfit</u>	Page Number
SBR5035 - SBR5050.....	C116 - C117

<u>10 Amps T0220A</u>	Page Number
MS1002 - MS1004,.....	C118 - C119
MS1005 - MS1006,.....	C120 - C121
MS1008 - MS1009,.....	C122 - C123
MS1045,.....	C124 - C125
MS1060,.....	C126 - C127

<u>16 Amps T0220A</u>	Page Number
MS1625 - MS1645,.....	C128 - C129
MS1680 - MS1690,.....	C130 - C131

SCHOTTKY

<u>10 Amps T0220</u>	Page Number
FST1045,.....	C132 - C133
FST1080, FST1090,.....	C134 - C135
<u>20 Amps T0220</u>	Page Number
FST2025 - FST2045,.....	C136 - C137
FST2050 - FST2060,.....	C138 - C139
FST2080 - FST2090,.....	C140 - C141
<u>30 Amps T03-P</u>	Page Number
FST3030 - FST3050,.....	C142 - C143
FST3060,.....	C144 - C145
FST3080 - FST3090,.....	C146 - C147
<u>50 Amps T03-P</u>	Page Number
FST5020 - FST5050,.....	C148 - C149
FST5080 - FST5090,.....	C150 - C151
<u>120 - 500 Amps Twin Tower Power Modules</u>	Page Number
CPT12035 - CPT12050,.....	C152 - C153
CPT20010 - CPT20015,.....(ORING POWER MODULE).....	C154 - C155
CPT20035 - CPT20050,.....	C156 - C157
CPT20120 - CPT20140,.....(LOW VF).....	C158 - C159
CPT30035 - CPT30050,.....	C160 - C161
CPT30060,.....	C162 - C163
CPT30080 - CPT30090,.....	C164 - C165
CPT40035 - CPT40050,.....	C166 - C167
CPT40060,.....	C168 - C169
CPT40080 - CPT40090,.....	C170 - C171
CPT40120 - CPT40140,.....(LOW VF).....	C172 - C173
CPT50035 - CPT50050,.....	C174 - C175
CPT50060,.....	C176 - C177
CPT50080 - CPT50090,.....	C178 - C179
CPT50120 - CPT50140,.....(LOW VF).....	C180 - C181
<u>60 - 190 AMPS Power Modules</u>	Page Number
FST6035 - FST6050,.....	C182 - C183
FST6210 - FST6220,.....(ORING DIODE).....	C184 - C185
FST8035 - FST8050,.....	C186 - C187
FST8130 - FST8145,.....	C188 - C189
FST10025 - FST10045,.....	C190 - C191
FST10125 - FST10145,.....(ISOLATED BASE).....	C192 - C193
FST16035 - FST16050,.....(ISOLATED BASE).....	C194 - C195
FST17135 - FST17150,.....	C196 - C197
FST19035 - FST19050,.....(LOW VF, ISOLATED BASE).....	C198 - C199
FST20035 - FST20050,.....	C200 - C201
FST30035 - FST30050,.....	C202 - C203

## ULTRAFAST

<u>1 Amp Glass Surface Mount</u>	Page Number
UF105SM, UF110SM, UF115SM, UF120SM,.....	CONSULT FACTORY
UF130SM, UF140SM, UF150SM,.....	CONSULT FACTORY
UF160SM, UF170SM, UF180SM,.....	CONSULT FACTORY
<u>1 Amp Plastic Surface Mount D0214AA, D0215AA</u>	Page Number
UFS105, UFS110, UFS115, UFS120,.....	D1 - D2
UFS130, UFS140, UFS150,.....	D3 - D4
UFS160, UFS170, UFS180,.....	D5 - D6
<u>3 Amps Plastic Surface Mount D0214AB, D0215AB</u>	Page Number
UFS305, UFS310, UFS315, UFS320,.....	D7 - D8
UFS330, UFS340, UFS350,.....	D9 - D10
UFS360, UFS370, UFS380,.....	D11 - D12
<u>5 Amps PLASTIC Surface Mount D0214AB, D0215AB</u>	Page Number
UFS505, UFS510, UFS515, UFS520,.....	D13 - D14
UFS530, UFS540, UFS550,.....	D15 - D16
UFS560, UFS570, UFS580,.....	D17 - D18
<u>70 Amps Power Surface Mount</u>	
UFT7005 - UFT7280, SM1 - SM6,.....50 - 800 VOLTS.....	D19 - D22
<u>1 Amps Axial Plastic D0-41</u>	Page Number
UF105, UF110, UF115, UF120,.....	D23 - D24
UF130, UF140, UF150,.....	D25 - D26
UF160, UF170, UF180,.....	D27 - D28
<u>3 Amps Axial Plastic D0201AD</u>	Page Number
UF305, UF310, UF315, UF320,.....	D29 - D30
UF330, UF340, UF350,.....	D31 - D32
UF360, UF370, UF380,.....	D33 - D34
<u>5 Amps Axial Plastic D0201AD</u>	Page Number
UF505, UF510, UF515, UF520,.....	D35 - D36
UF530, UF540, UF550,.....	D37 - D38
UF560, UF570, UF580,.....	D39 - D40
<u>12 - 30 Amps Discrete D0-4</u>	Page Number
1N3890 - 1N3893 .....(MILITARY 19500/304).....	D41 - D42
1N3890A - 1N3893A,.....(MILITARY 19500/304A).....	D43 - D44
1N5812, 1N5814, 1N5816, ..(MILITARY 19500/478).....	D45 - D46
UFR30, UFR31, UFR32, .....50 - 800 VOLT,.....	D47 - D50

ULTRAFAST

<u>30 Amps TO-3</u>	Page Number
UFT30, UFT31, UFT32,.....50 - 800 VOLT.....	D51 - D57
<u>30 Amps Pressfit</u>	Page Number
UFR30PF - UFR31PF.....50 - 500 VOLT,.....	D58 - D62
<u>30 - 70 Amps Discrete D05</u>	Page Number
1N3909 - 1N3913,.....(MILITARY 19500/308).....	D63 - D64
1N3909A - 1N3913A,.....(MILITARY 19500/308A).....	D65 - D66
1N6304, 1N6305, 1N6306,..(MILITARY 19500/550).....	D67 - D68
UFR70, UFR71, UFR72,.....	D69 - D72
<u>70 - 200 Amps Modules</u>	Page Number
UFT70, UFT71, UFT72,.....50 - 800 VOLT.....	D73 - D76
UFT100, UFT101, UFT102,.....50 - 800 VOLT (ISOLATED).....	D77 - D80
UFT125, UFT126, UFT127,....50 - 800 VOLT (TWIN TOWER).....	D81 - D84
UFT140, UFT141, UFT142.....50 - 800 VOLT (ISOLATED).....	D85 - D88
UFT150, UFT151, UFT152,....50 - 800 VOLT.....	D89 - D92
UFT200, UFT201, UFT202,....50 - 800 VOLT (TWIN TOWER).....	D93 - D96

PHASE CONTROL RECTIFIER

<u>12 - 22 Amps DO-4</u>	Page Number
1N1202A - 1N1206A,.....(MILITARY 19500/260).....	E1 - E2
1N3671A - 1N3673A,.....(MILITARY 19500/260).....	E1 - E2
SERIES 204,.....100 - 1200 VOLT.....	E3 - E5
SERIES 20,.....200 - 1200 VOLT.....	E6 - E8
SERIES 21,.....200 - 1600 VOLT.....	E9 - E11
<u>30 Amps TO-3</u>	Page Number
ST3020 - ST30100.....200 - 1000 VOLT .....	E12 - E14
<u>35 Amps Pressfit</u>	Page Number
S3520PF - S3560PF,.....200 - 600 VOLT .....	E15 - E17
<u>35 - 85 Amps DO-5</u>	Page Number
1N1184 - 1N1190.....(MILITARY 19500/297) .....	E18 - E19
1N3766 - 1N3768.....(MILITARY 19500/297).....	E18 - E19
SERIES 304,.....200 - 1200 VOLT.....	E20 - E22
SERIES 34,.....100 - 1200 VOLT.....	E23 - E25
SERIES 35,.....200 - 1600 VOLT.....	E26 - E28
SERIES 36,.....100 - 1200 VOLT.....	E29 - E31
SERIES 37,.....200 - 1600 VOLT.....	E32 - E34
SERIES 306,.....200 - 1200 VOLT.....	E35 - E37
SERIES 307.....200 - 600 VOLT.....	E38 - E40
<u>50 Amps Pressfit</u>	Page Number
SERIES 50PF,.....200 - 800 VOLT.....	E41 - E43
<u>125 - 150 Amps DO-8</u>	Page Number
SERIES 42,.....100 - 1600 VOLT.....	E44 - E46
SERIES 43,.....100 - 1600 VOLT.....	E47 - E49
<u>300 Amps DO-9</u>	Page Number
SERIES 504,.....200 - 1600 VOLT.....	E50 - E52
<u>150 - 300 Amps DIODE MODULE</u>	Page Number
SDM150,.....200 - 1200 VOLT (SINGLE RECTIFIER)...	E53 - E55
SDM300,.....200 - 1200 VOLT (SINGLE RECTIFIER)...	E56 - E58
TDM150,.....200 - 1200 VOLT (TWIN TOWER).....	E59 - E61
TDM300,.....200 - 1200 VOLT (TWIN TOWER).....	E62 - E64
<u>25 - 150 Amps BRIDGE MODULE</u>	Page Number
MT200 - MT800,.....200 - 800 VOLT (SINGLE PHASE).....	E65 - E66
EH60 - EH75,.....200 - 1200 VOLT (SINGLE PHASE).....	E67 - E68
EH80 - EH100,.....200 - 1200 VOLT (3 PHASE).....	E69 - E70
EH150Y, EH150Q,.....200 - 1400 VOLT (3 PHASE).....	E71 - E72

SCR'S

63 - 275 Amps PHASE CONTROL

Page Number

SERIES 40C,.....	200 - 1200 VOLT.....	F1 - F3
SERIES 050,.....	200 - 1200 VOLT.....	F4 - F6
SERIES 052,.....	200 - 600 VOLT.....	F7 - F9
SERIES 55C,.....	600 - 1200 VOLT.....	F10 - F12
SERIES 070C,.....	600 - 1200 VOLT.....	F13 - F15
SERIES 071,.....	200 - 600 VOLT.....	F16 - F18
SERIES 080,.....	200 - 600 VOLT.....	F19 - F21
SERIES 151,.....	200 - 1200 VOLT.....	F22 - F24
SERIES 150C,.....	600 - 1200 VOLT.....	F25 - F27
SERIES 175C,.....	600 - 1200 VOLT.....	F28 - F30

ASSEMBLIES

ENCAPSULATED

Page Number

ER SERIES,.....100 - 1600 VOLT, SINGLE PHASE (B).....	G1
EH SERIES,.....100 - 1600 VOLT SINGLE, 3 PHASE (B) (Z)	G2
EF SERIES,.....16KV - 20KV (HI VOLTAGE).....	G3

RECTIPOINT

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X20, X21,.....200 - 1600 VOLT (SINGLE & 3PHASE)....	G4 - G5
X34, X37,.....300 - 1600 VOLT (SINGLE & 3PHASE)....	G4 - G5

SILICON POWER RECTIFIER PLATE ASSEMBLY..... G6

EXTRUDED HEATSINK POWER ASSEMBLY..... G7

HIGH VOLTAGE RECTIFIER ASSEMBLY 8 - 80KV AVAILABLE

DOUBLER CONFIGURATION TO 40KV

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PHV3,.....	G8
PHV6,.....	G8
CHV21,.....	G8
JHV21H,.....	G8
CHV34,.....	G8
Y34H,.....	G8
LHV34H,.....	G8
JHV36H,.....	G8
LHV36H,.....	G8
CHV37,.....	G8
CHV37H,.....	G8
LHV37H,.....	G8
LHV43H,.....	G8
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CHIPS

	Page Number
CHIP OVERVIEW, .....	H1
CROSS REFERENCE, .....	H2 - H3
SCHOTTKY RECTIFIER CHIPS GUARD RING PROTECTED, .....	H4
GLASS PASSIVATED ULTRAFAST DIODE CHIPS, .....	H5
GLASS PASSIVATED DIODE CHIPS, .....	H6
GLASS PASSIVATED SCR CHIPS, .....	H6

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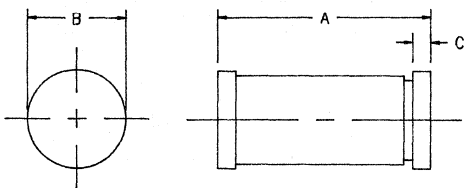
## *Section C*

# *Schottky Rectifiers*

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# 1 Amp Schottky Rectifier

## 5817SM, 5818SM, 5819SM



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.189	.205	4.80	5.20	Dia.
B	.094	.105	2.39	2.66	
C	.016	.022	.41	.55	

GLASS HERMETIC D0213AB

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
5817SM	20V	20V
5818SM	30V	30V
5819SM	40V	40V

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- High Reliability
- High Current Capability

Electrical Characteristics						
		5817SM	5818SM	5819SM		
Average forward current	I <sub>F(AV)</sub>	1A	1A	1A	Square wave, R <sub>θJC</sub> = 45°C/W	
Ambient Temperature		130°C	125°C	125°C	8.3ms, half sine, T <sub>J</sub> = 150°C	
Maximum surge current	I <sub>FSM</sub>	50A	50A	50A	I <sub>FM</sub> = 0.1A; T <sub>J</sub> = 25°C *	
Max peak forward voltage	V <sub>FM</sub>	.36V	.39V	.39V	I <sub>FM</sub> = 1.0A; T <sub>J</sub> = 25°C *	
Max peak forward voltage	V <sub>FM</sub>	.45V	.55V	.55V	I <sub>FM</sub> = 3.0A; T <sub>J</sub> = 25°C *	
Max peak forward voltage	V <sub>FM</sub>	.65V	.85V	.85V	V <sub>RRM</sub> , T <sub>J</sub> = 25°C	
Max peak reverse current	I <sub>RM</sub>	1mA	1mA	1mA	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C	
Typical junction capacitance	C <sub>J</sub>	105pF	50pF	50pF		

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-65°C to 150°C
Operating junction temp range	T <sub>J</sub>	-65°C to 150°C
Maximum thermal resistance	R <sub>θJC</sub>	45°C/W Junction to case
Weight		.004 ounces (.012 grams) typical

# 5817SM

Figure 1  
Typical Forward Characteristics

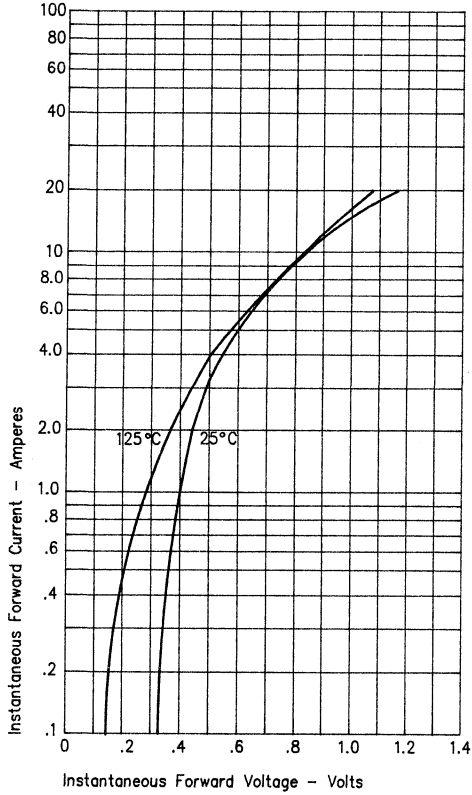


Figure 3  
Typical Junction Capacitance

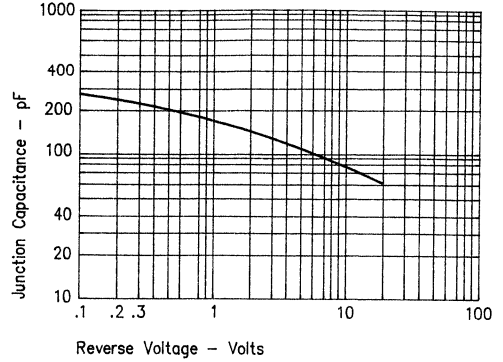
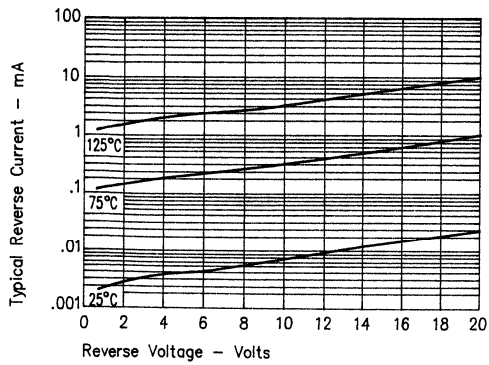


Figure 2  
Typical Reverse Characteristics



# 5818SM & 5819SM

Figure 1  
Typical Forward Characteristics

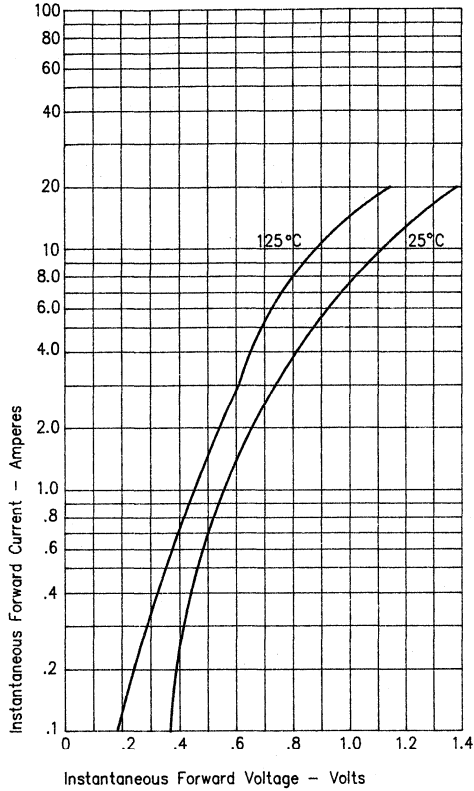


Figure 3  
Typical Junction Capacitance

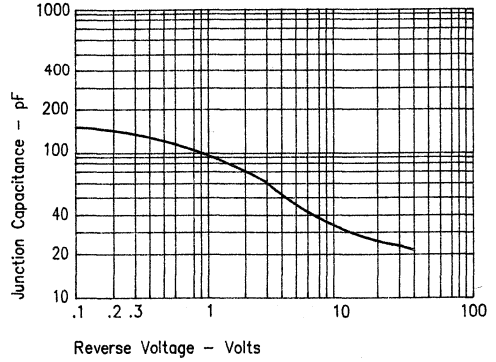
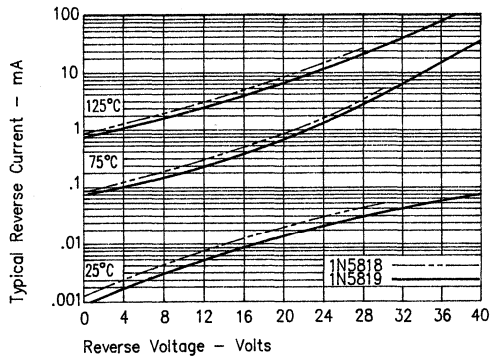
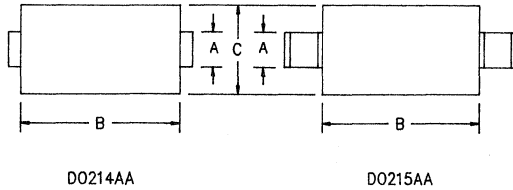


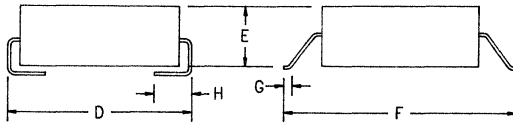
Figure 2  
Typical Reverse Characteristics



# 1 Amp Schottky Rectifier 5817SM — 5819SM



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.081	.087	2.06	2.21	
B	.160	.180	4.06	4.57	
C	.130	.155	3.30	3.94	
D	.205	.220	5.21	5.59	
E	.075	.095	1.90	2.41	
F	.270	.290	6.86	7.37	
G	.015	.030	.381	.762	
H	.030	.060	.760	1.52	



Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
5817SM*	20V	20V
5818SM*	30V	30V
5819SM*	40V	40V

\*Add Suffix J For J Lead or G For Gull Wing Lead Configuration

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- High Reliability
- High Current Capability

### Electrical Characteristics

		1N5817SMP	1N5818SMP	1N5819SMP	
Average forward current	I <sub>F(AV)</sub>	1A	1A	1A	Square wave
Ambient Temperature		136°C	133°C	133°C	R <sub>θJC</sub> = 30°C/W
Maximum surge current	I <sub>FSM</sub>	50A	50A	50A	8.3ms, half sine, T <sub>J</sub> = 150°C
Max peak forward voltage	V <sub>FM</sub>	.32V	.37V	.37V	I <sub>FM</sub> = 0.1A; T <sub>J</sub> = 25°C *
Max peak forward voltage	V <sub>FM</sub>	.45V	.55V	.55V	I <sub>FM</sub> = 1.0A; T <sub>J</sub> = 25°C *
Max peak forward voltage	V <sub>FM</sub>	.65V	.85V	.85V	I <sub>FM</sub> = 3.0A; T <sub>J</sub> = 25°C *
Max peak reverse current	I <sub>RM</sub>	1mA	1mA	1mA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub>	230pF	50pF	50pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temperature range	T <sub>STG</sub>	-40°C to 150°C
Operating junction temp range	T <sub>J</sub>	-40°C to 150°C
Maximum thermal resistance	R <sub>θJC</sub>	30°C/W
Weight		.0047 ounces (.013 grams) typical

**Microsemi Corp.**  
**Colorado**



# 5817SM

C

Figure 1  
Typical Forward Characteristics

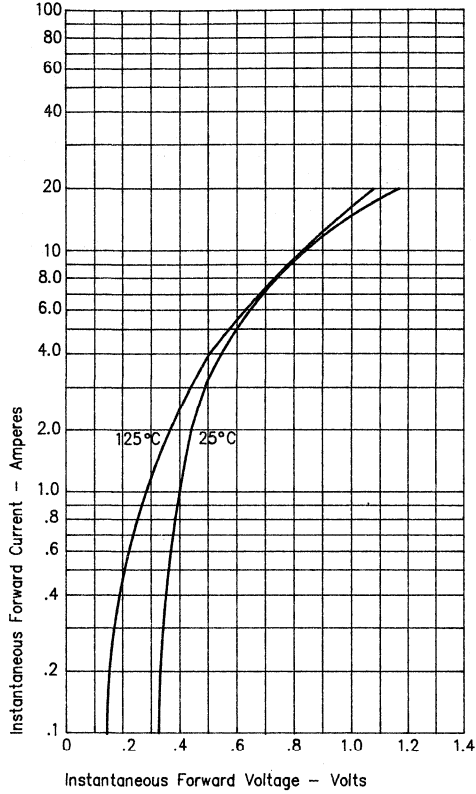


Figure 3  
Typical Junction Capacitance

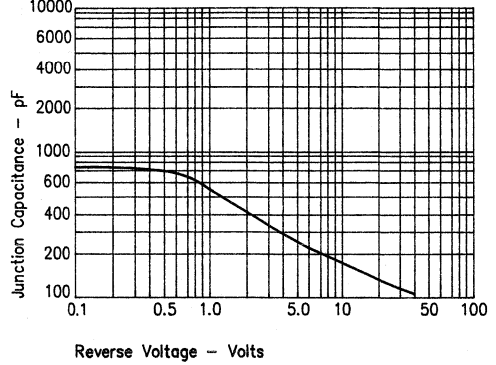
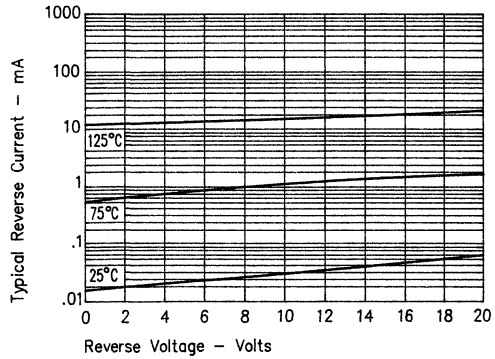


Figure 2  
Typical Reverse Characteristics



# 5818SM & 5819SM

Figure 1  
Typical Forward Characteristics

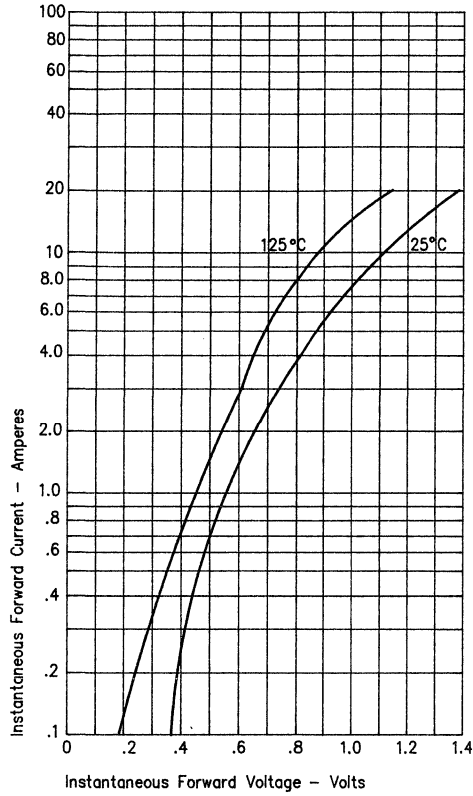


Figure 3  
Typical Junction Capacitance

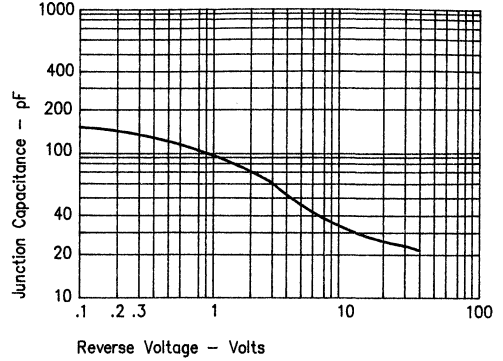
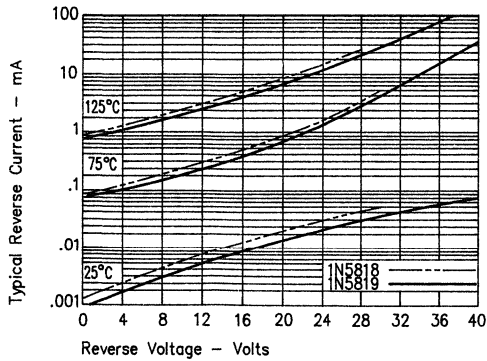
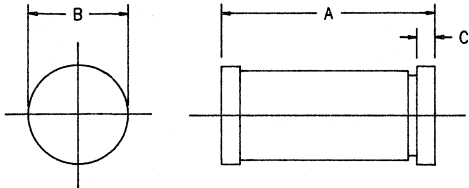


Figure 2  
Typical Reverse Characteristics



# 1 Amp Schottky Rectifier LSM140, 145, 150



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.189	.205	4.80	5.20	
B	.094	.105	2.39	2.66	Dia.
C	.016	.022	.41	.55	

GLASS HERMETIC D0213AB

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
LSM140	40V	40V
LSM145	45V	45V
LSM150	50V	50V

- Low Forward Voltage
- Schottky Barrier Rectifier
- Guard Ring Protection
- 150°C Junction Temperature
- VRRM 40 to 50 Volts

Electrical Characteristics		
Average forward current	IF(AV) 1.0 Amps	TA = 124°C, Square wave, RθJC = 45°C/W
Maximum surge current	IFSM 75 Amps	8.3ms, half sine, TJ = 150°C
Max peak forward voltage	VFM .39 Volts	IFM = 0.1A; TJ = 25°C*
Max peak forward voltage	VFM .58 Volts	IFM = 1.0A; TJ = 25°C*
Max peak reverse current	IRM 1.0 mA	VRRM, TJ = 25°C
Typical junction capacitance	CJ 60pF	VR = 5.0V, TJ = 25°C
*Pulse test: Pulse width 300 μsec, Duty cycle 2%		

Thermal and Mechanical Characteristics		
Storage temperature range	TSTG	-65° to 150°C
Operating junction temp range	TJ	-65° to 150°C
Maximum thermal resistance	RθJC	45°C/W Junction to Case
Weight		.0047 ounces (0.12 grams) typical

# LSM140, 145, 150

Figure 1  
Maximum Forward Characteristics

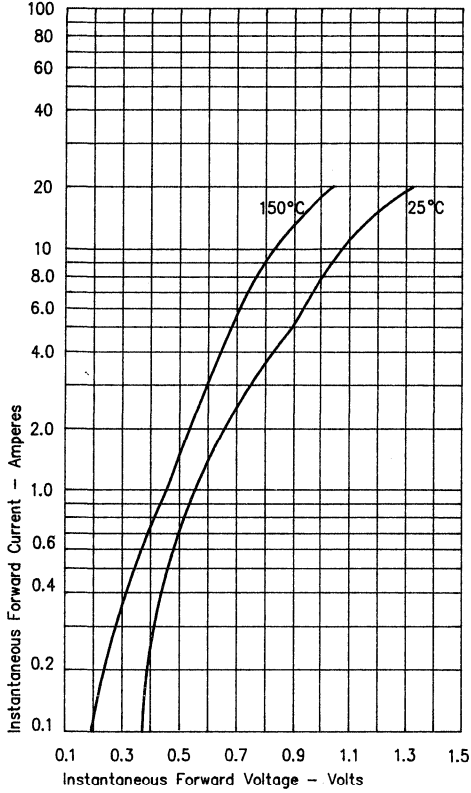


Figure 3  
Typical Junction Capacitance

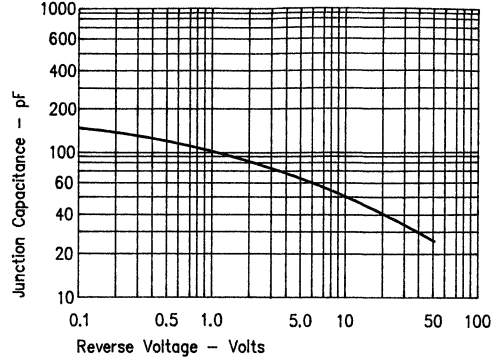
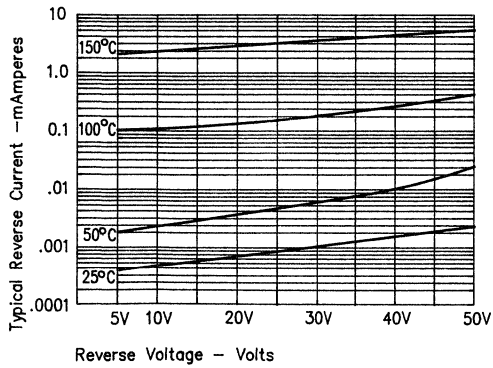
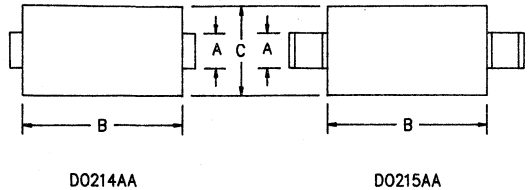


Figure 2  
Typical Reverse Characteristics

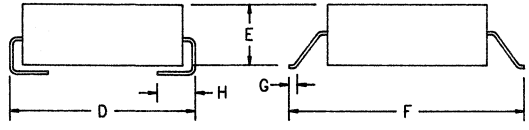




# 1 Amp Schottky Rectifier LSM140\*, 145\*, 150\*



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.081	.087	2.06	2.21	
B	.160	.180	4.06	4.57	
C	.130	.155	3.30	3.94	
D	.205	.220	5.21	5.59	
E	.075	.095	1.90	2.41	
F	.270	.290	6.86	7.37	
G	.015	.030	.381	.762	
H	.030	.060	.760	1.52	



Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
LSM140*	40V	40V
LSM145*	45V	45V
LSM150*	50V	50V

\* Add Suffix J for J Lead or G for Gull Wing Lead Configuration

- Low Forward Voltage
- Schottky Barrier Rectifier
- Guard Ring Protection
- 150°C Junction Temperature
- V<sub>RRM</sub> 40 to 50 Volts

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 1.0 Amps	T <sub>A</sub> = 130 C, Square wave, R <sub>θJC</sub> = 30°C/W
Maximum surge current	I <sub>FSM</sub> 75 Amps	8.3ms, half sine, T <sub>J</sub> = 150°C
Max peak forward voltage	V <sub>FM</sub> .39 Volts	I <sub>FM</sub> = 0.1A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> .58 Volts	I <sub>FM</sub> = 1.0A; T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> 1.0 mA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 60pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec. Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 150°C
Typical thermal Resistance	R <sub>θJC</sub>	30°C/W Junction to Case
Weight		.0047 ounces (.013 grams) typical



PH: 303-469-2161  
FAX: 303-466-3775

# LSM140\*, 145\*, 150\*

Figure 1  
Maximum Forward Characteristics

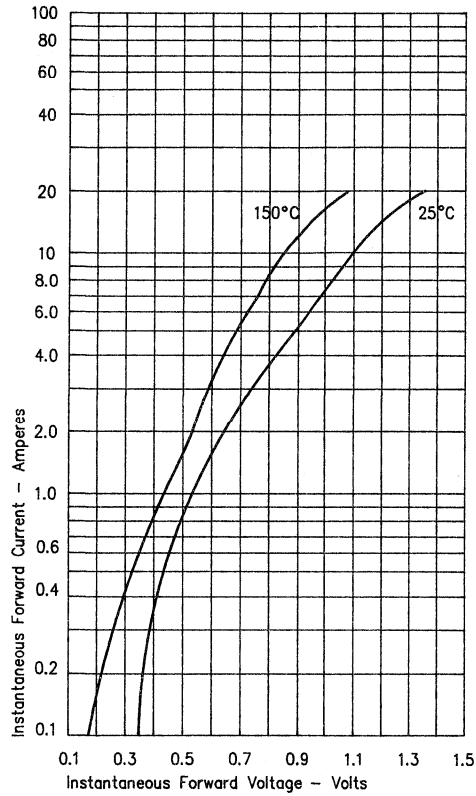


Figure 3  
Typical Junction Capacitance

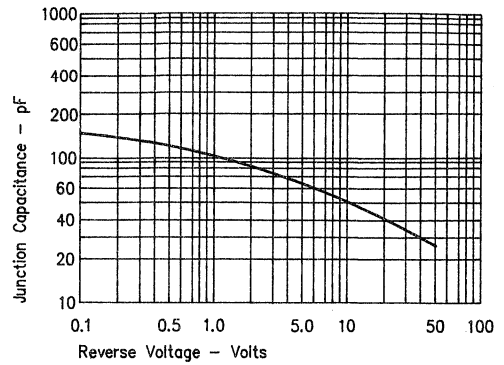
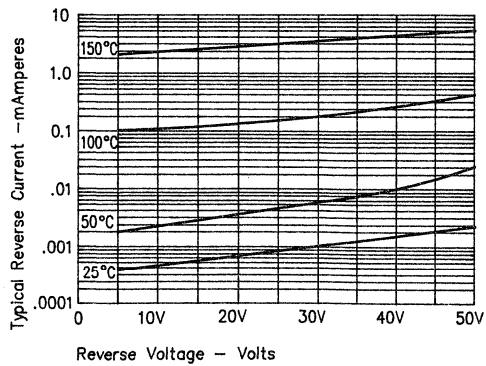
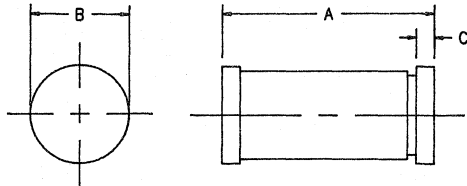


Figure 2  
Typical Reverse Characteristics



# 1 Amp Schottky Rectifier HSM150, HSM160



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.189	.205	4.80	5.20	
B	.094	.105	2.39	2.66	Dia.
C	.016	.022	.41	.55	

GLASS HERMETIC D0213AB

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
HSM150 HSM160	50V 60V	50V 60V

- Schottky Barrier Rectifier
- Guard Ring Protection
- 150°C Junction Temperature
- VRRM 50 to 60 Volts

Electrical Characteristics		
Average forward current	IF(AV) 1.0 Amps	TA = 118°C, Square wave, RθJC = 45°C/W
Maximum surge current	IFSM 75 Amps	8.3ms, half sine, TJ = 150°C
Max peak forward voltage	VFM .51 Volts	IFM = 0.1A; TJ = 25°C*
Max peak forward voltage	VFM .69 Volts	IFM = 1.0A; TJ = 25°C*
Max peak reverse current	IRM 100 μA	VRRM, TJ = 25°C
Typical junction capacitance	CJ 55pF	VR = 5.0V, TJ = 25°C
*Pulse test: Pulse width 300 μsec, Duty cycle 2%		

Thermal and Mechanical Characteristics		
Storage temperature range	TSTG	-65°C to + 175°C
Operating junction temp range	TJ	-65°C to + 150°C
Maximum thermal resistance	RθJC	45°C/W Junction to case
Weight		.0047 ounces (.012 grams) typical

# HSM150, HSM160

Figure 1  
Typical Forward Characteristics

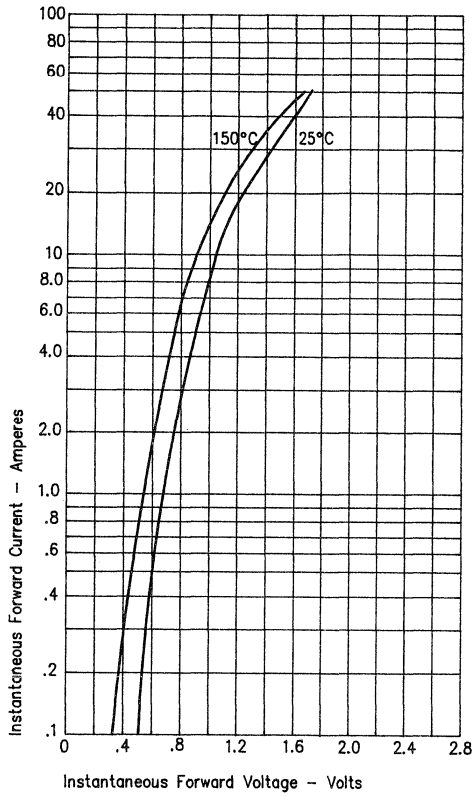


Figure 3  
Typical Junction Capacitance

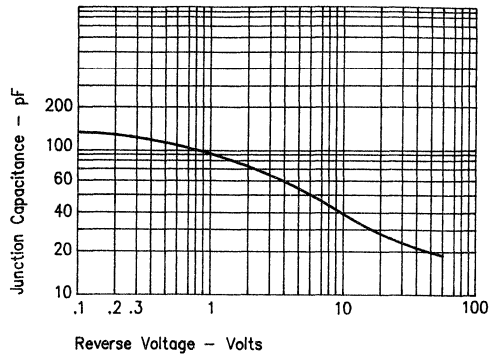
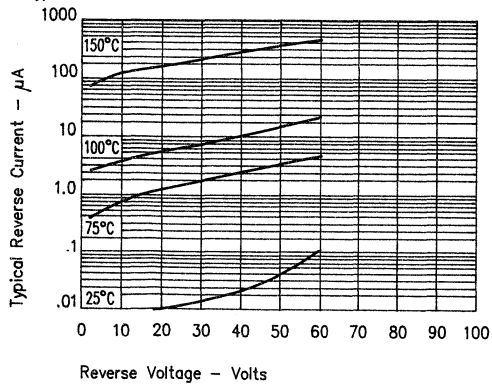
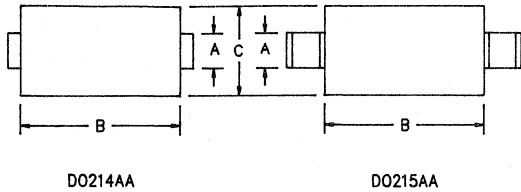


Figure 2  
Typical Forward Characteristics

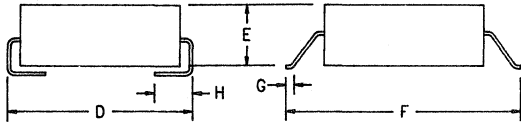




# 1 Amp Schottky Rectifier HSM150\*, HSM160\*



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.081	.087	2.06	2.21	
B	.160	.180	4.06	4.57	
C	.130	.155	3.30	3.94	
D	.205	.220	5.21	5.59	
E	.075	.095	1.90	2.41	
F	.270	.290	6.86	7.37	
G	.015	.030	.381	.762	
H	.030	.060	.760	1.52	



Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
HSM150*	50V	50V
HSM160*	60V	60V

\* Add Suffix J for J Lead or G for Gull Wing Lead Configuration

- Schottky Barrier Rectifier
- Guard Ring Protection
- 150°C Junction Temperature
- VRRM 50 to 60 Volts

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 1.0 Amps	Square wave
Maximum surge current	I <sub>FSM</sub> 75 Amps	8.3ms, half sine, T <sub>J</sub> = 150°C
Max peak forward voltage	V <sub>FM</sub> .51 Volts	I <sub>FM</sub> = 0.1A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> .69 Volts	I <sub>FM</sub> = 1.0A; T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> 100 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 53pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 150°C
Weight		.0047 ounces (.013 grams) typical



# HSM150\*, HSM160\*

Figure 1  
Typical Forward Characteristics

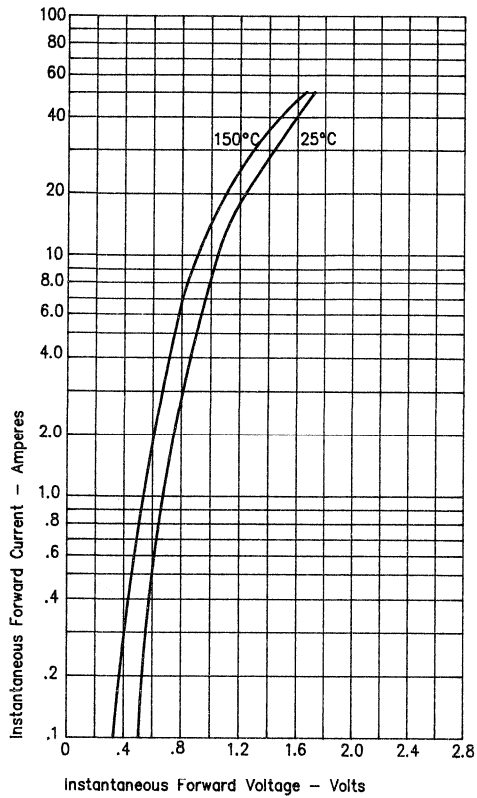


Figure 3  
Typical Junction Capacitance

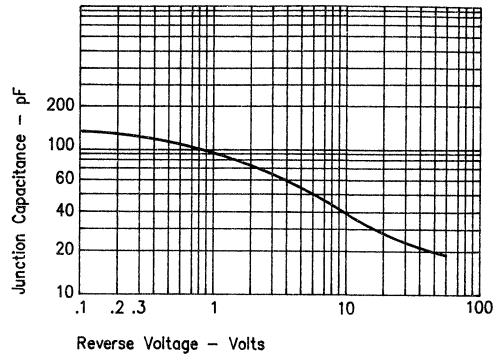
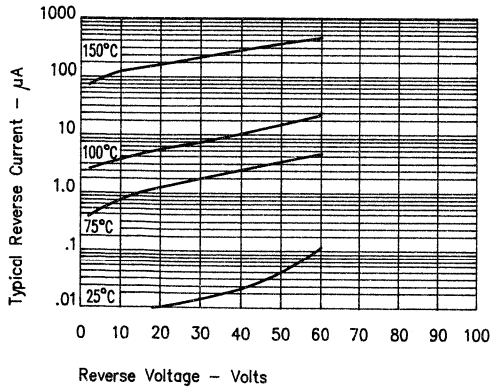
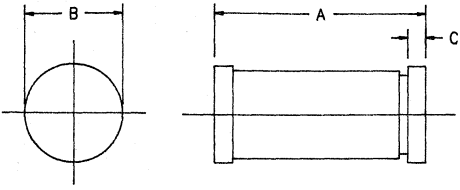


Figure 2  
Typical Reverse Characteristics



# 1 Amp Schottky Rectifier HSM180, HSM190



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.189	.205	4.80	5.20	
B	.094	.105	2.39	2.66	Dia.
C	.016	.022	.41	.55	

## GLASS HERMETIC D0213AB

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
HSM180	80V	80V
HSM190	90V	90V

- Schottky Barrier Rectifier
- Guard Ring Protection
- 175°C Junction Temperature
- VRRM 80 to 90 Volts
- Economical Surface Mount Package

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 1.0 Amps	T <sub>A</sub> = 138°C, Square wave, R <sub>θJC</sub> = 45°C/W
Maximum surge current	I <sub>FSM</sub> 75 Amps	8.3ms, half sine, T <sub>J</sub> = 150°C
Max peak forward voltage	V <sub>FM</sub> .53 Volts	I <sub>FM</sub> = 0.1A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> .81 Volts	I <sub>FM</sub> = 1.0A; T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> 100 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 45pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C
*Pulse test: Pulse width 300 μsec, Duty cycle 2%		

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-65°C to 175°C
Operating junction temp range	T <sub>J</sub>	-65°C to 150°C
Maximum thermal resistance	R <sub>θJC</sub>	45°C/W Junction to Case
Weight		.0047 ounces (.012 grams) typical

# HSM180, HSM190

Figure 1  
Typical Forward Characteristics

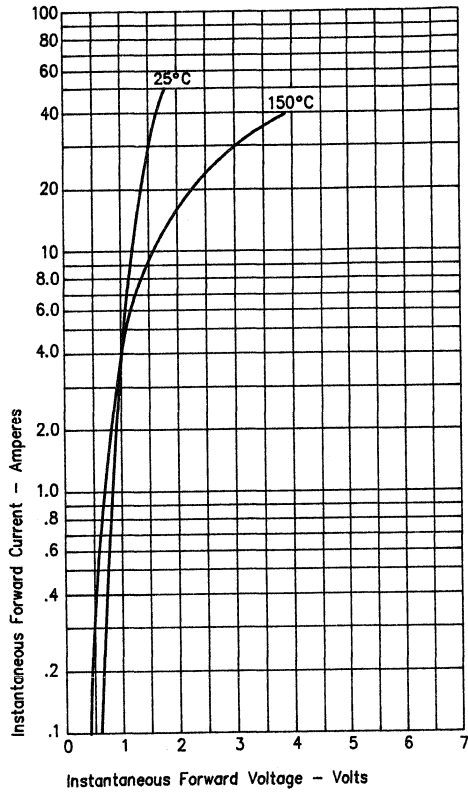


Figure 3  
Typical Junction Capacitance

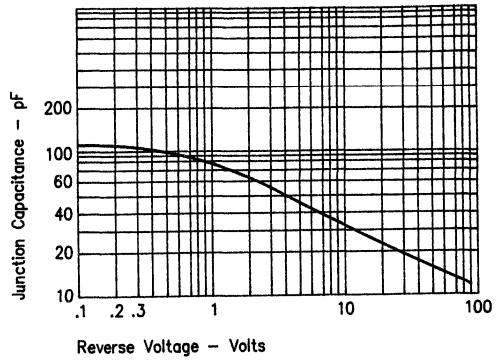
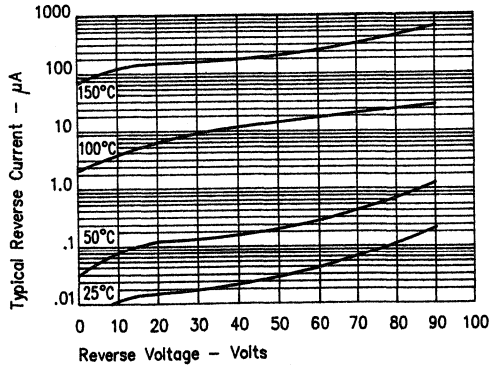
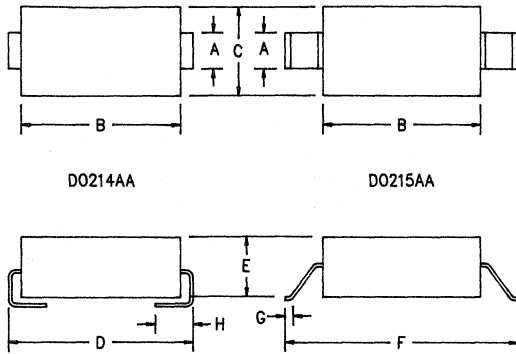


Figure 2  
Typical Reverse Characteristics



# 1 Amp Schottky Rectifier HSM180\*, HSM190\*



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.081	.087	2.06	2.21	
B	.160	.180	4.06	4.57	
C	.130	.155	3.30	3.94	
D	.205	.220	5.21	5.59	
E	.075	.095	1.90	2.41	
F	.270	.290	6.86	7.37	
G	.015	.030	.381	.762	
H	.030	.060	.760	1.52	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
HSM180*	80V	80V
HSM190*	90V	90V

\* Add Suffix J for J Lead or G for Gull Wing Lead Configuration

- Schottky Barrier Rectifier
- Guard Ring Protection
- 175°C Junction Temperature
- VRRM 80 to 90 Volts
- Economical Surface Mount Package

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 1.0 Amps	Square wave 8.3ms, half sine, T <sub>J</sub> = 150°C
Maximum surge current	I <sub>FSM</sub> 75 Amps	
Max peak forward voltage	V <sub>FM</sub> .53 Volts	I <sub>FM</sub> = 0.1A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> .81 Volts	I <sub>FM</sub> = 1.0A; T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> 100 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 45pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 150°C
Weight		.0047 ounces (.013 grams) typical

# HSM180\*, HSM190\*

Figure 1  
Typical Forward Characteristics

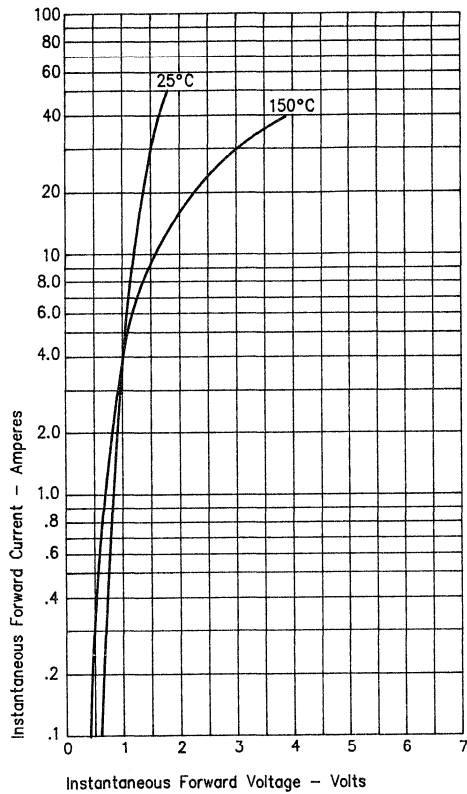


Figure 3  
Typical Junction Capacitance

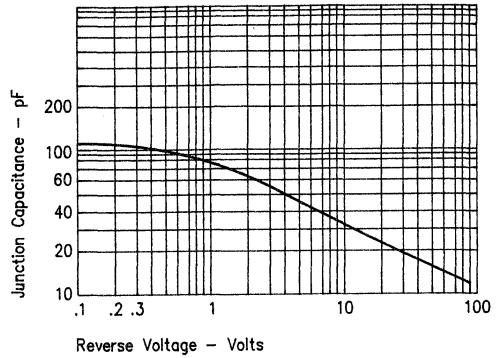
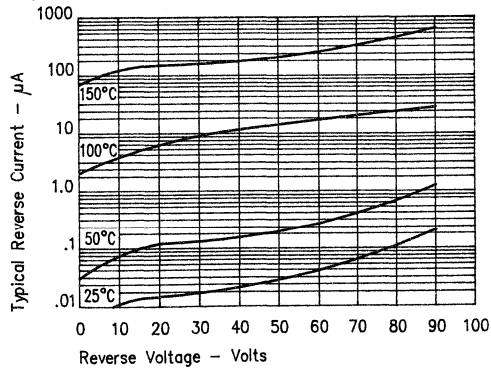


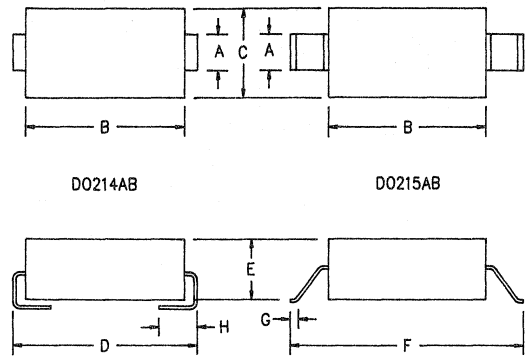
Figure 2  
Typical Reverse Characteristics





# 3 Amp Schottky Rectifier

## 5820SM, 5821SM, 5822SM



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.117	.123	2.21	2.97	
B	.260	.280	4.57	6.60	
C	.220	.245	3.94	5.58	
D	.307	.322	5.59	7.80	
E	.075	.095	1.90	2.41	
F	.380	.400	6.86	7.37	
G	.025	.040	.381	.762	
H	.030	.060	.760	1.52	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
5820SM*	20V	20V
5821SM*	30V	30V
5822SM*	40V	40V

\*Add Suffix J For J Lead or G For Gull Wing Lead Configuration

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- High Reliability
- High Current Capability
- Surface mount package

Electrical Characteristics					
		5820	5821	5822	
Average forward current	I <sub>F(AV)</sub>	3A	3A	3A	Square wave 8.3ms, half sine, T <sub>J</sub> = 150°C I <sub>FM</sub> = 1A, T <sub>J</sub> = 25°C* I <sub>FM</sub> = 3A, T <sub>J</sub> = 25°C* I <sub>FM</sub> = 9.4A, T <sub>J</sub> = 25°C* V <sub>RRM</sub> , T <sub>J</sub> = 25°C V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C
Maximum surge current	I <sub>FSM</sub>	150A	150A	150A	
Max peak forward voltage	V <sub>FM</sub>	.36V	.37V	.38V	
Max peak forward voltage	V <sub>FM</sub>	.46V	.48V	.50V	
Max peak forward voltage	V <sub>FM</sub>	.65V	.67V	.70V	
Max peak reverse current	I <sub>RM</sub>	1.5mA	1.5mA	1.5mA	
Typical junction capacitance	C <sub>J</sub>	265pF	265pF	265pF	

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 150°C
Operating junction temp range	T <sub>J</sub>	-40°C to 150°C
Weight		.008 ounces (.22 grams) typical

# 5820SM, 5821SM, 5822SM

Figure 1  
Typical Forward Characteristics

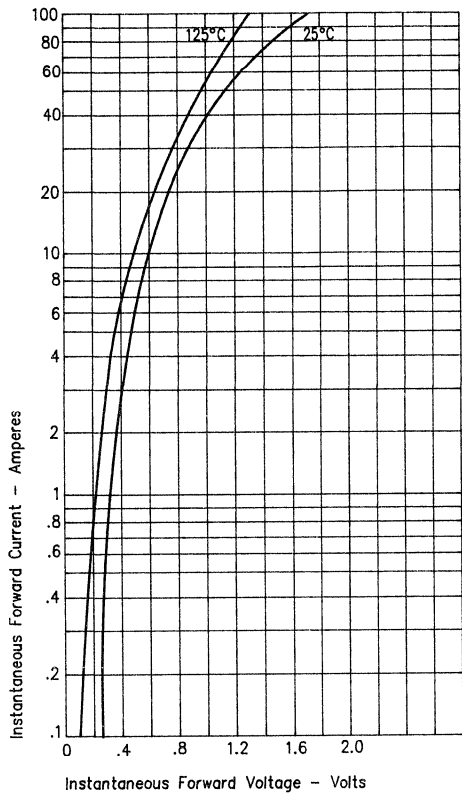


Figure 3  
Typical Junction Capacitance

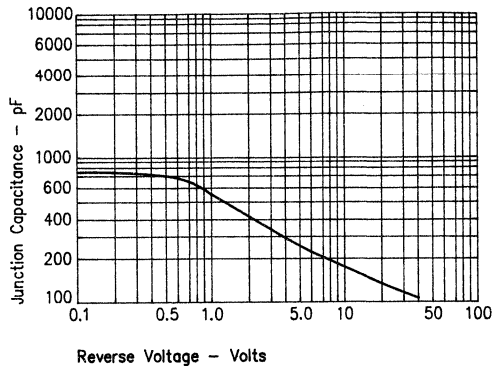
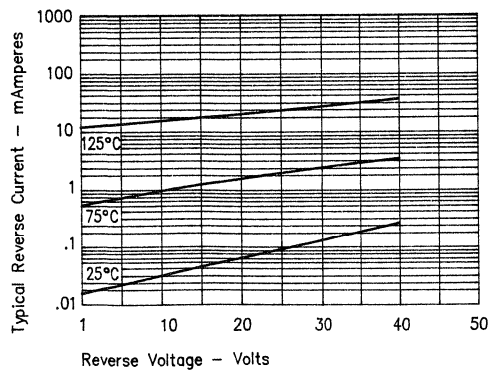


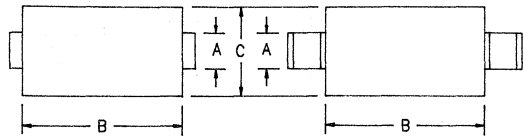
Figure 2  
Typical Reverse Characteristics







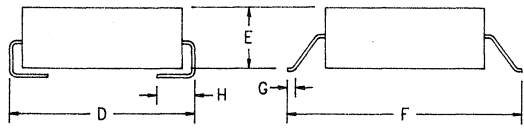
# 3 Amp Schottky Rectifier LSM335, 340, 345



D0214AB

D0215AB

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.117	.123	2.21	2.97	
B	.260	.280	4.57	6.60	
C	.220	.245	3.94	5.58	
D	.307	.322	5.59	7.80	
E	.075	.095	1.90	2.41	
F	.380	.400	6.86	7.37	
G	.025	.040	.381	.762	
H	.030	.060	.760	1.52	



Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
LSM335*	35V	35V
LSM340*	40V	40V
LSM345*	45V	45V

\* Add Suffix J for J Lead or G for Gull Wing Lead Configuration

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- 150°C Junction Temperature

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 3.0 Amps	Square wave
Maximum surge current	I <sub>FSM</sub> 150 Amps	8.3ms, half sine, T <sub>J</sub> = 150°C
Max peak forward voltage	V <sub>FM</sub> .45 Volts	I <sub>FM</sub> = 1.0A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> .52 Volts	I <sub>FM</sub> = 3.0A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> .76 Volts	I <sub>FM</sub> = 9.4A; T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> 1.5 mA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 265 pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 150°C
Operating junction temp range	T <sub>J</sub>	-40°C to 150°C
Weight		.008 ounces (.22 grams) typical



# LSM335, 340, 345

Figure 1  
Typical Forward Characteristics

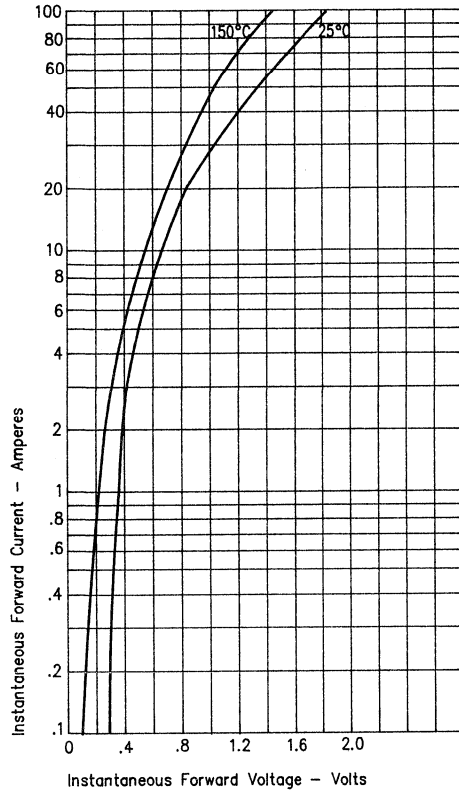


Figure 3  
Typical Junction Capacitance

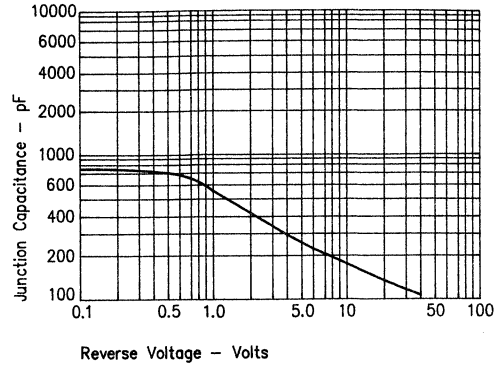
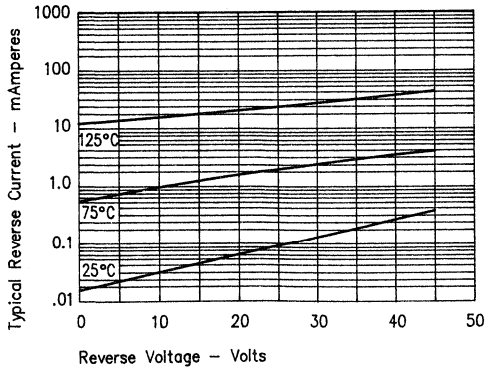
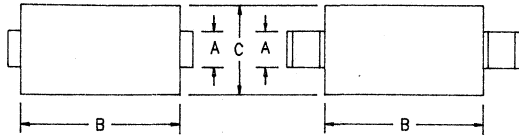


Figure 2  
Typical Reverse Characteristics



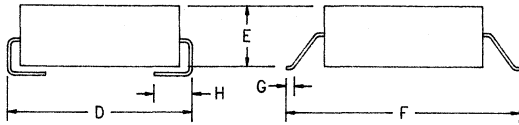
# 3 Amp Schottky Rectifier HSM350, HSM360



D0214AB

D0215AB

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.117	.123	2.21	2.97	
B	.260	.280	4.57	6.60	
C	.220	.245	3.94	5.58	
D	.307	.322	5.59	7.80	
E	.075	.095	1.90	2.41	
F	.380	.400	6.86	7.37	
G	.025	.040	.381	.762	
H	.030	.060	.760	1.52	



Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
HSM350*	50V	50V
HSM360*	60V	60V

\* Add Suffix J for J Lead or G for Gull Wing Lead Configuration

- Schottky Barrier Rectifier
- Guard Ring Protection
- VRRM 50 to 60 Volts
- 175°C Junction Temperature

Electrical Characteristics			
Average forward current	IF(AV) 3.0 Amps	Square wave	
Maximum surge current	IFSM 150 Amps	8.3ms, half sine, TJ = 175°C	
Max peak forward voltage	VFM .55 Volts	IFM = 1.0A; TJ = 25°C*	
Max peak forward voltage	VFM .62 Volts	IFM = 3.0A; TJ = 25°C*	
Max peak forward voltage	VFM .79 Volts	IFM = 9.4A; TJ = 25°C*	
Max peak reverse current	IRM 100 µA	VRRM, TJ = 25°C	
Typical junction capacitance	CJ 215 pF	VR = 5.0V, TJ = 25°C	

\*Pulse test: Pulse width 300 µsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	TSTG	-40°C to 150°C
Operating junction temp range	TJ	-40°C to 150°C
Weight		.008 ounces (.22 grams) typical

# HSM350, HSM360

Figure 1  
Typical Forward Characteristics

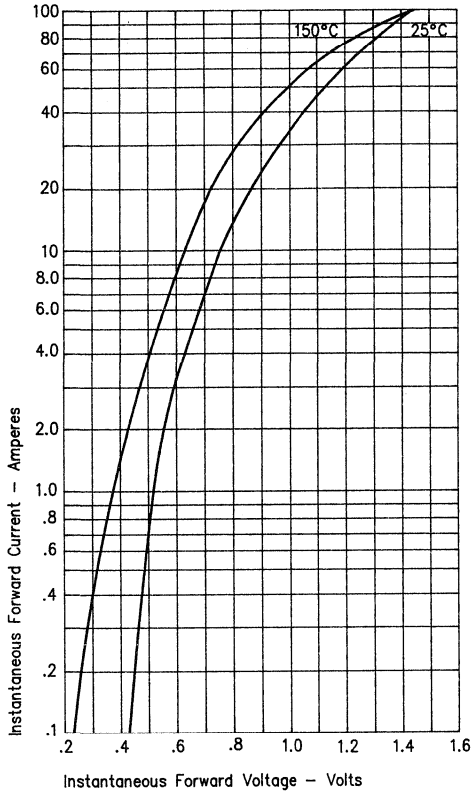


Figure 3  
Typical Junction Capacitance

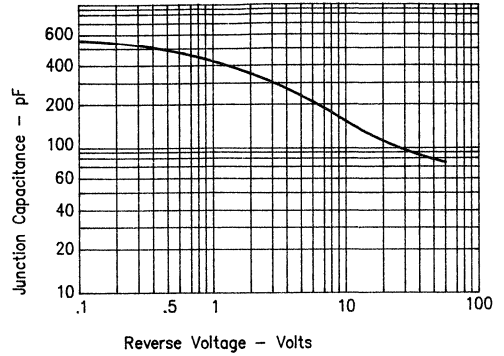
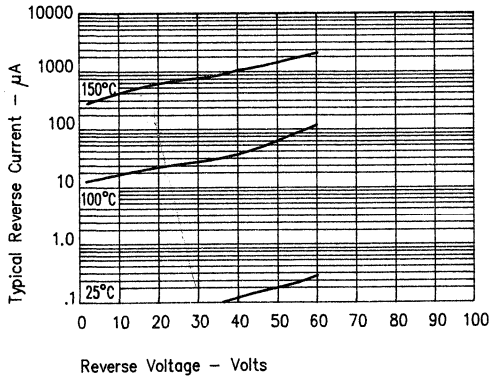
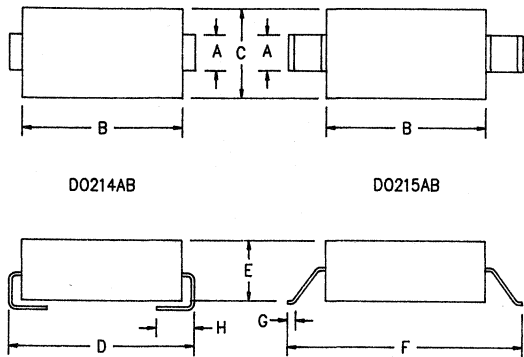


Figure 2  
Typical Reverse Characteristics



# 3 Amp Schottky Rectifier HSM380, HSM390

C



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.117	.123	2.21	2.97	
B	.260	.280	4.57	6.60	
C	.220	.245	3.94	5.58	
D	.307	.322	5.59	7.80	
E	.075	.095	1.90	2.41	
F	.380	.400	6.86	7.37	
G	.025	.040	.381	.762	
H	.030	.060	.760	1.52	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
HSM380*	80V	50V
HSM390*	90V	60V

\* Add Suffix J for J Lead or G for Gull Wing Lead Configuration

- Schottky Barrier Rectifier
- Guard Ring Protection
- $V_{RRM}$  80 to 90 Volts
- 150°C Junction Temperature

Electrical Characteristics		
Average forward current	IF(AV) 3.0 Amps	Square wave
Maximum surge current	I FSM 150 Amps	8.3ms, half sine, TJ = 150°C
Max peak forward voltage	VFM .67 Volts	IFM = 1.0A; TJ = 25°C*
Max peak forward voltage	VFM .81 Volts	IFM = 3.0A; TJ = 25°C*
Max peak forward voltage	VFM 1.0 Volts	IFM = 9.4A; TJ = 25°C*
Max peak reverse current	IRM 100 $\mu$ A	$V_{RRM}$ , TJ = 25°C
Typical junction capacitance	CJ 190 pF	$V_R$ = 5.0V, TJ = 25°C

\*Pulse test: Pulse width 300  $\mu$ sec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	TSTG	-40°C to 150°C
Operating junction temp range	TJ	-40°C to 150°C
Weight		.008 ounces (.22 grams) typical

**Microsemi Corp.**  
**Colorado**

# HSM380, HSM390

Figure 1  
Typical Forward Characteristics

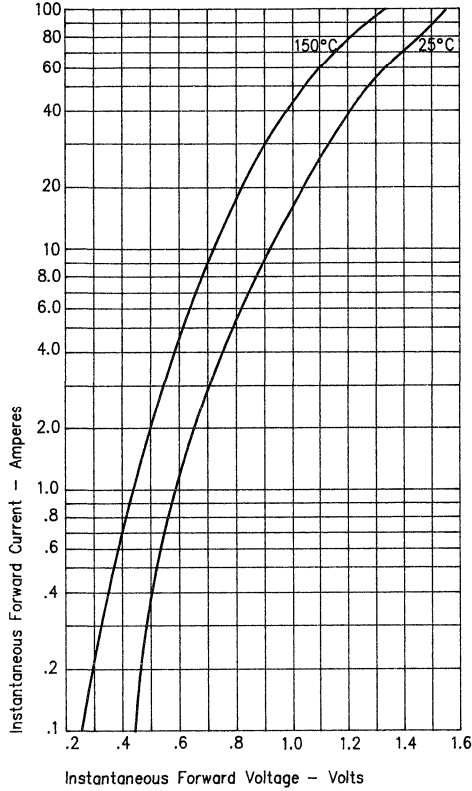


Figure 3  
Typical Junction Capacitance

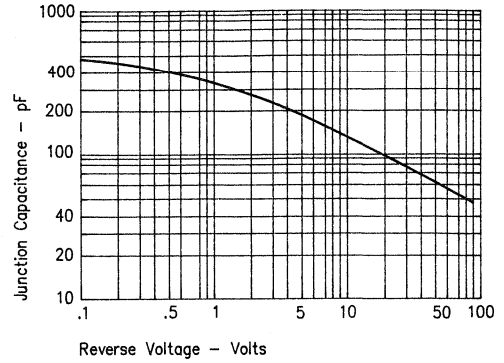
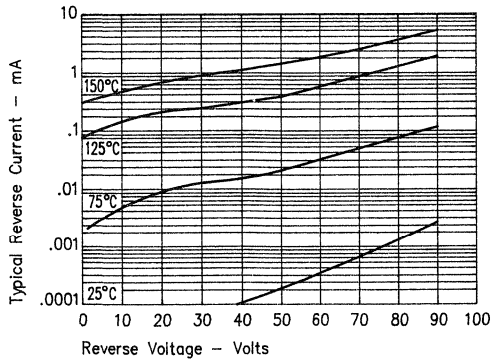
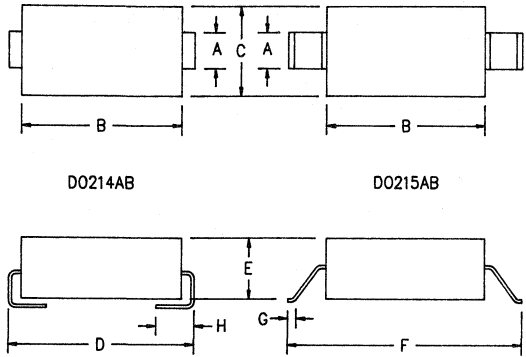


Figure 2  
Typical Reverse Characteristics



# 5 Amp Schottky Rectifier LSM535, 540, 545



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.117	.123	2.21	2.97	
B	.260	.280	4.57	6.60	
C	.220	.245	3.94	5.58	
D	.307	.322	5.59	7.80	
E	.075	.095	1.90	2.41	
F	.380	.400	6.86	7.37	
G	.025	.040	.381	.762	
H	.030	.060	.760	1.52	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
LSM535*	35V	35V
LSM540*	40V	40V
LSM545*	45V	45V

\* Add Suffix J for J Lead or G for Gull Wing Lead Configuration

- Schottky Barrier Rectifier
- Guard Ring for Reverse Protection
- Low power loss, High efficiency
- $V_{RRM}$  45 Volts Maximum
- Reverse Energy Tested

Electrical Characteristics		
Average forward current	$I_F(AV)$ 5 Amps	Square wave
Maximum surge current	$I_{FSM}$ 300 Amps	8.3ms, half sine, $T_J = 150^\circ C$
Max peak forward voltage	$V_{FM}$ .42 Volts	$I_{FM} = 5A; T_J = 150^\circ C^*$
Max peak forward voltage	$V_{FM}$ .52 Volts	$I_{FM} = 5A; T_J = 25^\circ C^*$
Max peak reverse current	$I_{RM}$ 500 mA	$V_{RRM}, T_J = 125^\circ C^*$
Max peak reverse current	$I_{RM}$ 2 mA	$V_{RRM}, T_J = 25^\circ C$
Typical junction capacitance	$C_J$ 380 pF	$V_R = 5.0V, T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu$ sec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	$T_{STG}$	-40°C to 150°C
Operating junction temp range	$T_J$	-40°C to 150°C
Weight		.008 ounces (.22 grams) typical

# LSM535, 540, 545

Figure 1  
Typical Forward Characteristics

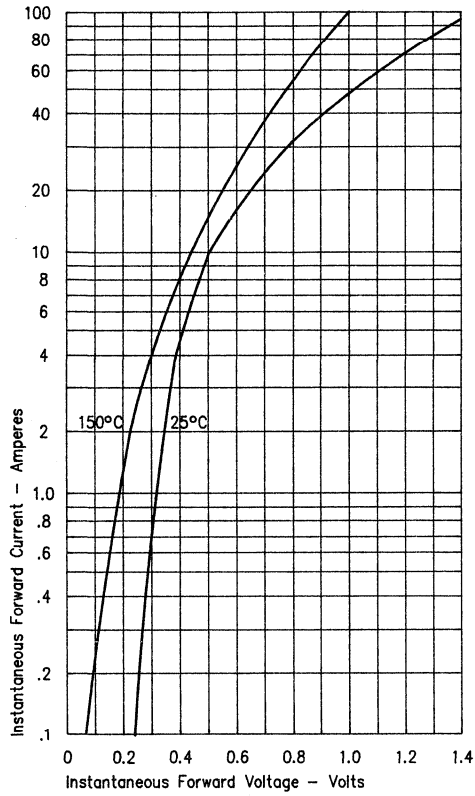


Figure 3  
Typical Junction Capacitance

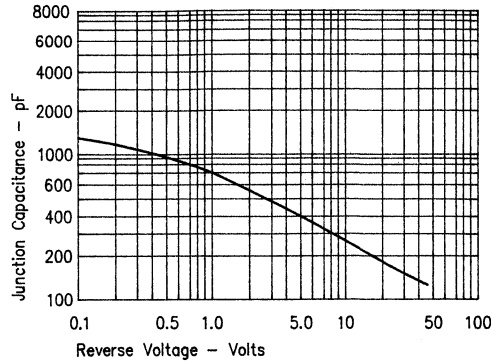
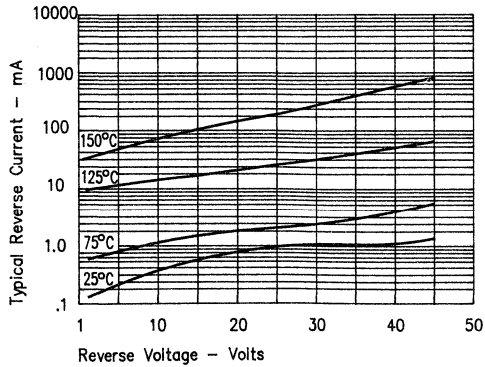
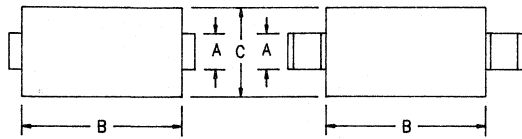


Figure 2  
Typical Reverse Characteristics





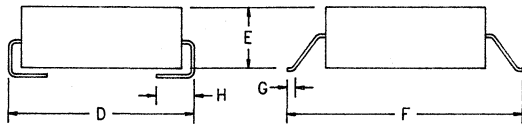
# 5 Amp Schottky Rectifier HSM550, HSM560



D0214AB

D0215AB

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.117	.123	2.21	2.97	
B	.260	.280	4.57	6.60	
C	.220	.245	3.94	5.58	
D	.307	.322	5.59	7.80	
E	.075	.095	1.90	2.41	
F	.380	.400	6.86	7.37	
G	.025	.040	.381	.762	
H	.030	.060	.760	1.52	



Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
HSM550*	50V	50V
HSM560*	60V	60V

\* Add Suffix J for J Lead or G for Gull Wing Lead Configuration

- Schottky Barrier Rectifier
- Guard Ring Protection
- High Current Capability
- 175°C Junction Temperature

Electrical Characteristics		
Average forward current	IF(AV) 5.0 Amps	Square wave
Maximum surge current	IFSM 300 Amps	8.3ms, half sine, TJ = 175°C
Max peak forward voltage	VFM .52 Volts	IFM = 1.0A; TJ = 25°C*
Max peak forward voltage	VFM .65 Volts	IFM = 5.0A; TJ = 25°C*
Max peak reverse current	IRM 250 μA	VRRM, TJ = 25°C
Typical junction capacitance	CJ 355 pF	VR = 5.0V, TJ = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	TSTG	-40°C to 175°C
Operating junction temp range	TJ	-40°C to 175°C
Weight		.008 ounces (.22 grams) typical

# HSM550, HSM560

Figure 1  
Typical Forward Characteristics

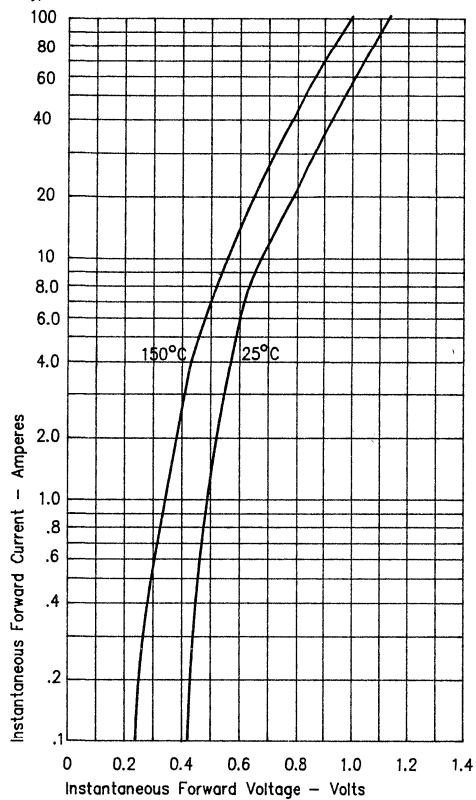


Figure 3  
Typical Junction Capacitance

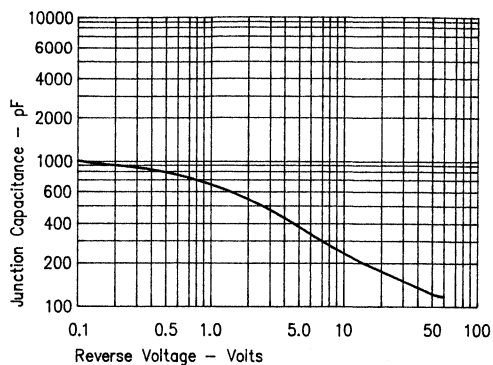
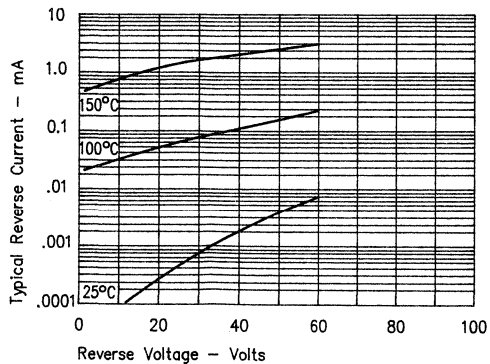
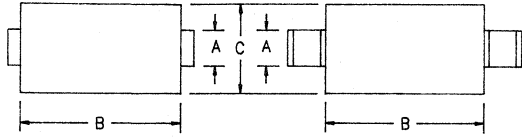


Figure 2  
Typical Reverse Characteristics

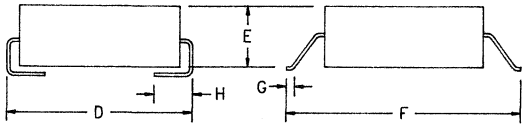


# 5 Amp Schottky Rectifier HSM580, HSM590



D0214AB

D0215AB



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.117	.123	2.21	2.97	
B	.260	.280	4.57	6.60	
C	.220	.245	3.94	5.58	
D	.307	.322	5.59	7.80	
E	.075	.095	1.90	2.41	
F	.380	.400	6.86	7.37	
G	.025	.040	.381	.762	
H	.030	.060	.760	1.52	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
HSM580*	80V	80V
HSM590*	90V	90V

\* Add Suffix J for J Lead or G for Gull Wing Lead Configuration

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low power loss, high efficiency
- High surge capacity
- $V_{RRM}$  80 to 90 Volts

Electrical Characteristics		
Average forward current	$I_F(AV)$ 5.0 Amps	Square wave
Maximum surge current	$I_{FSM}$ 300 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Max peak forward voltage	$V_{FM}$ .60 Volts	$I_{FM} = 5A; T_J = 175^\circ C^*$
Max peak forward voltage	$V_{FM}$ .80 Volts	$I_{FM} = 5A; T_J = 25^\circ C^*$
Max peak reverse current	$I_{RM}$ 250 $\mu A$	$V_{RRM}, T_J = 25^\circ C$
Typical junction capacitance	$C_J$ 280 pF	$V_R = 5.0V, T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu sec$ , Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	$T_{STG}$	-40°C to 150°C
Operating junction temp range	$T_J$	-40°C to 150°C
Weight		.008 ounces (.22 grams) typical

# HSM580, HSM590

Figure 1  
Typical Forward Characteristics

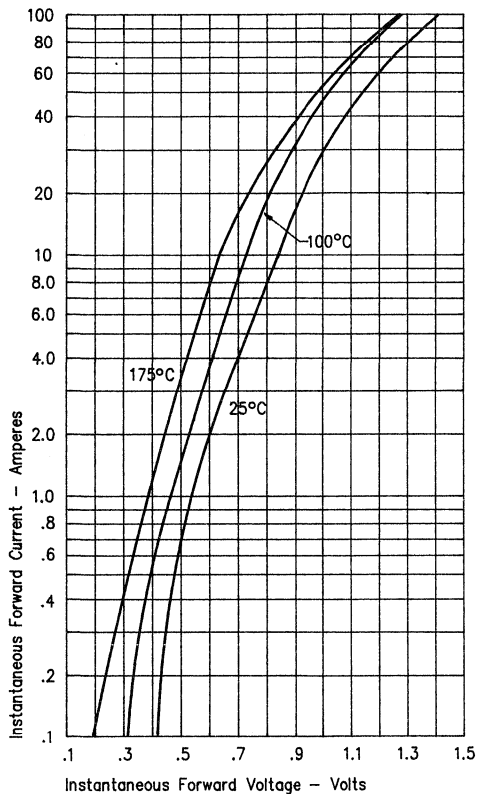


Figure 3  
Typical Junction Capacitance

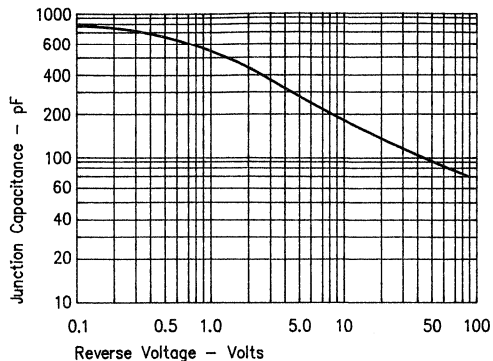
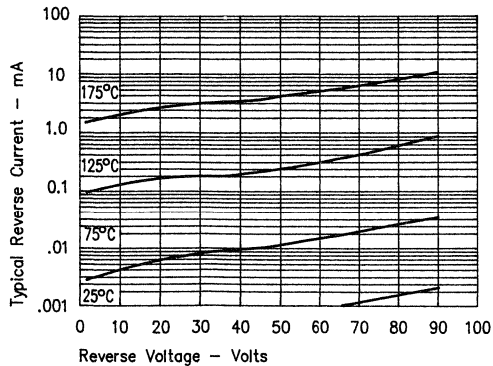
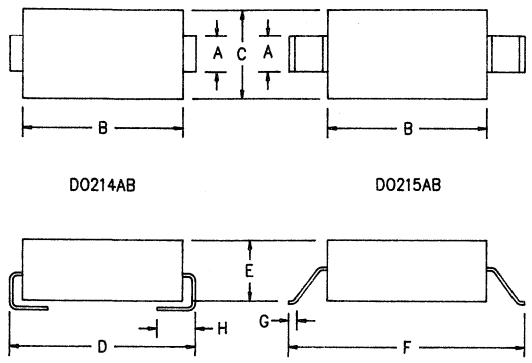


Figure 2  
Typical Reverse Characteristics



# 8 Amp Schottky Rectifier LSM835, LSM845



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.117	.123	2.21	2.97	
B	.260	.280	4.57	6.60	
C	.220	.245	3.94	5.58	
D	.307	.322	5.59	7.80	
E	.075	.095	1.90	2.41	
F	.380	.400	6.86	7.37	
G	.025	.040	.381	.762	
H	.030	.060	.760	1.52	

Microsemi Catalog Number	Working Working Peak Reverse Voltage	Repetitive Repetitive Peak Reverse Voltage
LSM835*	35V	35V
LSM845*	45V	45V

\*Add Suffix J For J Lead or G For Gull Wing Lead Configuration

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- 150°C Junction Temperature
- High Current Capability

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 8.0 Amps	Square wave
Maximum surge current	I <sub>F(AV)</sub> 400 Amps	8.3 ms, half sine, T <sub>J</sub> = 150°C *
Max peak forward voltage	V <sub>FM</sub> .40 Volts	I <sub>FM</sub> = 8.0A; T <sub>J</sub> = 150°C *
Max peak forward voltage	V <sub>FM</sub> .52 Volts	I <sub>FM</sub> = 8.0A; T <sub>J</sub> = 25°C *
Max peak reverse current	I <sub>RM</sub> 2 mA	V <sub>RRM, T<sub>J</sub></sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 575 pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\* Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 150°C
Operating junction temp range	T <sub>J</sub>	-40°C to 150°C
Weight		.008 ounces (.22 grams) typical



# LSM835, LSM845

Figure 1  
Typical Forward Characteristic

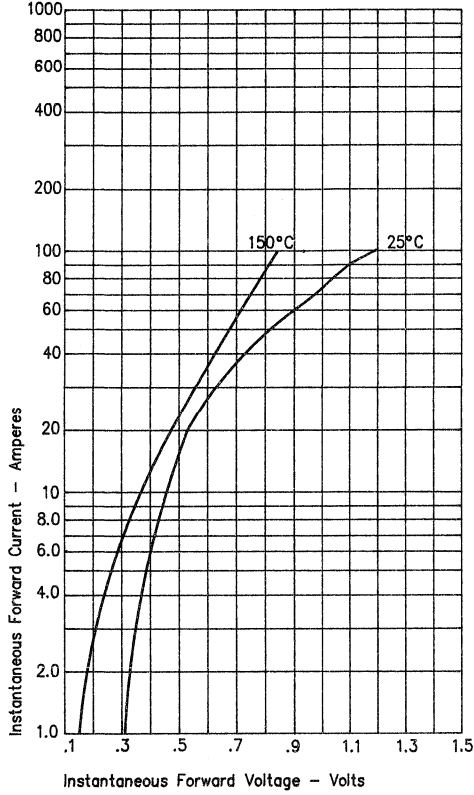


Figure 3  
Typical Junction Capacitance

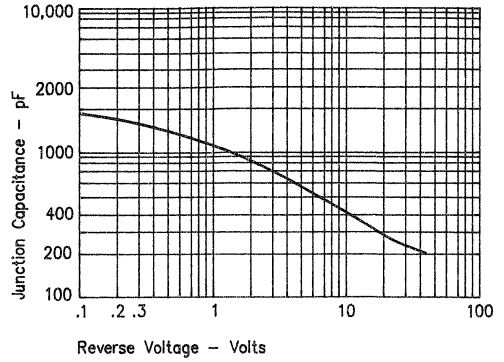
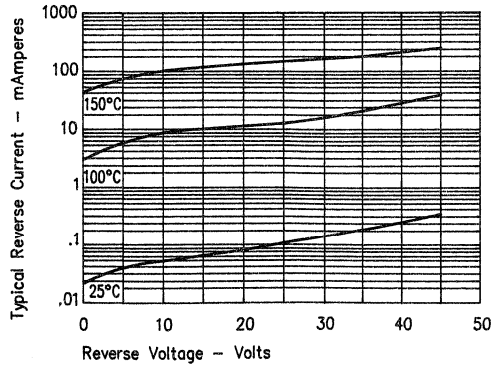
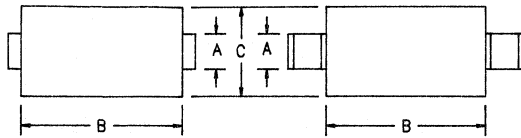


Figure 2  
Typical Reverse Characteristics



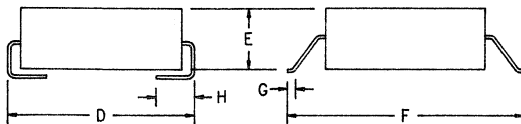
# 8 Amp Schottky Rectifier HSM825 – HSM845



D0214AB

D0215AB

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.117	.123	2.21	2.97	
B	.260	.280	4.57	6.60	
C	.220	.245	3.94	5.58	
D	.307	.322	5.59	7.80	
E	.075	.095	1.90	2.41	
F	.380	.400	6.86	7.37	
G	.025	.040	.381	.762	
H	.030	.060	.760	1.52	



Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
HSM825*	25V	25V
HSM830*	30V	30V
HSM835*	35V	35V
HSM840*	40V	40V
HSM845*	45V	45V

\*Add Suffix J For J Lead or G For Gull Wing Lead Configuration

- Schottky Barrier Rectifier
- Guard Ring Protection
- 175°C Junction Temperature
- High Current Capability
- VRRM 25 to 45 Volts

Electrical Characteristics		
Average forward current	I F(AV) 8.0 Amps	Square wave
Maximum surge current	I F(AV) 400 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V FM .47 Volts	IFM = 8.0A; T <sub>J</sub> = 150°C *
Max peak forward voltage	V FM .62 Volts	IFM = 8.0A; T <sub>J</sub> = 25°C *
Max peak reverse current	I RM 250 μA	VRRM, T <sub>J</sub> = 25°C
Typical junction capacitance	CJ 660pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\* Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Weight		.008 ounces (.22 grams) typical



# HSM825 — HSM845

Figure 1  
Typical Forward Characteristic

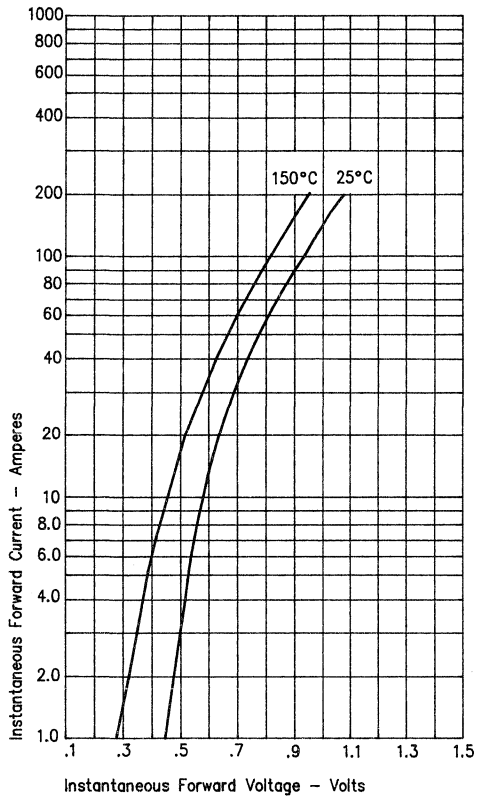


Figure 3  
Typical Junction Capacitance

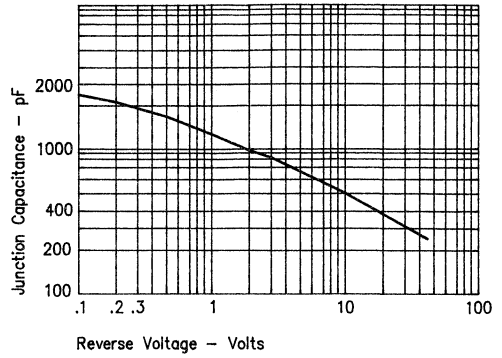
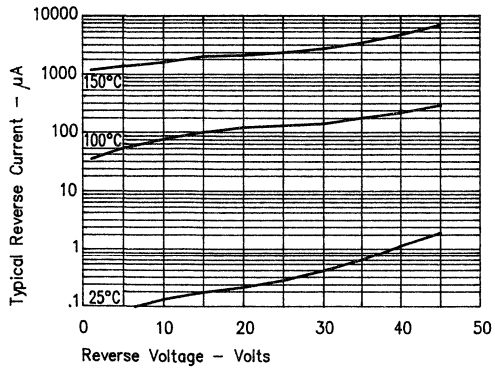
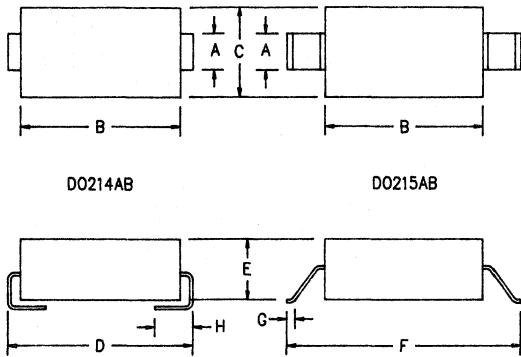


Figure 2  
Typical Reverse Characteristics





# 8 Amp Schottky Rectifier HSM880 — HSM890



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.117	.123	2.21	2.97	
B	.260	.280	4.57	6.60	
C	.220	.245	3.94	5.58	
D	.307	.322	5.59	7.80	
E	.075	.095	1.90	2.41	
F	.380	.400	6.86	7.37	
G	.025	.040	.381	.762	
H	.030	.060	.760	1.52	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
HSM880*	80V	80V
HSM890*	90V	90V

\*Add Suffix J For J Lead or G For Gull Wing Lead Configuration

- Schottky Barrier Rectifier
- Guard Ring Protection
- 175°C Junction Temperature
- High Current Capability
- VRRM 80 to 90 Volts

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 8.0 Amps	Square wave
Maximum surge current	I <sub>F(AV)</sub> 400 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .59 Volts	IFM = 8.0A; T <sub>J</sub> = 175°C*
Max peak forward voltage	V <sub>FM</sub> .77 Volts	IFM = 8.0A; T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> 250 μA	V <sub>RRM, T<sub>J</sub></sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 440pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\* Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Weight		.008 ounces (.22 grams) typical

# HSM880 — HSM890

Figure 1  
Typical Forward Characteristics

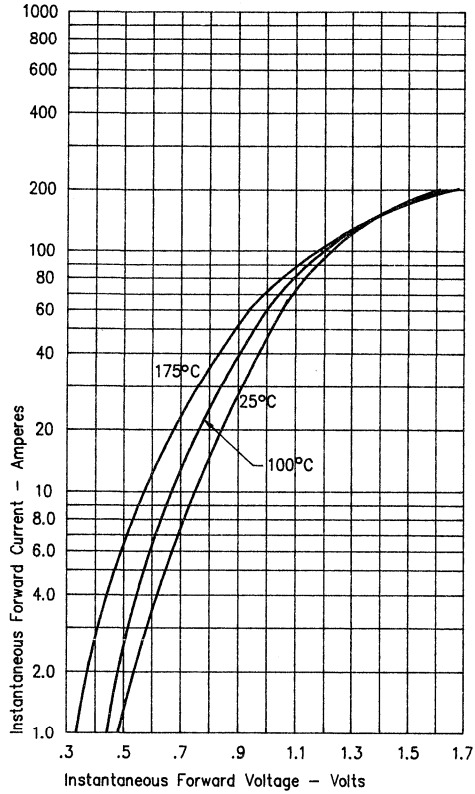


Figure 3  
Typical Junctions Capacitance

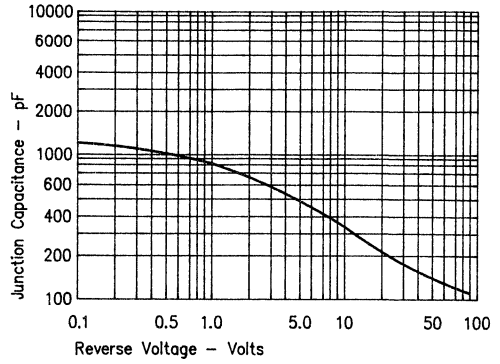
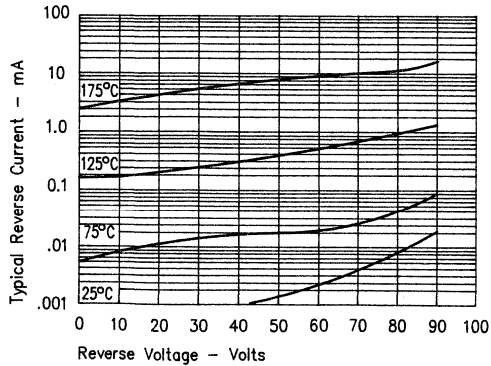
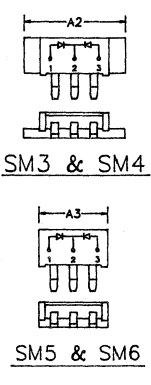
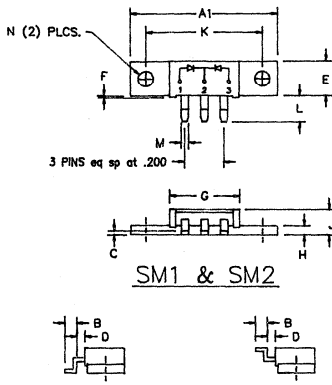


Figure 2  
Typical Reverse Characteristics





# Schottky Power Surface Mount FST71SM1-SM6 Series



TYP. PIN CONFIGURATION  
FOR SM1, SM3, & SM5

TYP. PIN CONFIGURATION  
FOR SM2, SM4, & SM6

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A1	1.490	1.510	37.85	38.35	
A2	1.020	1.040	26.12	26.42	
A3	.695	.715	17.65	18.16	
B	.110	.120	2.79	3.04	
C	.027	.037	0.69	0.94	
D	.100	.110	2.54	2.79	
E	.350	.370	8.89	9.40	
F	.015	.025	0.38	0.64	
G	.695	.715	17.65	18.16	
H	.088	.098	2.24	2.49	
J	.240	.260	6.10	6.60	
K	1.180	1.195	29.97	30.35	
L	.230	.250	5.84	6.35	
M	.065	.085	1.65	2.16	
N	.151	.161	3.84	4.09	Dia.

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST7130SM ①②	30V	30V
FST7135SM --	35V	35V
FST7140SM --	40V	40V
FST7145SM --	45V	45V

Note: ① Specify (1-6) to identify package desired  
② Specify C-Common Cathode, A-Common Anode, D-Doubler

- Schottky Barrier Rectifier
- Guard Ring for Reverse Protection
- $V_{RRM}$  30 to 45 Volts
- Low Forward Voltage
- 2 X 35 Amperes Avg.
- 150°C Junction Temperature
- Reverse Energy Tested

Electrical Characteristics		
Average forward current per pkg	$I_{F(AV)}$ 70 Amps	$T_C = 90^\circ C$ , Square wave, $R_{\theta JC} = 0.6^\circ C/W$
Average forward current per leg	$I_{F(AV)}$ 35 Amps	$T_C = 90^\circ C$ , Square wave, $R_{\theta JC} = 1.2^\circ C/W$
Maximum surge current per leg	$I_{FSM}$ 800 Amps	8.3 ms, half sine, $T_J = 150^\circ C$
Max repetitive peak reverse current per leg	$I_{R(OV)}$ 2 Amps	$f = 1$ KHZ, $25^\circ C$ , 1 usec square wave
Max peak forward voltage per leg	$V_{FM}$ 0.50 Volts	$I_{FM} = 30A$ ; $T_J = 25^\circ C^*$
Max peak forward voltage per leg	$I_{RM}$ 500 mA	$V_{RRM}$ , $T_C = 125^\circ C^*$
Max peak reverse current per leg	$I_{RM}$ 5 mA	$V_{RRM}$ , $T_J = 25^\circ C$
Typical reverse current per leg	$I_{RM}$ 1 mA	$V_{RRM}$ , $T_J = 25^\circ C$
Typical junction capacitance	$C_J$ 1300 pF	$V_R = 5.0V$ , $T_C = 25^\circ C$

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	$T_{STG}$	$-40^\circ C$ to $150^\circ C$
Operating junction temp range	$T_J$	$-40^\circ C$ to $150^\circ C$
Max thermal resistance per leg per package	$R_{\theta JC}$	$1.2^\circ C/W$ Junction to case
Typical thermal resistance per leg	$R_{\theta JC}$	$0.6^\circ C/W$ Junction to case
Typical thermal resistance	$R_{\theta CS}$	$1.0^\circ C/W$ Junction to case
Mounting Base Torque		$0.5^\circ C/W$ Case to sink
Weight	SM1-2	10 inch pounds maximum
	SM3-4	0.3 ounce (8.4 grams) typical
	SM5-6	0.24 ounce (6.7 grams) typical
		0.18 ounce (5.2 grams) typical



PH: 303-469-2161  
FAX: 303-466-3775

# FST71SM1 — SM6

Figure 1  
Maximum Forward Characteristics — Per Leg

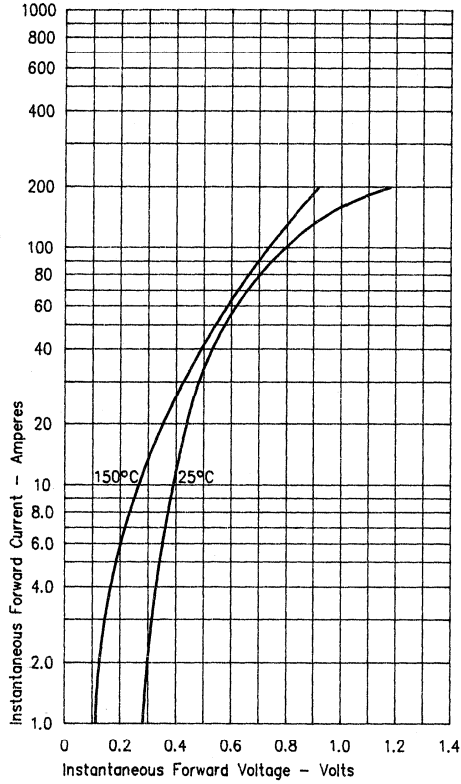


Figure 3  
Typical Junction Capacitance — Per Leg

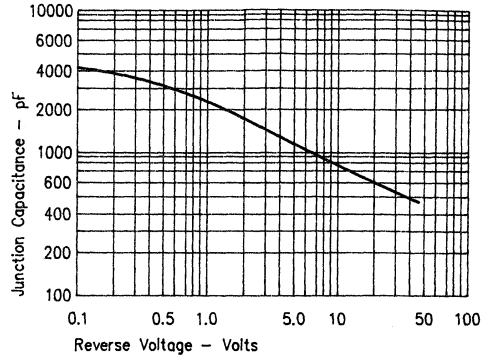


Figure 4  
Forward Current Derating — Per Leg

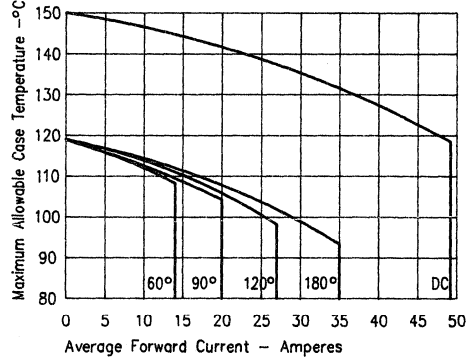


Figure 2  
Typical Reverse Characteristics — Per Leg

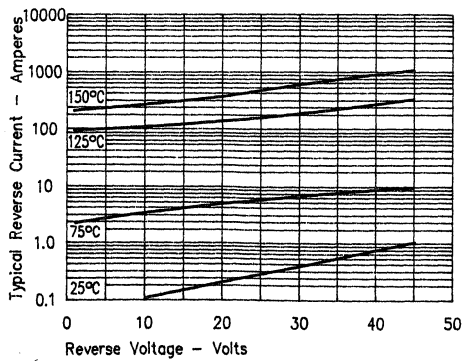
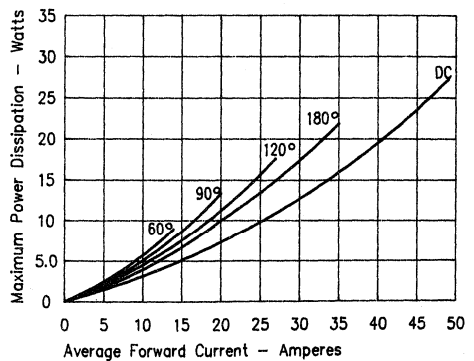
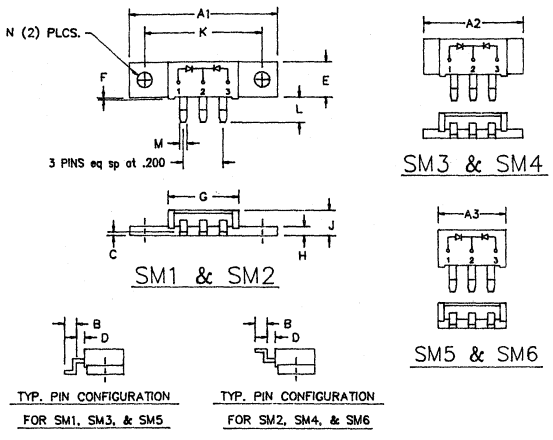


Figure 5  
Maximum Forward Power Dissipation — Per Leg





# Schottky Power Surface Mount FST81SM1-SM6 Series



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A1	1.490	1.510	37.85	38.35	
A2	1.020	1.040	26.12	26.42	
A3	.695	.715	17.65	18.16	
B	.110	.120	2.79	3.04	
C	.027	.037	0.69	0.94	
D	.100	.110	2.54	2.79	
E	.350	.370	8.89	9.40	
F	.015	.025	0.38	0.64	
G	.695	.715	17.65	18.16	
H	.088	.098	2.24	2.49	
J	.240	.260	6.10	6.60	
K	1.180	1.195	29.97	30.35	
L	.230	.250	5.84	6.35	
M	.065	.085	1.65	2.16	
N	.151	.161	3.84	4.09	Dia.

Microsemi Catalog Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST8130SM <sup>①②</sup>	30V	30V
FST8135SM	35V	35V
FST8140SM	40V	40V
FST8145SM	45V	45V

Note: ① Specify (1-6) to identify package desired  
 ② Specify C-Common Cathode, A-Common Anode, D-Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- Common Cathode Center Tap
- Low Forward Voltage
- 2 X 40 Amperes Avg.
- 150°C Junction Temperature
- Reverse Energy Tested

Electrical Characteristics		
Average forward current per pkg	I <sub>F(AV)</sub> 80 Amps	TC = 110°C, Square wave, R <sub>θJC</sub> = 0.5°C/W
Average forward current per leg	I <sub>F(AV)</sub> 40 Amps	TC = 110°C, Square wave, R <sub>θJC</sub> = 1.0°C/W
Maximum surge current per leg	I <sub>FSM</sub> 800 Amps	8.3 ms, half sine, T <sub>J</sub> = 150°C
Max repetitive peak reverse current per leg	I <sub>R(OV)</sub> 2 Amps	f = 1 KHZ, 25°C, 1 usec square wave
Max peak forward voltage per leg	V <sub>FM</sub> 0.47 volts	I <sub>FM</sub> = 40A; T <sub>J</sub> = 150°C*
Max peak forward voltage per leg	V <sub>FM</sub> 0.53 volts	I <sub>FM</sub> = 40A; T <sub>J</sub> = 25°C*
Max peak reverse current per leg	I <sub>RM</sub> 500 mA	V <sub>RRM</sub> , TC = 125°C*
Typical reverse current per leg	I <sub>RM</sub> 1.5 mA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 2100 pF	V <sub>R</sub> = 5.0V, TC = 25°C

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 150°C
Max thermal resistance per leg	R <sub>θJC</sub>	1.0°C/W Junction to case
per package	R <sub>θJC</sub>	0.5°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.3°C/W Case to sink
Mounting Base Torque		10 inch pounds maximum
Weight		SM1-2 0.3 ounce (8.4 grams) typical
		SM3-4 0.24 ounce (6.7 grams) typical
		SM5-6 0.18 ounce (5.2 grams) typical

# FST81SM1 — SM6

Figure 1  
Maximum Forward Characteristics — Per Leg

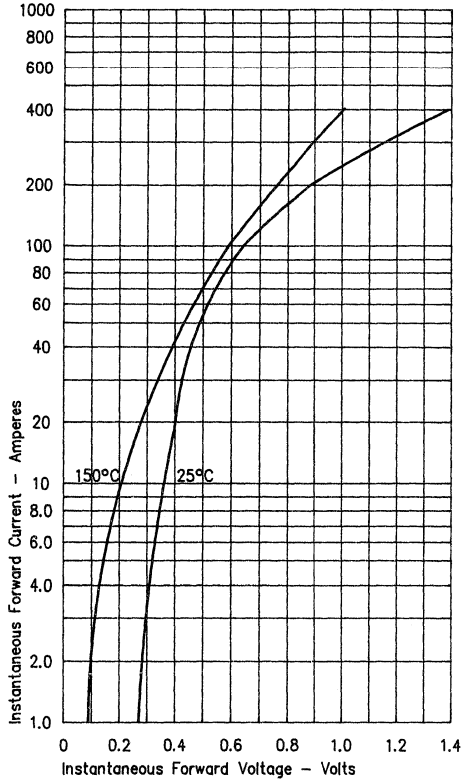


Figure 3  
Typical Junction Capacitance — Per Leg

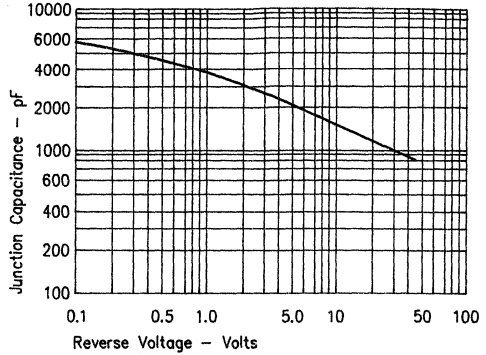


Figure 4  
Forward Current Derating — Per Leg

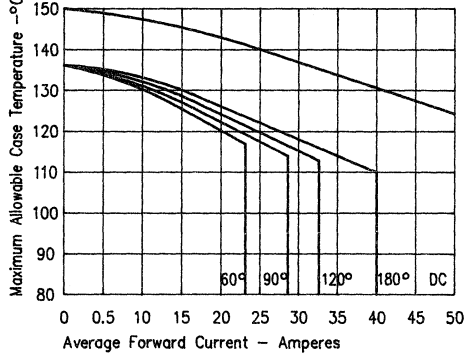


Figure 2  
Typical Reverse Characteristics — Per Leg

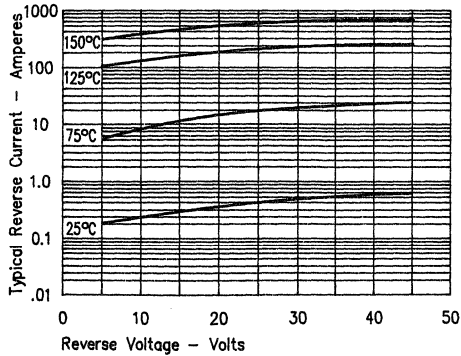
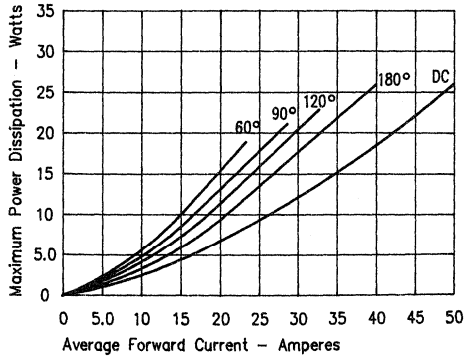
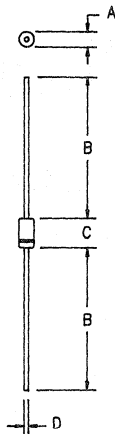


Figure 5  
Maximum Forward Power Dissipation — Per Leg



# 1 Amp Schottky Rectifier

## 1N5817, 1N5818, 1N5819



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.081	.107	2.057	2.718	Dia.
B	1.10	---	27.94	---	
C	.160	.205	4.064	5.207	
D	.028	.034	.711	.864	Dia.

PLASTIC DO41

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
1N5817	20V	20V
1N5818	30V	30V
1N5819	40V	40V

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- High Reliability
- High Current Capability

Electrical Characteristics				
		1N5817	1N5818	1N5819
Average forward current	I <sub>F(AV)</sub>	1A	1A	1A
Ambient Temperature		135°C	130°C	130°C
Ambient Temperature		120°C	112°C	112°C
Maximum surge current	I <sub>FSM</sub>	50A	50A	50A
Max peak forward voltage	V <sub>FM</sub>	.32V	.37V	.37V
Max peak forward voltage	V <sub>FM</sub>	.45V	.55V	.55V
Max peak forward voltage	V <sub>FM</sub>	.65V	.85V	.85V
Max peak reverse current	I <sub>RM</sub>	1mA	1mA	1mA
Typical junction capacitance	C <sub>J</sub>	105pF	50pF	50pF

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

R<sub>θJL</sub> = 35°C/W, L = 0"  
R<sub>θJL</sub> = 68°C/W, L = 3/8"  
8.3ms, half sine, T<sub>J</sub> = 150°C  
I<sub>FM</sub> = 0.1A: T<sub>J</sub> = 25°C\*  
I<sub>FM</sub> = 1.0A: T<sub>J</sub> = 25°C\*  
I<sub>FM</sub> = 3.0A: T<sub>J</sub> = 25°C\*  
V<sub>RRM</sub>, T<sub>J</sub> = 25°C  
V<sub>R</sub> = 5.0V, T<sub>J</sub> = 25°C

Thermal and Mechanical Characteristics			
Storage temperature range		T <sub>STG</sub>	-40°C to 150°C
Operating junction temp range		T <sub>J</sub>	-40°C to 150°C
Maximum thermal resistance	L = 3/8"	R <sub>θJL</sub>	68°C/W
	L = 0	R <sub>θJL</sub>	35°C/W
Weight			.011 ounces (0.34 grams) typical

Junction to Lead  
Junction to Lead

# 1N5817

Figure 1  
Typical Forward Characteristics

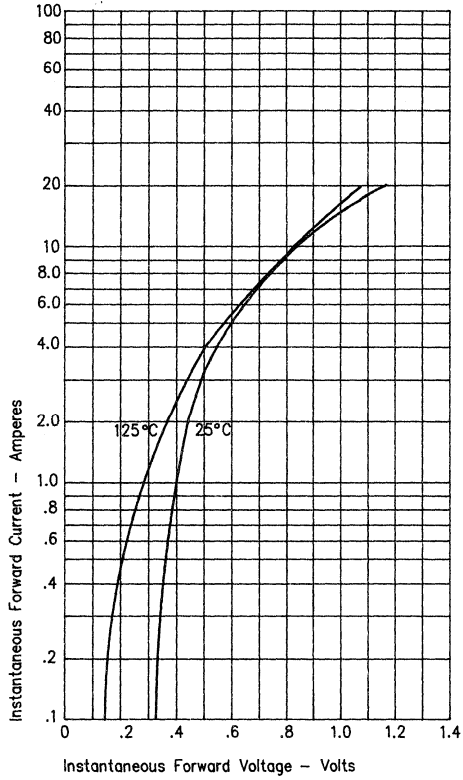


Figure 3  
Typical Junction Capacitance

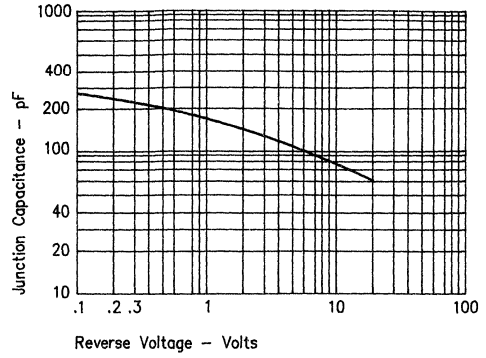
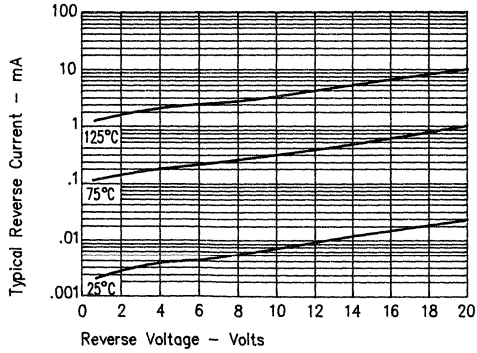


Figure 2  
Typical Reverse Characteristics





# 1N5818 & 1N5819

Figure 1  
Typical Forward Characteristics

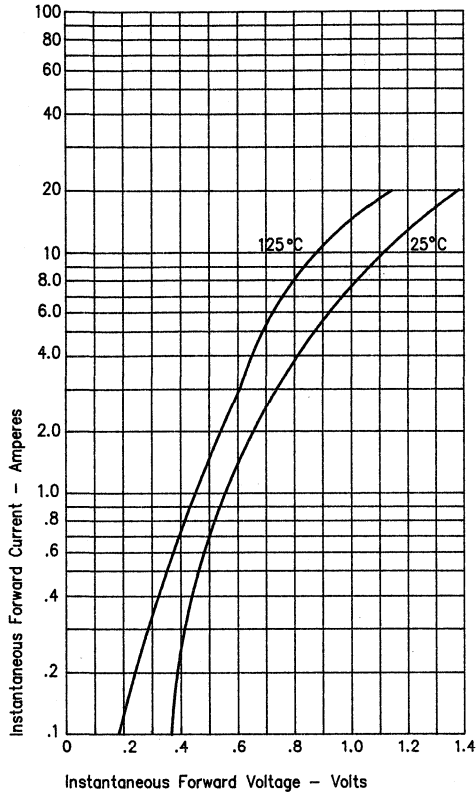


Figure 3  
Typical Junction Capacitance

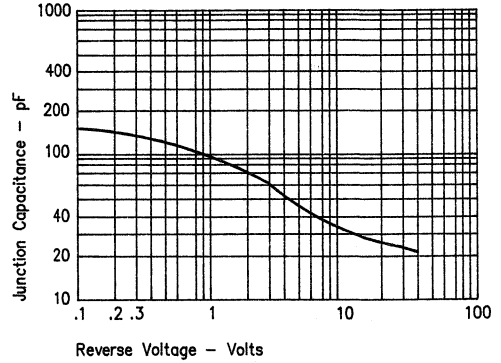
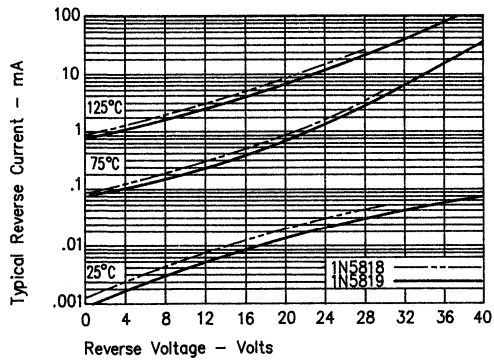
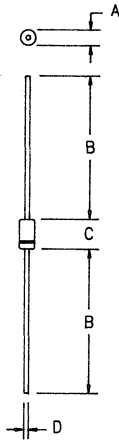


Figure 2  
Typical Reverse Characteristics



# 1 Amp Schottky Rectifier

## 1N5817G, 1N5818G, 1N5819G



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.081	.107	2.057	2.718	Dia.
B	1.10	---	27.94	---	
C	.160	.205	4.064	5.207	
D	.028	.034	.711	.864	Dia.

GLASS HERMETIC DO41G

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
1N5817G	20V	20V
1N5818G	30V	30V
1N5819G	40V	40V

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- High Reliability
- High Current Capability

Electrical Characteristics					
		5817G	5818G	5819G	
Average forward current	I F(AV)	1A	1A	1A	R $\theta$ JL = 35°C/W, L = 0"
Ambient Temperature		135°C	130°C	130°C	R $\theta$ JL = 60°C/W, L = 3/8"
Ambient Temperature		125°C	117°C	117°C	8.3ms, half sine, T <sub>J</sub> = 150°C
Maximum surge current	I FSM	50A	50A	50A	I <sub>FM</sub> = 0.1A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub>	.36V	.39V	.39V	I <sub>FM</sub> = 1.0A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub>	.45V	.55V	.55V	I <sub>FM</sub> = 3.0A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub>	.65V	.85V	.85V	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub>	1mA	1mA	1mA	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub>	105pF	50pF	50pF	

\*Pulse test: Pulse width 300  $\mu$ sec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-65°C to 150°C
Operating junction temp range	T <sub>J</sub>	-65°C to 150°C
Maximum thermal resistance	L = 3/8" R $\theta$ JL	60°C/W Junction to Lead
	L = 0 R $\theta$ JL	35°C/W Junction to Lead
Weight		.012 ounces (0.38 grams) typical



# 1N5817G

C

Figure 1  
Typical Forward Characteristics

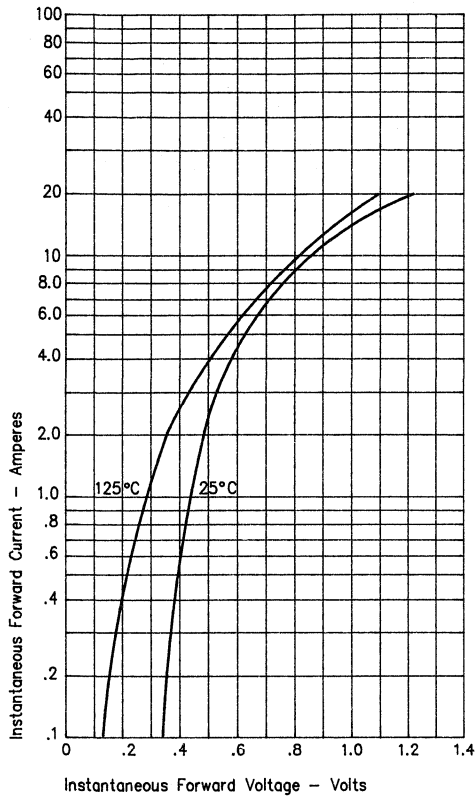


Figure 3  
Typical Junction Capacitance

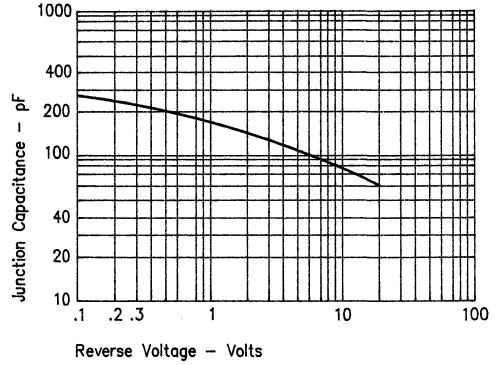
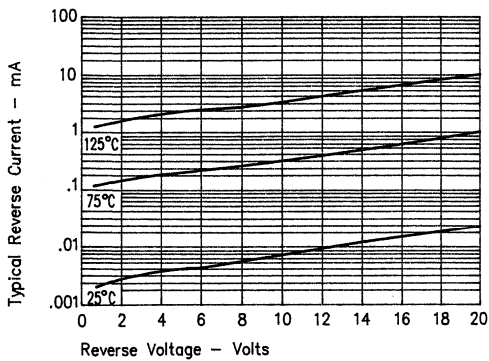


Figure 2  
Typical Reverse Characteristics



# 1N5818G & 1N5819G

Figure 1  
Typical Forward Characteristics

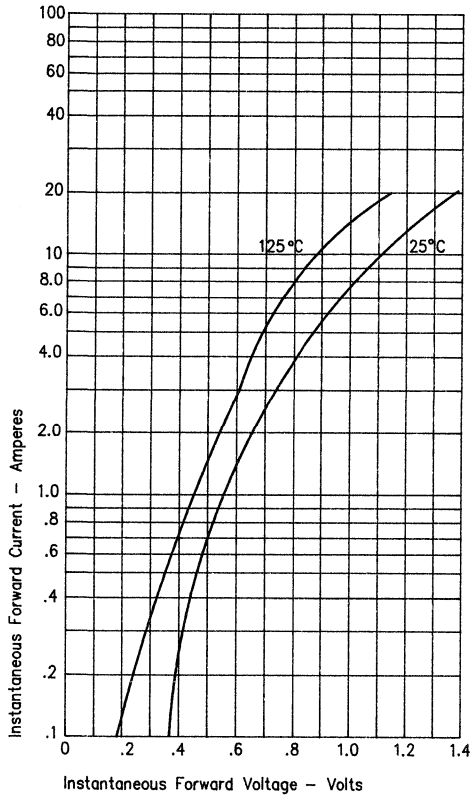


Figure 3  
Typical Junction Capacitance

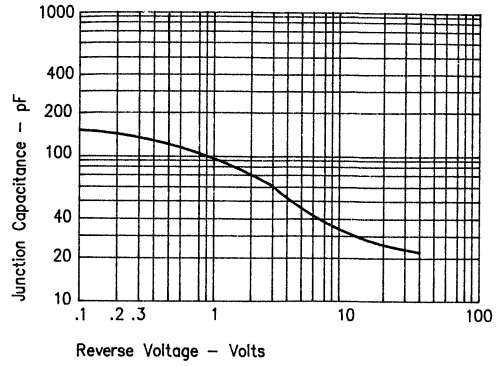
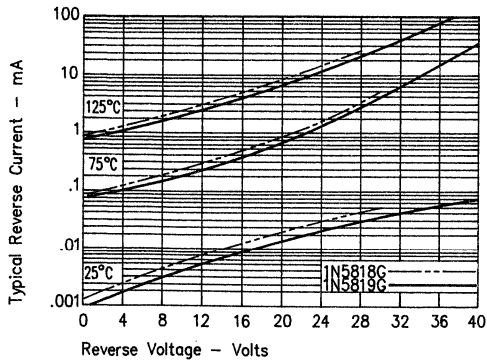
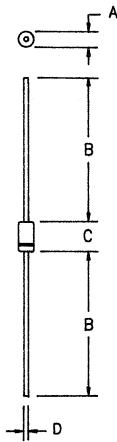


Figure 2  
Typical Reverse Characteristics





# 1 Amp Schottky Rectifier MS104, 105, 106



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.081	.107	2.057	2.718	Dia.
B	1.10	---	27.94	---	
C	.160	.205	4.064	5.207	
D	.028	.034	.711	.864	Dia.

PLASTIC D041

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
MS104	40V	40V
MS105	50V	50V
MS106	60V	60V

- Schottky Barrier Rectifier
- Guard Ring Protection
- 175°C Junction Temperature
- VRRM 40 to 60 Volts

Electrical Characteristics		
Average forward current	IF(AV) 1.0 Amps	TA = 150°C Square wave, RθJL = 35°C/W, L = 0"
Average forward current	IF(AV) 1.0 Amps	TA = 129°C Square wave, RθJL = 68°C/W, L = 3/8"
Maximum surge current	IFSM 75 Amps	8.3ms, half sine, TJ = 175°C
Max peak forward voltage	VFM .51 Volts	IFM = 0.1A; TJ = 25°C*
Max peak forward voltage	VFM .69 Volts	IFM = 1.0A; TJ = 25°C*
Max peak reverse current	IRM 100 μA	VRRM, TJ = 25°C
Typical junction capacitance	CJ 53pF	VR = 5.0V, TJ = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical		
Storage temperature range	TSTG	-40°C to 175°C
Operating junction temp range	TJ	-40°C to 175°C
Maximum thermal resistance	L = 3/8" RθJL	68°C/W
	L = 0 RθJL	35°C/W
Weight		.011 ounces (0.34 grams) typical

Junction to Lead  
Junction to Lead



# MS104, 105, 106

Figure 1  
Typical Forward Characteristics

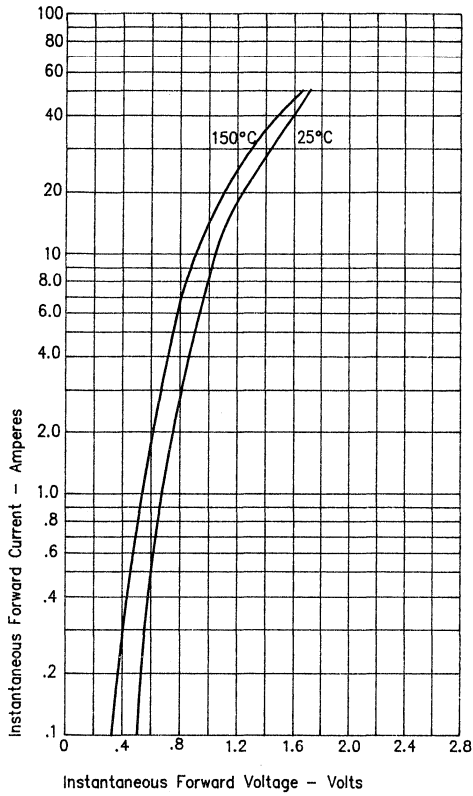


Figure 3  
Typical Junction Capacitance

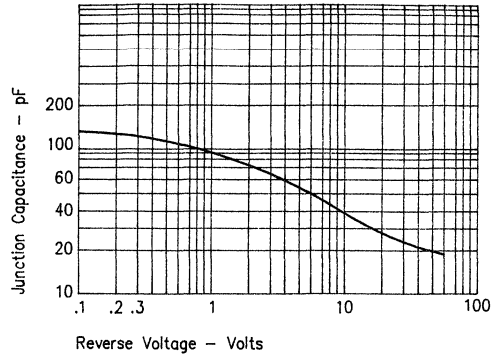
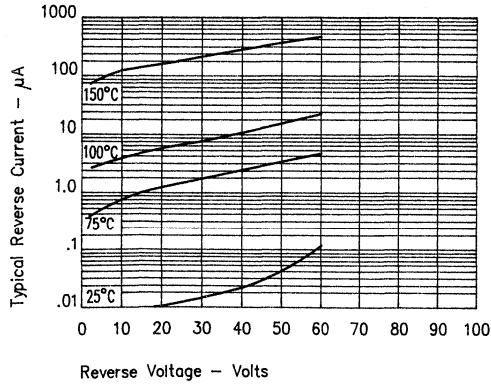
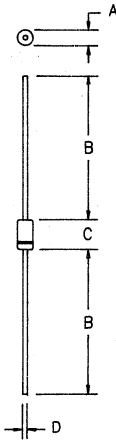


Figure 2  
Typical Reverse Characteristics





# 1 Amp Schottky Rectifier MSG104, 105, 106



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.081	.107	2.057	2.718	Dia.
B	1.10	---	27.94	---	
C	.160	.205	4.064	5.207	
D	.028	.034	.711	.864	Dia.

GLASS HERMETIC D041

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
MSG104	40V	40V
MSG105	50V	50V
MSG106	60V	60V

- Schottky Barrier Rectifier
- Guard Ring Protection
- 175°C Junction Temperature
- VRRM 40 to 60 Volts

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 1.0 Amps	TA = 150°C Square wave, R <sub>θJL</sub> = 35°C/W, L = 0"
Average forward current	I <sub>F(AV)</sub> 1.0 Amps	TA = 133°C Square wave, R <sub>θJL</sub> = 60°C/W, L = 3/8"
Maximum surge current	I <sub>FSM</sub> 75 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .51 Volts	I <sub>FM</sub> = 0.1A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> .69 Volts	I <sub>FM</sub> = 1.0A; T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> 100 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 53pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C
*Pulse test: Pulse width 300 μsec, Duty cycle 2%		

Thermal and Mechanical		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Maximum thermal resistance	L = 3/8" R <sub>θJL</sub>	60°C/W
	L = 0 R <sub>θJL</sub>	35°C/W
Weight		.011 ounces (0.34 grams) typical



# MSG104, 105, 106

Figure 1  
Typical Forward Characteristics

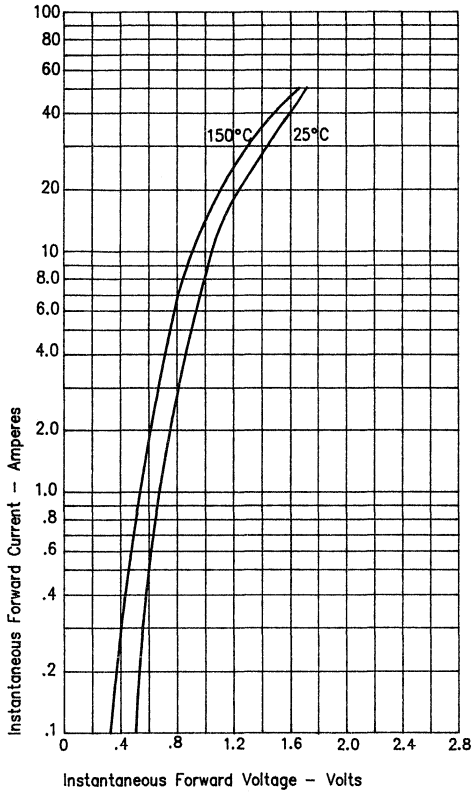


Figure 3  
Typical Junction Capacitance

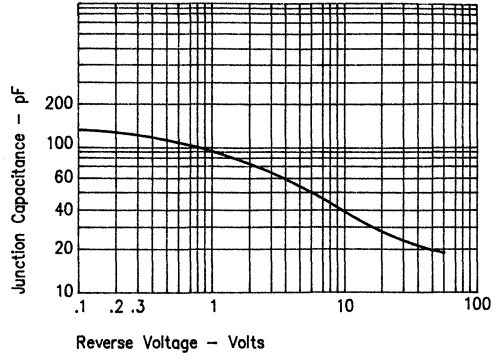
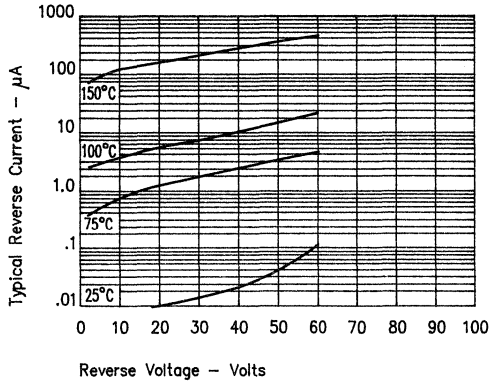


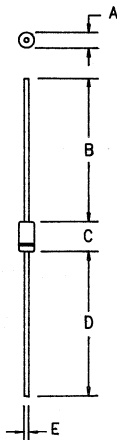
Figure 2  
Typical Reverse Characteristics





# 1 Amp Schottky Rectifier

## MSP140, MSP145, MSP150



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	.107	---	2.718	Dia.
B	1.10	---	27.940	---	
C	---	.205	---	5.207	
D	1.10	---	27.940	---	
E	.030	.034	.762	.864	

PLASTIC D041

Catalog Number	Working Peak Reverse Voltage $V_{RWM}$	Repetitive Peak Reverse Voltage $V_{RRM}$
MSP140	40V	40V
MSP145	45V	45V
MSP150	50V	50V

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- 1 Ampere/50 Volts
- 150°C Junction Temperature
- $V_{RRM}$  40 to 50 Volts

Electrical Characteristics		
Average forward current	$I_F(AV)$ 1.0 Amps	$T_A = 120^\circ C$ Square wave, $R_{\theta JL} = 35^\circ C/W$ , $L = 0$
Average forward current	$I_F(AV)$ 1.0 Amps	$T_A = 100^\circ C$ Square wave, $R_{\theta JL} = 60^\circ C/W$ , $L = 3/8"$
Maximum surge current	$I_{FSM}$ 75 Amps	8.3 ms, half sine, $T_J = 150^\circ C$
Max peak forward voltage	$V_{FM}$ .39 Volts	$I_{FM} = 0.1A; T_J = 25^\circ C^*$
Max peak forward voltage	$V_{FM}$ .58 Volts	$I_{FM} = 1.0A; T_J = 25^\circ C^*$
Max peak reverse current	$I_{RM}$ 100 $\mu A$	$V_{RRM}, T_J = 25^\circ C$
Typical junction capacitance	$C_J$ 60pF	$V_R = 5.0V, T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu sec$ , Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	$T_{STG}$	-65°C to + 175°C
Operating junction temp range	$T_J$	-65°C to + 150°C
Maximum thermal resistance	$L = 3/8"$	60°C/W
	$L = 0$	35°C/W
Weight	$R_{\theta JL}$ $R_{\theta JL}$	0.38 grams typical

Junction to Lead  
Junction to Lead



# MSP140, MSP145, MSP150

Figure 1  
Maximum Forward Characteristics

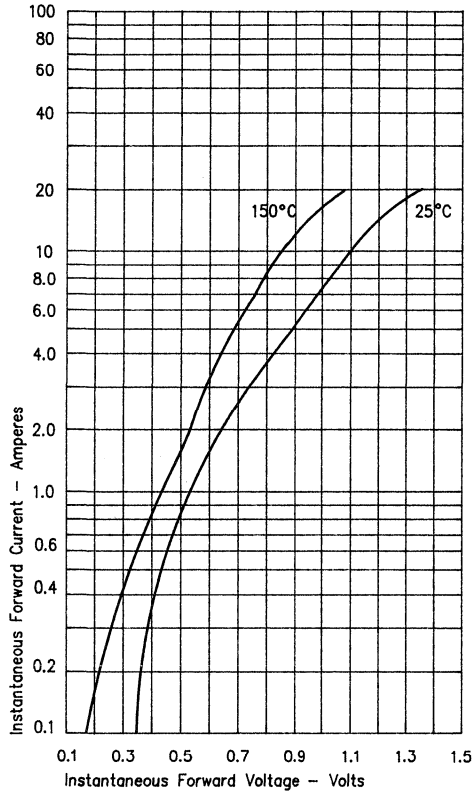


Figure 3  
Typical Junction Capacitance

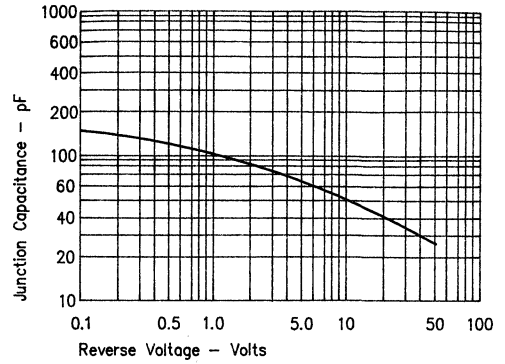
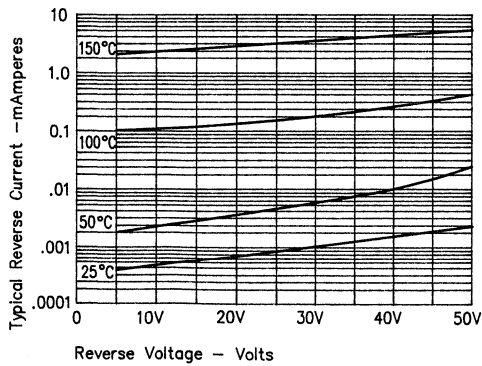
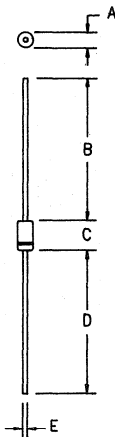


Figure 2  
Typical Reverse Characteristics





# 1 Amp Schottky Rectifier MSG140, MSG145, MSG150



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	.107	---	2.718	Dia.
B	1.10	---	27.940	---	
C	---	.205	---	5.207	
D	1.10	---	27.940	---	
E	.030	.034	.762	.864	

**GLASS HERMETIC D041**

Catalog Number	Working Peak Reverse Voltage $V_{RWM}$	Repetitive Peak Reverse Voltage $V_{RRM}$
MSG140	40V	40V
MSG145	45V	45V
MSG150	50V	50V

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- 1 Ampere/50 Volts
- 150°C Junction Temperature
- $V_{RRM}$  40 to 50 Volts

Electrical Characteristics		
Average forward current	$I_F(AV)$ 1.0 Amps	$T_A = 120^\circ C$ Square wave, $R_{\theta JL} = 35^\circ C/W$ , $L = 0$
Average forward current	$I_F(AV)$ 1.0 Amps	$T_A = 100^\circ C$ Square wave, $R_{\theta JL} = 60^\circ C/W$ , $L = 3/8"$
Maximum surge current	$I_{FSM}$ 75 Amps	8.3 ms, half sine, $T_J = 150^\circ C$
Max peak forward voltage	$V_{FM}$ .39 Volts	$I_{FM} = 0.1A$ ; $T_J = 25^\circ C^*$
Max peak forward voltage	$V_{FM}$ .58 Volts	$I_{FM} = 1.0A$ ; $T_J = 25^\circ C^*$
Max peak reverse current	$I_{RM}$ 100 $\mu A$	$V_{RRM}$ , $T_J = 25^\circ C$
Typical junction capacitance	$C_J$ 60pF	$V_R = 5.0V$ , $T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu sec$ , Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	$T_{STG}$	-65°C to + 175°C
Operating junction temp range	$T_J$	-65°C to + 150°C
Maximum thermal resistance	$R_{\theta JL}$	60°C/W
	$R_{\theta JL}$	35°C/W
	$R_{\theta JL}$	0.38 grams typical
Weight		Junction to Lead
		Junction to Lead

# MSG140, MSG145, MSG150

Figure 1  
Maximum Forward Characteristics

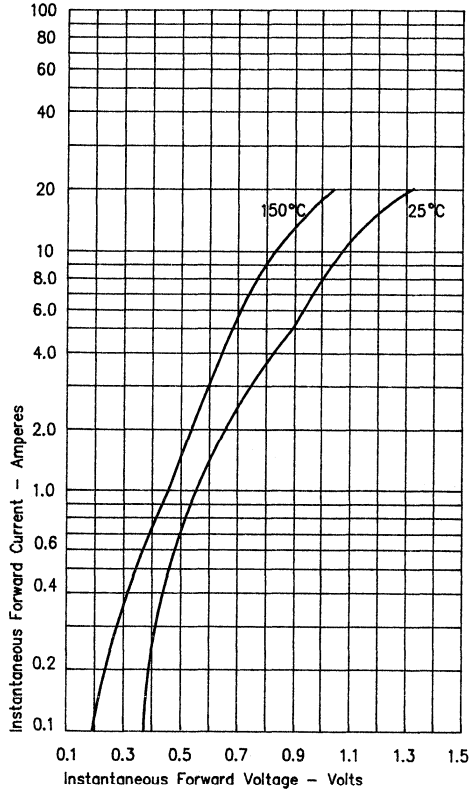


Figure 3  
Typical Junction Capacitance

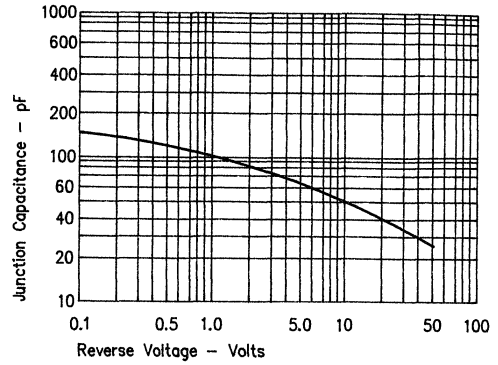
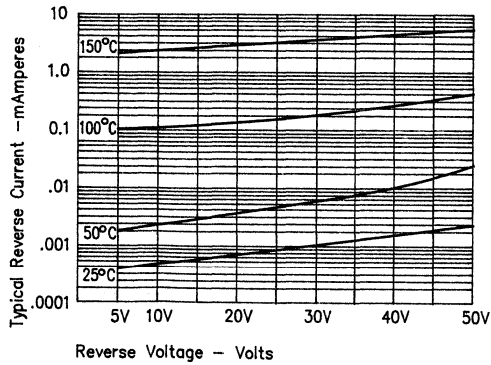
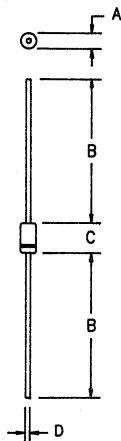


Figure 2  
Typical Reverse Characteristics



# 1 Amp Schottky Rectifier MS108, 109, 110



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.081	.107	2.057	2.718	Dia.
B	1.10	---	27.94	---	
C	.160	.205	4.064	5.207	
D	.028	.034	.711	.864	Dia.

PLASTIC DO41

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
MS108	80V	80V
MS109	90V	90V
MS110	100V	100V

- Schottky Barrier Rectifier
- Guard Ring Protection
- 175°C Junction Temperature
- VRRM 80 to 100 Volts

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 1.0 Amps	T <sub>A</sub> = 135°C Square wave, R <sub>θJL</sub> = 50°C/W, L = 0"
Average forward current	I <sub>F(AV)</sub> 1.0 Amps	T <sub>A</sub> = 120°C Square wave, R <sub>θJL</sub> = 68°C/W, L = 3/8"
Maximum surge current	I <sub>FSM</sub> 75 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .53 Volts	I <sub>FM</sub> = 0.1A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> .81 Volts	I <sub>FM</sub> = 1.0A; T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> 100 μA	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 45pF	

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Maximum thermal resistance	L = 3/8" R <sub>θJL</sub>	68°C/W
	L = 0 R <sub>θJL</sub>	50°C/W
Weight		.011 ounces (0.34 grams) typical

Junction to Lead  
Junction to Lead



# MS108, 109, 110

Figure 1  
Typical Forward Characteristics

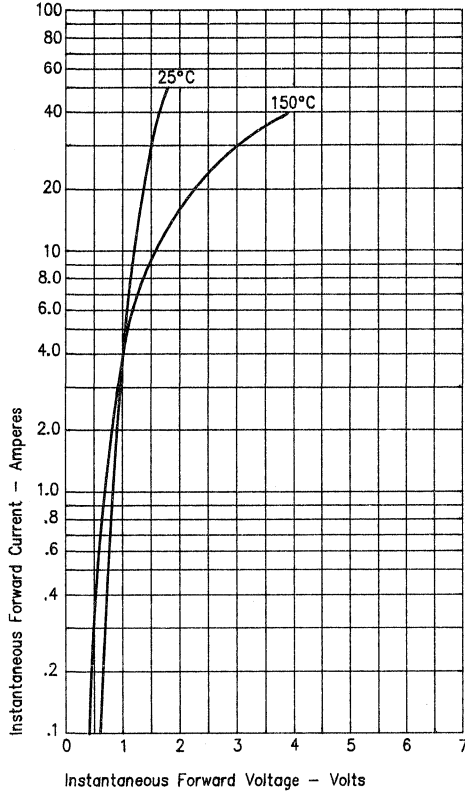


Figure 3  
Typical Junction Capacitance

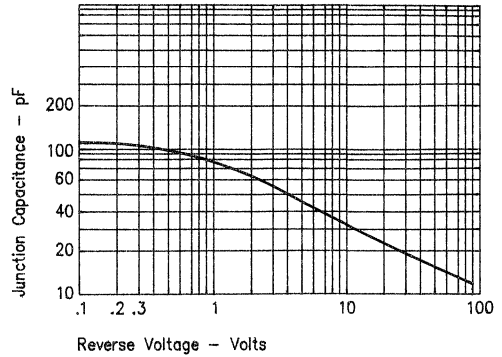
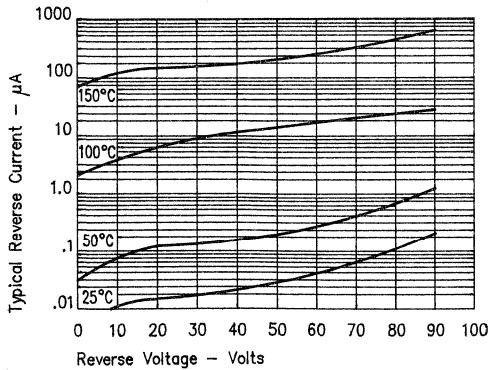
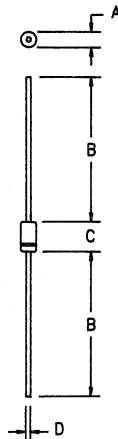


Figure 2  
Typical Reverse Characteristics



# 1 Amp Schottky Rectifier MSG108, 109, 110



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.081	.107	2.057	2.718	Dia.
B	1.10	---	27.94	---	
C	.160	.205	4.064	5.207	
D	.028	.034	.711	.864	Dia.

GLASS HERMETIC DO41

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
MSG108	80V	80V
MSG109	90V	90V
MSG110	100V	100V

- Schottky Barrier Rectifier
- Guard Ring Protection
- 175°C Junction Temperature
- $V_{RRM}$  80 to 100 Volts

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 1.0 Amps	T <sub>A</sub> = 135°C Square wave, R <sub>θJL</sub> = 50°C/W, L = 0"
Average forward current	I <sub>F(AV)</sub> 1.0 Amps	T <sub>A</sub> = 120°C Square wave, R <sub>θJL</sub> = 68°C/W, L = 3/8"
Maximum surge current	I <sub>FSM</sub> 75 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .53 Volts	I <sub>FM</sub> = 0.1A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> .81 Volts	I <sub>FM</sub> = 1.0A; T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> 100 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 45pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C*
Maximum thermal resistance	L = 3/8" R <sub>θJL</sub>	68°C/W Junction to Lead
	L = 0 R <sub>θJL</sub>	50°C/W Junction to Lead
Weight		.011 ounces (0.34 grams) typical



# MSG108, 109, 110

Figure 1  
Typical Forward Characteristics

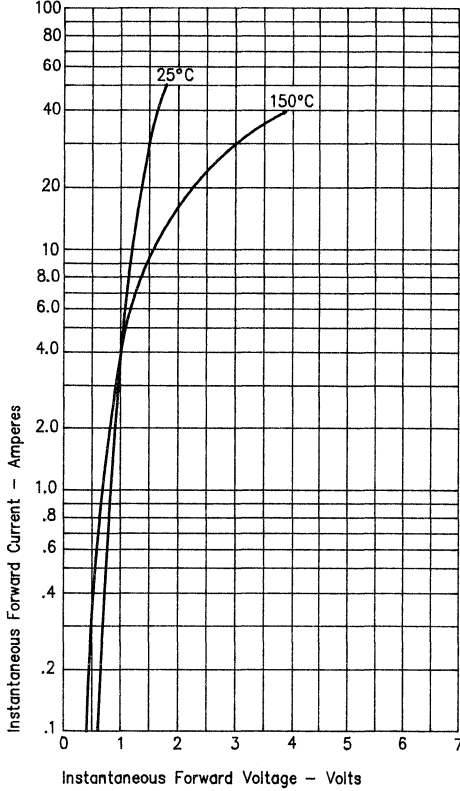


Figure 3  
Typical Junction Capacitance

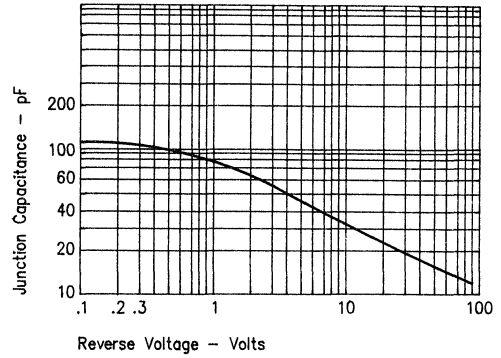
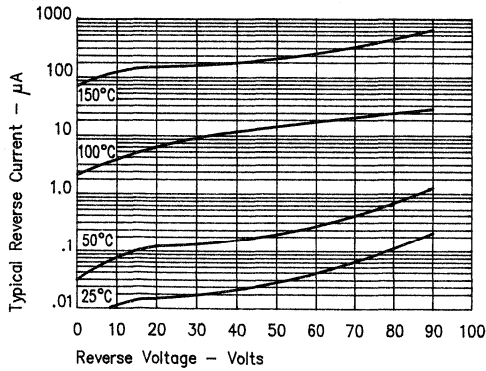


Figure 2  
Typical Reverse Characteristics

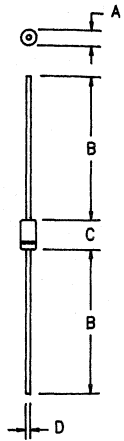






# 3 Amp Schottky Rectifier

## 1N5820, 1N5821, 1N5822



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.

PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
1N5820	20V	20V
1N5821	30V	30V
1N5822	40V	40V

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- High Reliability
- High Current Capability

Electrical Characteristics					
		1N5820	1N5821	1N5822	
Average forward current	$I_F(AV)$	3A	3A	3A	$R_{\theta JL} = 28^\circ C/W, L = 0"$
Ambient Temperature		115°C	116°C	117°C	$R_{\theta JL} = 52^\circ C/W, L = 3/8"$
Ambient Temperature		85°C	86°C	88°C	8.3ms, half sine, $T_J = 150^\circ C$
Maximum surge current	$I_{FSM}$	150A	150A	150A	$I_{FM} = 1A, T_J = 25^\circ C^*$
Max peak forward voltage	$V_{FM}$	.36V	.37V	.38V	$I_{FM} = 3A, T_J = 25^\circ C^*$
Max peak forward voltage	$V_{FM}$	.46V	.48V	.50V	$I_{FM} = 9.4A, T_J = 25^\circ C^*$
Max peak forward voltage	$V_{FM}$	.65V	.67V	.70V	$V_{RRM}, T_J = 25^\circ C$
Max peak reverse current	$I_{RM}$	1.5mA	1.5mA	1.5mA	$V_R = 5.0V, T_J = 25^\circ C$
Typical junction capacitance	$C_J$	265pF	265pF	265pF	

\*Pulse test: Pulse width 300  $\mu$ sec, Duty cycle 2%

Thermal and Mechanical Characteristics			
Storage temperature range	$T_{STG}$		-40°C to 150°C
Operating junction temp range	$T_J$		-40°C to 150°C
Maximum thermal resistance	$L = 3/8"$ $R_{\theta JL}$		52°C/W Junction to Lead
	$L = 0$ $R_{\theta JL}$		28°C/W Junction to Lead
Weight			.032 ounces (1.0 grams) typical



# 1N5820, 1N5821, 1N5822

Figure 1  
Typical Forward Characteristics

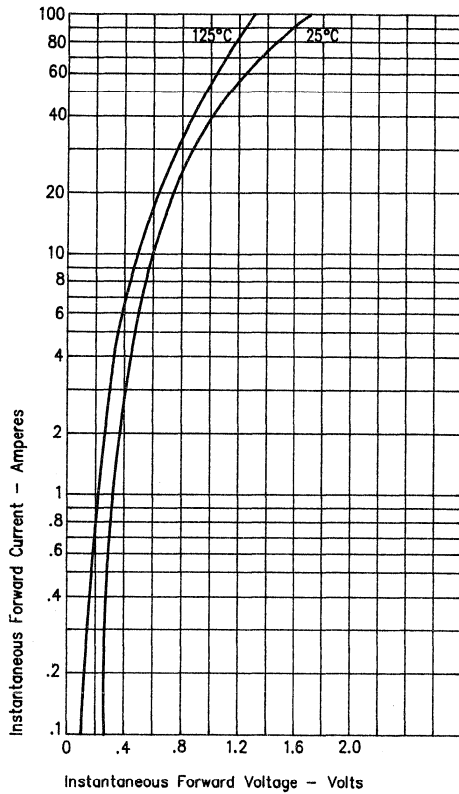


Figure 3  
Typical Junction Capacitance

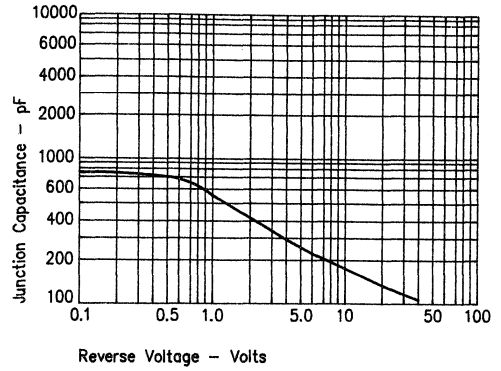
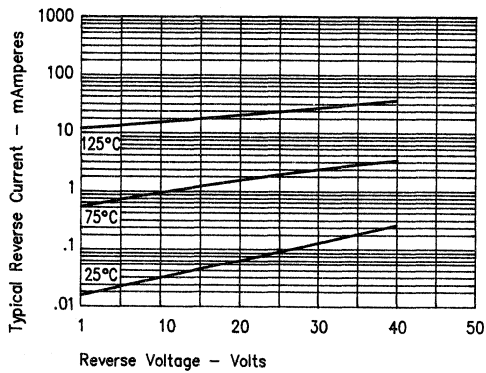
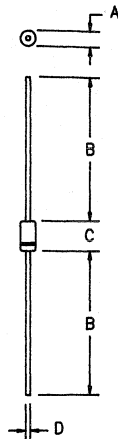


Figure 2  
Typical Reverse Characteristics



# 3 Amp Schottky Rectifier MS304, 305, 306



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.

PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
MS304	40V	40V
MS305	50V	50V
MS306	60V	60V

- Schottky Barrier Rectifier
- Guard Ring Protection
- 175°C Junction Temperature
- V<sub>RRM</sub> 40 to 60 Volts

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 3.0 Amps	T <sub>A</sub> = 140°C Square wave, R <sub>θJL</sub> = 17°C/W, L = 1/8"
Average forward current	I <sub>F(AV)</sub> 3.0 Amps	T <sub>A</sub> = 130°C Square wave, R <sub>θJL</sub> = 23°C/W, L = 3/8"
Maximum surge current	I <sub>FSM</sub> 150 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .55 Volts	I <sub>FM</sub> = 1.0A; T <sub>J</sub> = 25°C
Max peak forward voltage	V <sub>FM</sub> .62 Volts	I <sub>FM</sub> = 3.0A; T <sub>J</sub> = 25°C*
Max peak forward voltage	I <sub>FM</sub> .79 Volts	I <sub>FM</sub> = 9.4A; T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> 100 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 215 pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Maximum thermal resistance	L = 1/8" R <sub>θJL</sub>	17°C/W Junction to Lead
	L = 3/8" R <sub>θJL</sub>	23°C/W Junction to Lead
Weight		.032 ounces (1.0 grams) typical



# MS304, 305, 306

Figure 1  
Typical Forward Characteristics

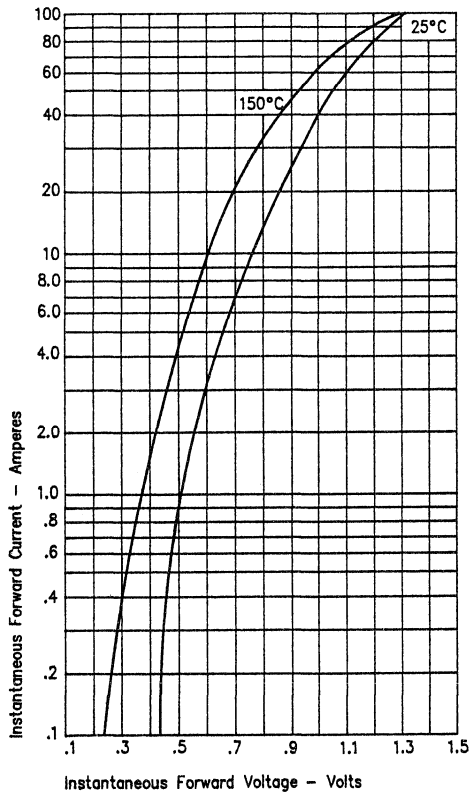


Figure 3  
Typical Junction Capacitance

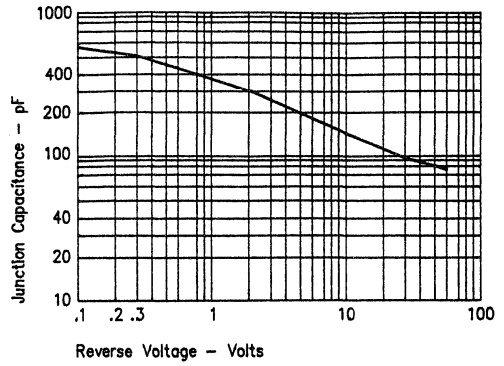
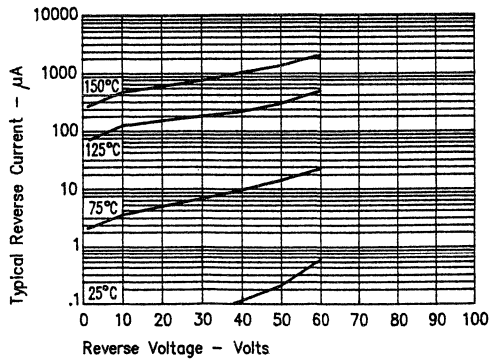
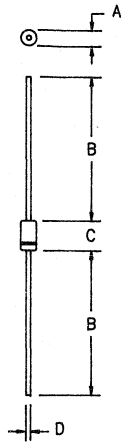


Figure 2  
Typical Reverse Characteristics



# 3 Amp Schottky Rectifier MS308, 309, 310



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.

PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
MS308	80V	80V
MS309	90V	90V
MS310	100V	100V

- Schottky Barrier Rectifier
- Guard Ring Protection
- 175°C Junction Temperature
- VRRM 80 to 100 Volts

Electrical Characteristics		
Average forward current	IF(AV) 3.0 Amps	TA = 130°C, Square wave, RθJL = 17°C/W, L = 1/8"
Average forward current	IF(AV) 3.0 Amps	TA = 115°C, Square wave, RθJL = 23°C/W, L = 3/8"
Maximum surge current	IFSM 150 Amps	8.3ms, half sine, TJ = 175°C
Max peak forward voltage	VFM .67 Volts	IFM = 1.0A; TJ = 25°C *
Max peak forward voltage	VFM .81 Volts	IFM = 3.0A; TJ = 25°C *
Max peak forward voltage	VFM 1.0 Volts	IFM = 9.4A; TJ = 25°C *
Max peak reverse current	IRM 100 μA	VRRM, TJ = 25°C
Typical junction capacitance	CJ 190 pF	VR = 5.0V, TJ = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	TSTG	-40°C to 175°C
Operating junction temp range	TJ	-40°C to 175°C
Maximum thermal resistance	L = 1/8" RθJL	17°C/W Junction to Lead
	L = 3/8" RθJL	23°C/W Junction to Lead
Weight		.032 ounces (1.0 grams) typical



# MS308, 309, 310

Figure 1  
Typical Forward Characteristics

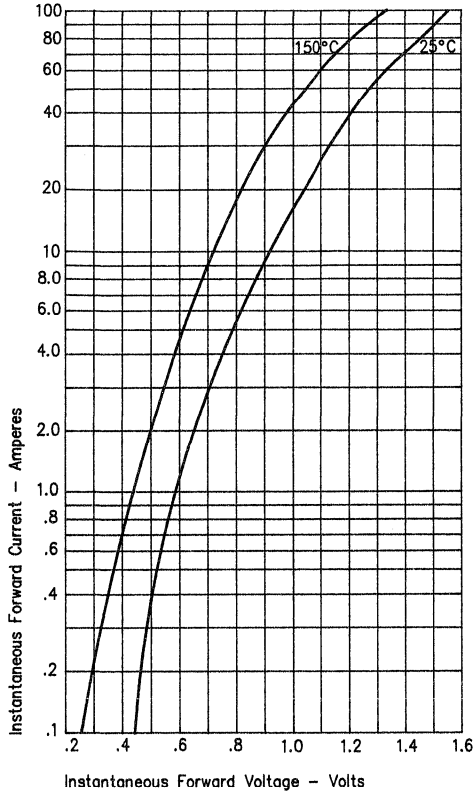


Figure 3  
Typical Junction Capacitance

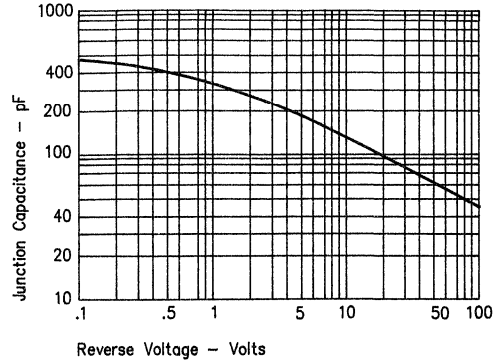
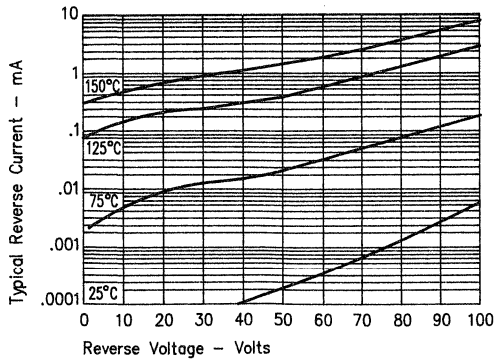
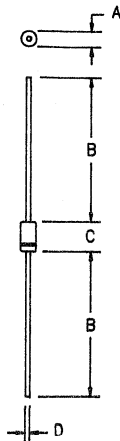


Figure 2  
Typical Reverse Characteristics



# 3 Amp Schottky Rectifier MS345



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.

PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
MS345	45V	45V

- Schottky Barrier Rectifier
- Guard Ring Protection
- 175°C Junction Temperature
- VRRM to 45 Volts

Electrical Characteristics		
Average forward current	IF(AV) 3.0 Amps	TA = 140°C, Square wave, RθJL = 17°C/W, L = 1/8"
Average forward current	IF(AV) 3.0 Amps	TA = 130°C, Square wave, RθJL = 23°C/W, L = 3/8"
Maximum surge current	IFSM 150 Amps	8.3ms, half sine, TJ = 175°C
Max peak forward voltage	VFM .60 Volts	IFM = 1.0A; TJ = 25°C*
Max peak forward voltage	VFM .65 Volts	IFM = 3.0A; TJ = 25°C*
Max peak forward voltage	VFM .80 Volts	IFM = 9.4A; TJ = 25°C*
Max peak reverse current	IRM 100 μA	VRRM, TJ = 25°C
Typical junction capacitance	CJ 260 pF	VR = 5.0V, TJ = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	TSTG	-40°C to 175°C
Operating junction temp range	TJ	-40°C to 175°C
Maximum thermal resistance	L = 1/8" RθJL	17°C/W Junction to Lead
	L = 3/8" RθJL	23°C/W Junction to Lead
Weight		.032 ounces (1.0 grams) typical



# MS345

Figure 1  
Typical Forward Characteristics

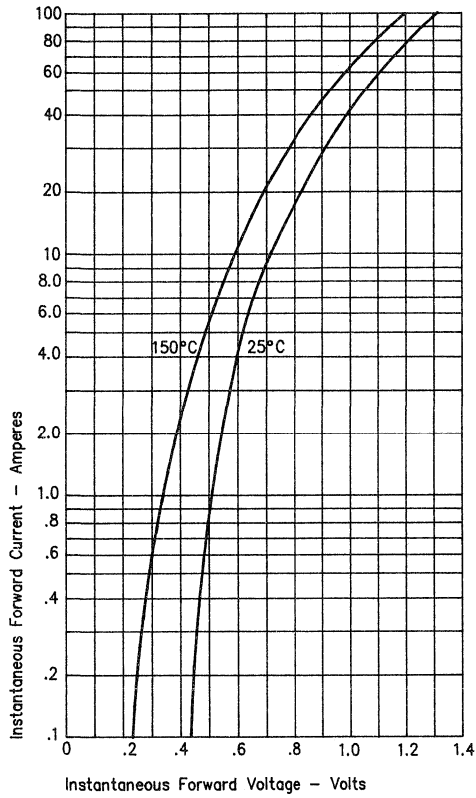


Figure 3  
Typical Junction Capacitance

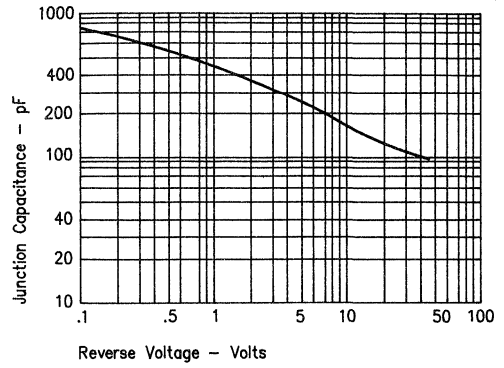
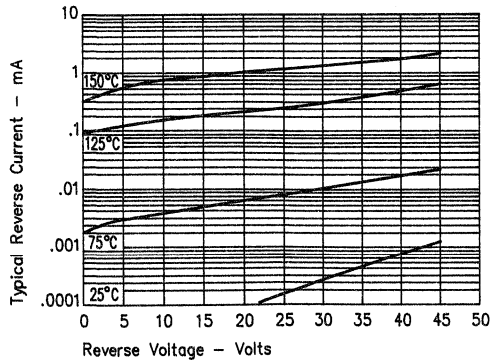
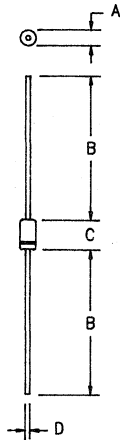


Figure 2  
Typical Reverse Characteristics





# 3 Amp Schottky Rectifier MSP345



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.

PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
MSP345	45V	45V

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- 150°C Junction Temperature

## Electrical Characteristics

Average forward current	IF(AV) 3.0 Amps	TA = 120°C, Square wave, R $\theta$ JL = 17°C/W, L = 1/8"
Average forward current	IF(AV) 3.0 Amps	TA = 110°C, Square wave, R $\theta$ JL = 23°C/W, L = 3/8"
Maximum surge current	IFSM 150 Amps	8.3ms, half sine, TJ = 150°C
Max peak forward voltage	VFM .45 Volts	IFM = 1.0A; TJ = 25°C*
Max peak forward voltage	VFM .52 Volts	IFM = 3.0A; TJ = 25°C*
Max peak forward voltage	VFM .76 Volts	IFM = 9.4A; TJ = 25°C*
Max peak reverse current	IRM 1.5 mA	VRRM, TJ = 25°C
Typical junction capacitance	CJ 265 pF	VR = 5.0V, TJ = 25°C

\*Pulse test: Pulse width 300  $\mu$ sec, Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temperature range	TSTG	-40°C to 150°C
Operating junction temp range	TJ	-40°C to 150°C
Maximum thermal resistance L = 1/8"	ROJL	17°C/W
Maximum thermal resistance L = 3/8"	ROJL	23°C/W
Weight		.032 ounces (1.0 grams) typical

**Microsemi Corp.**  
**Colorado**

# MSP345

Figure 1  
Typical Forward Characteristics

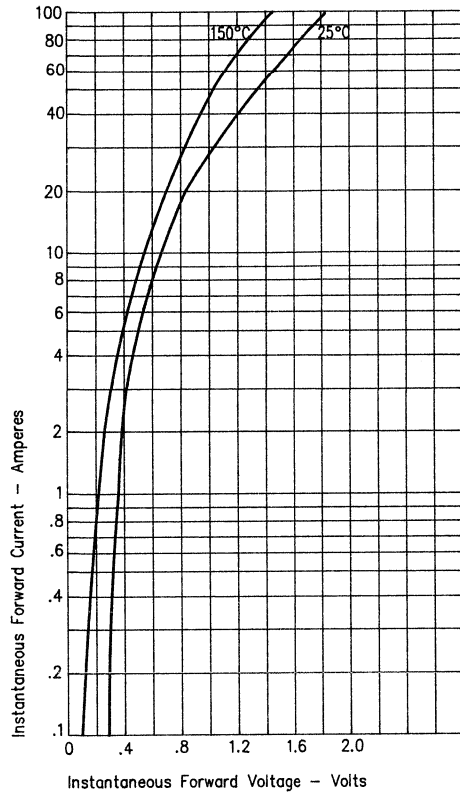


Figure 3  
Typical Junction Capacitance

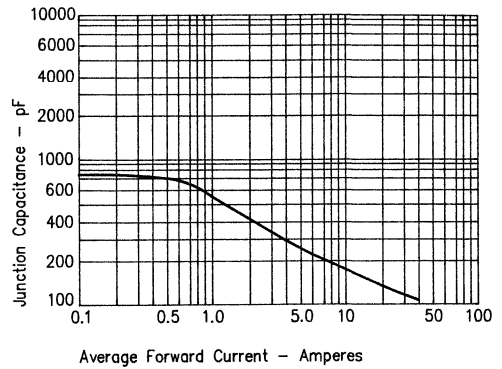
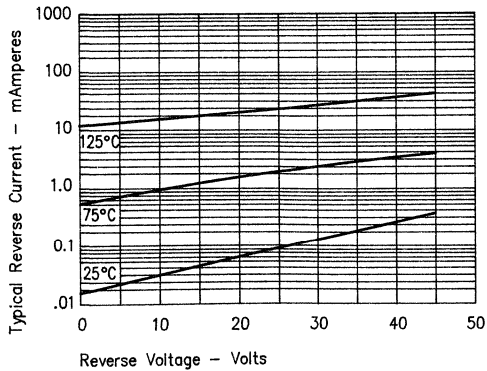
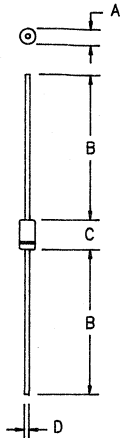


Figure 2  
Typical Reverse Characteristics





# 5 Amp Schottky Rectifier MS502, MS503



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.

PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
MS502	20V	20V
MS503	30V	30V

- Schottky Barrier Rectifier
- Guard Ring Protection
- 150°C Junction Temperature
- VRRM 20 to 30V

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 5.0 Amps	T <sub>A</sub> = 123°C, Square wave, R <sub>θJL</sub> = 11°C/W, L = 1/8"
Average forward current	I <sub>F(AV)</sub> 5.0 Amps	T <sub>A</sub> = 113°C, Square wave, R <sub>θJL</sub> = 14.7°C/W, L = 3/8"
Maximum surge current	I <sub>FSM</sub> 300 Amps	8.3ms, half sine, T <sub>J</sub> = 150°C
Max peak forward voltage	V <sub>FM</sub> .40 Volts	I <sub>FM</sub> = 1.0A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> .49 Volts	I <sub>FM</sub> = 5.0A; T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> 250 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 430 pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 150°C
Operating junction temp range	T <sub>J</sub>	-40°C to 150°C
Maximum thermal resistance	L = 3/8" R <sub>θJL</sub>	14.7°C/W
	L = 1/8" R <sub>θJL</sub>	11°C/W
Weight		.032 ounces (1.0 grams) typical

# MS502, MS503

Figure 1  
Typical Forward Characteristics

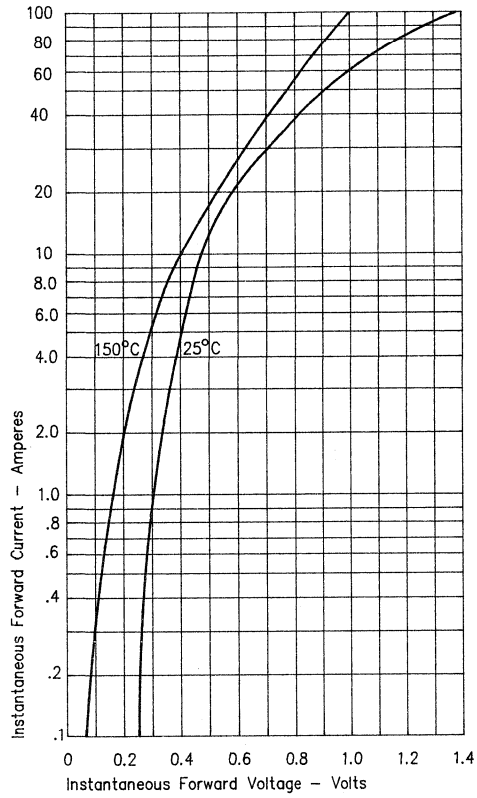


Figure 3  
Typical Junction Capacitance

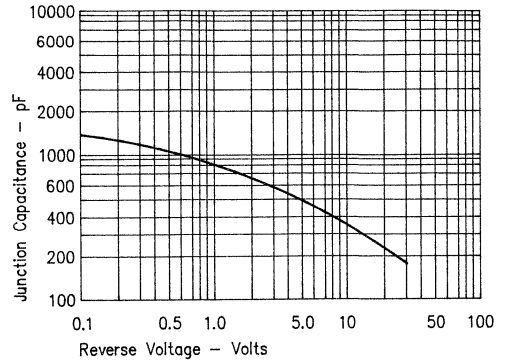
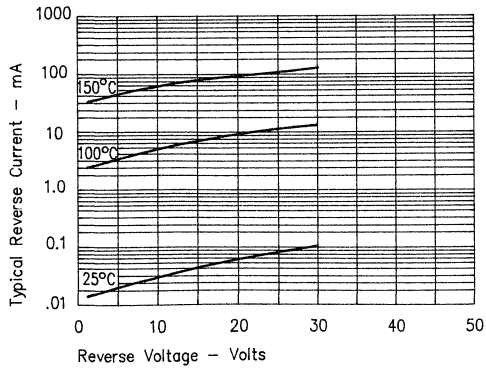
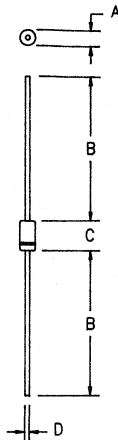


Figure 2  
Typical Reverse Characteristics





# 5 Amp Schottky Rectifier MS504, MS505



	Dim. Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.

PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
MS504	40V	40V
MS505	50V	50V

- Schottky Barrier Rectifier
- Guard Ring Protection
- 175°C Junction Temperature
- High Current Capability

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 5.0 Amps	T <sub>A</sub> = 142°C Square wave, R <sub>θJL</sub> = 11 °C/W, L = 1/8"
Average forward current	I <sub>F(AV)</sub> 5.0 Amps	T <sub>A</sub> = 131°C Square wave, R <sub>θJL</sub> = 14.7°C/W, L = 3/8"
Maximum surge current	I <sub>FSM</sub> 300 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .51 Volts	I <sub>FM</sub> = 1.0A; T <sub>J</sub> = 25°C *
Max peak forward voltage	V <sub>FM</sub> .62 Volts	I <sub>FM</sub> = 5.0A; T <sub>J</sub> = 25°C *
Max peak reverse current	I <sub>RM</sub> 250 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 415pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C
*Pulse test: Pulse width 300 μsec, Duty cycle 2%		

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Maximum thermal resistance	L = 3/8" R <sub>θJL</sub>	14.7°C/W
	L = 1/8" R <sub>θJL</sub>	11°C/W
Weight		.032 ounces (1.0 grams) typical
		Junction to Lead
		Junction to Lead

**Microsemi Corp.**  
**Colorado**

PH: 303-469-2161  
FAX: 303-466-3775

# MS504, MS505

Figure 1  
Typical Forward Characteristics

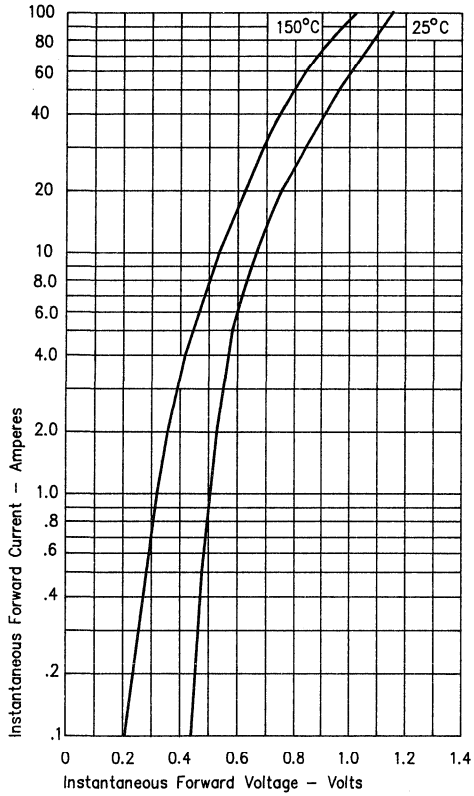


Figure 3  
Typical Junction Capacitance

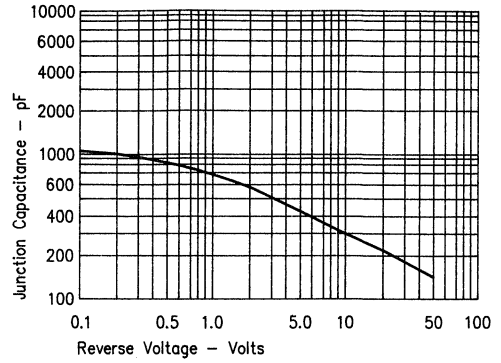
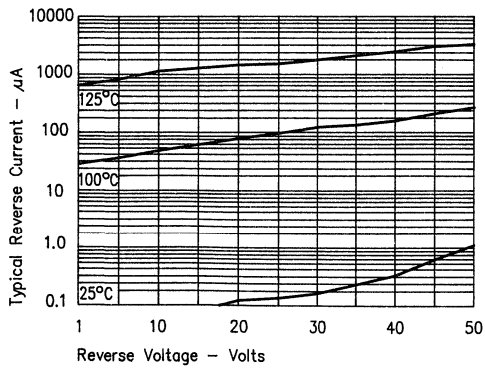
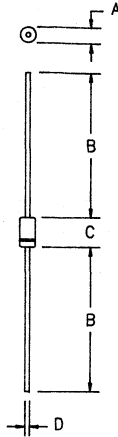


Figure 2  
Typical Reverse Characteristics





# 5 Amp Schottky Rectifier MS506



	Dim. Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.

PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
MS506	60V	60V

- Schottky Barrier Rectifier
- Guard Ring Protection
- 175°C Junction Temperature
- High Current Capability

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 5.0 Amps	T <sub>A</sub> = 139°C, Square wave, R <sub>θJL</sub> = 11°C/W, L = 1/8"
Average forward current	I <sub>F(AV)</sub> 5.0 Amps	T <sub>A</sub> = 127°C, Square wave, R <sub>θJL</sub> = 14.7°C/W, L = 3/8"
Maximum surge current	I <sub>FSM</sub> 300 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .52 Volts	I <sub>FM</sub> = 1.0A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> .65 Volts	I <sub>FM</sub> = 5.0A; T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> 250 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 355 pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C
*Pulse test: Pulse width 300 μsec, Duty cycle 2%		

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Maximum thermal resistance	L = 3/8" R <sub>θJL</sub>	14.7°C/W
	L = 1/8" R <sub>θJL</sub>	11°C/W
Weight		.032 ounces (1.0 grams) typical



# MS506

Figure 1  
Typical Forward Characteristics

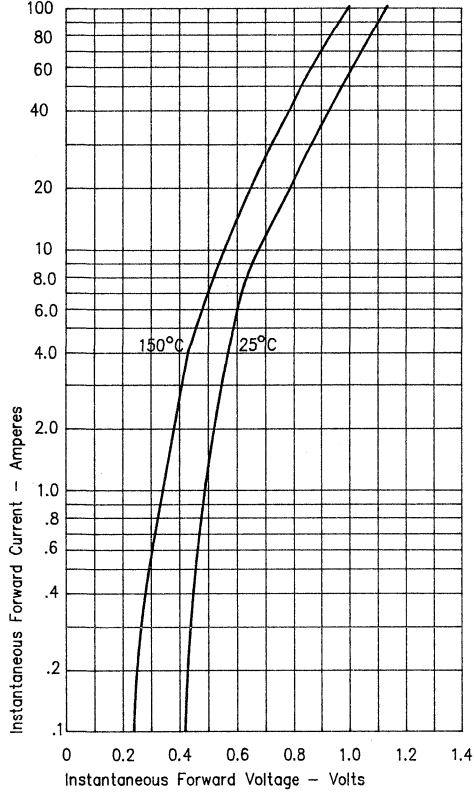


Figure 3  
Typical Junction Capacitance

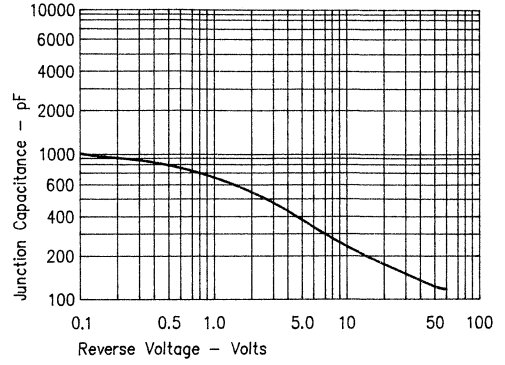
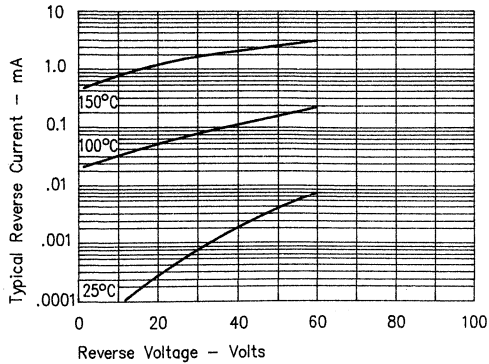


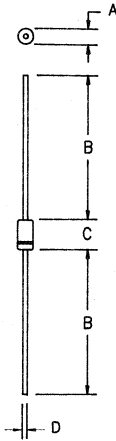
Figure 2  
Typical Reverse Characteristics







# 5 Amp Schottky Rectifier MS508, MS509, MS510



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.

PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
MS508	80V	80V
MS509	90V	90V
MS510	100V	100V

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low power loss, high efficiency
- High surge capacity
- $V_{RRM}$  80 to 100 Volts

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 5.0 Amps	T <sub>A</sub> = 131°C Square wave, R <sub>θJL</sub> = 11°C/W, L = 1/8"
Average forward current	I <sub>F(AV)</sub> 5.0 Amps	T <sub>A</sub> = 116°C Square wave, R <sub>θJL</sub> = 14.7°C/W, L = 3/8"
Maximum surge current	I <sub>FSM</sub> 300 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .60 Volts	I <sub>FM</sub> = 5.0A: T <sub>J</sub> = 175°C*
Max peak forward voltage	V <sub>FM</sub> .80 Volts	I <sub>FM</sub> = 5.0A: T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> 250 μA	V <sub>RRM, T<sub>J</sub></sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 280 pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Maximum thermal resistance	L = 1/8" R <sub>θJL</sub>	11°C/W Junction to Lead
	L = 3/8" R <sub>θJL</sub>	14.7°C/W Junction to Lead
Weight		.032 ounces (1.0 grams) typical

# MS508, MS509, MS510

Figure 1  
Typical Forward Characteristics

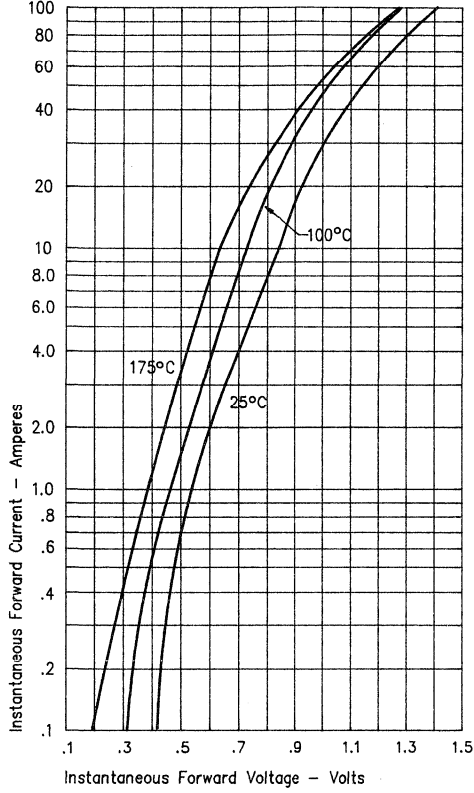


Figure 3  
Typical Junction Capacitance

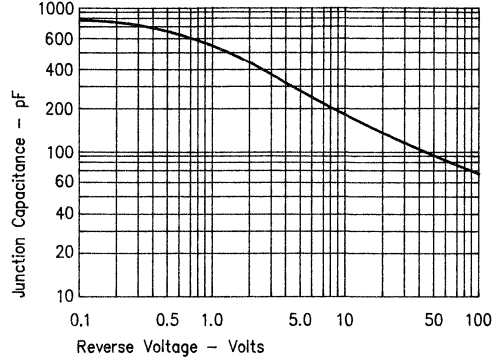


Figure 4  
Forward Current Derating

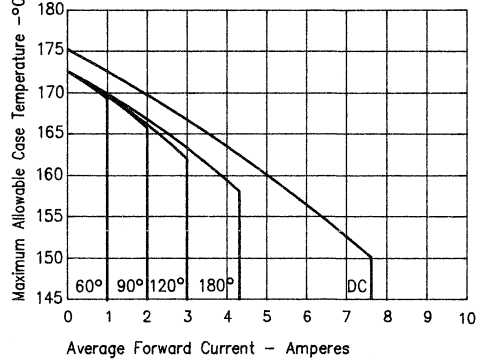


Figure 2  
Typical Reverse Characteristics

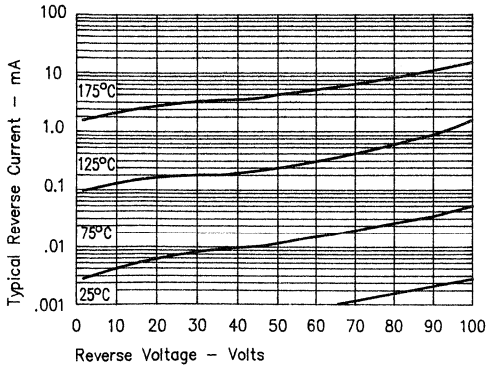
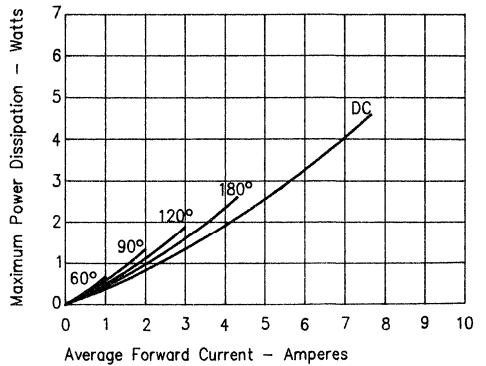
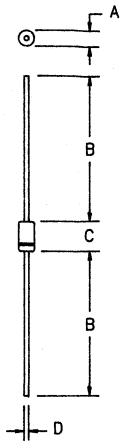


Figure 5  
Maximum Forward Power Dissipation





# 5 Amp Schottky Rectifier MS545



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.

PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
MS545	45V	45V

- Schottky Barrier Rectifier
- Guard Ring Protection
- 175°C Junction Temperature
- High Current Capability

Electrical Characteristics		
Average forward current Average forward current Maximum surge current Max peak forward voltage Max peak forward voltage Max peak reverse current Typical junction capacitance	I F(AV) 5.0 Amps I F(AV) 5.0 Amps I FSM 300 Amps VFM .51 Volts VFM .62 Volts I RM 250 $\mu$ A C J 415pF	T A = 142°C Square wave, R $\theta$ JL = 11 °C/W, L = 1/8" T A = 131°C Square wave, R $\theta$ JL = 14.7°C/W, L = 3/8" 8.3ms, half sine, T J = 175°C I FM = 1.0A: T J = 25°C * I FM = 5.0A: T J = 25°C * V RRM, T J = 25°C V R = 5.0V, T J = 25°C
*Pulse test: Pulse width 300 $\mu$ sec, Duty cycle 2%		

Thermal and Mechanical Characteristics		
Storage temperature range Operating junction temp range Maximum thermal resistance Weight	T STG T J L = 3/8" R $\theta$ JL L = 1/8" R $\theta$ JL	-40°C to 175°C -40°C to 175°C 14.7°C/W 11°C/W .032 ounces (1.0 grams) typical
		Junction to Lead Junction to Lead



# MS545

Figure 1  
Typical Forward Characteristics

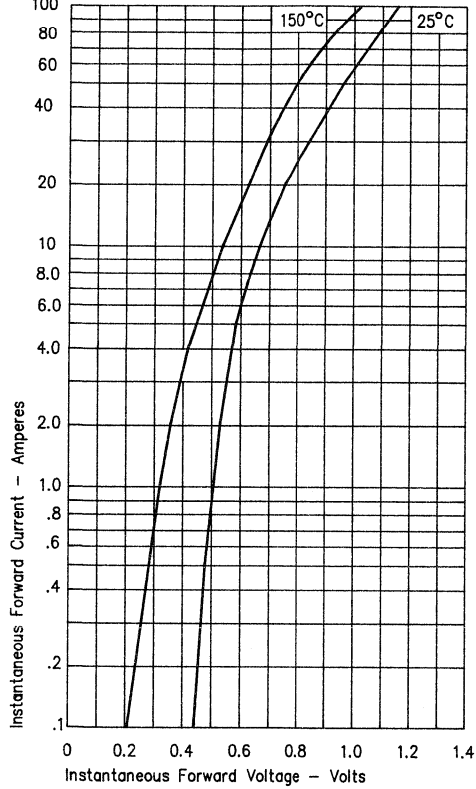


Figure 3  
Typical Junction Capacitance

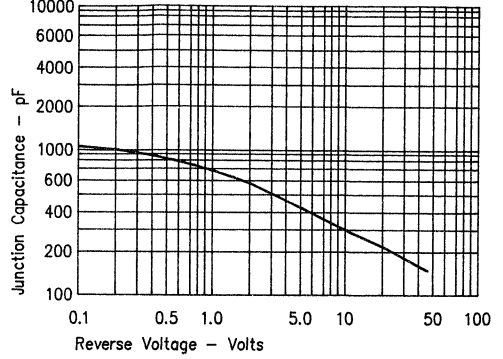
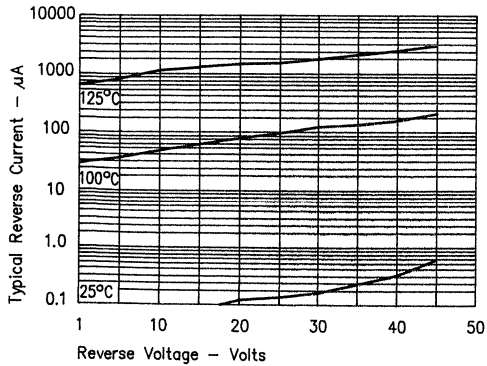


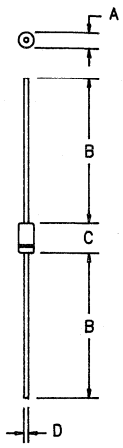
Figure 2  
Typical Reverse Characteristics





# 5 Amp Schottky Rectifier

## MSP535, MSP540, MSP545



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.

PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
MSP535	35V	35V
MSP540	40V	40V
MSP545	45V	45V

- Schottky Barrier Rectifier
- Guard Ring for Reverse Protection
- 175°C Junction Temperature
- VRRM 45 Volts Maximum
- High Current Capability

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 5.0 Amps	TA = 121°C Square wave, R <sub>θJL</sub> = 11°C/W, L = 1/8"
Average forward current	I <sub>F(AV)</sub> 5.0 Amps	TA = 111°C, Square wave, R <sub>θJL</sub> = 14.7°C/W, L = 3/8"
Maximum surge current	I <sub>FSM</sub> 300 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .42 Volts	I <sub>FM</sub> = 5A; T <sub>J</sub> = 150°C*
Max peak forward voltage	V <sub>FM</sub> .52 Volts	I <sub>FM</sub> = 5A; T <sub>J</sub> = 25°C*
Max peak reverse current	V <sub>FM</sub> 500 mA	V <sub>RRM, T<sub>J</sub></sub> = 125°C*
Max peak reverse current	I <sub>RM</sub> 2 mA	V <sub>RRM, T<sub>J</sub></sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 380 pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 150°C
Operating junction temp range	T <sub>J</sub>	-40°C to 150°C
Maximum thermal resistance	L = 3/8" R <sub>θJL</sub>	14.7°C/W Junction to Lead
	L = 1/8" R <sub>θJL</sub>	11°C/W Junction to Lead
Weight		.032 ounces (1.0 grams) typical



# MSP535, MSP540, MSP545

Figure 1  
Typical Forward Characteristics

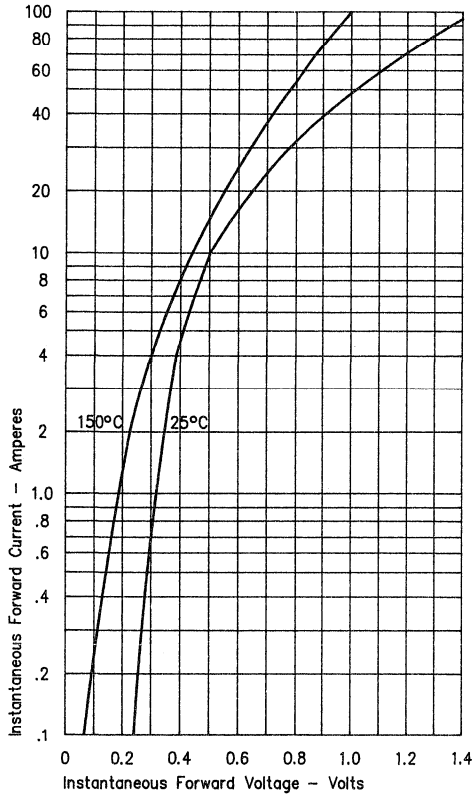


Figure 3  
Typical Junction Capacitance

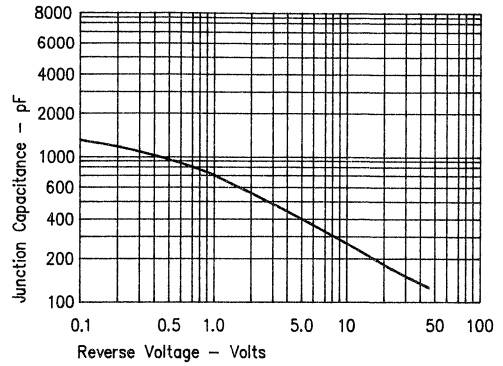
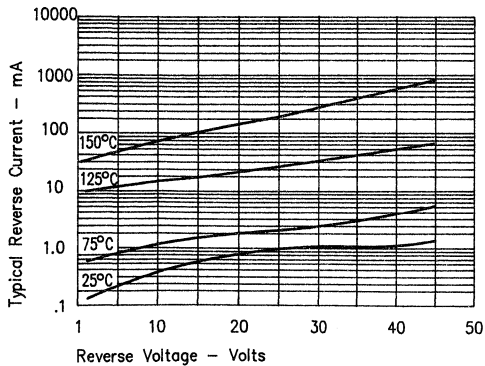
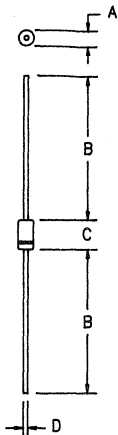


Figure 2  
Typical Reverse Characteristics



# 8 Amp Schottky Rectifier MS825 - MS845



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.

PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
MS825	25V	25V
MS830	30V	30V
MS835	35V	35V
MS840	40V	40V
MS845	45V	45V

- Schottky Barrier Rectifier
- Guard Ring Protection
- 175°C Junction Temperature
- High Current Capability

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 8.0 Amps	T <sub>A</sub> = 130°C Square wave, R <sub>θJL</sub> = 9.0°C/W, L = 3/8" 8.3ms, half sine, T <sub>J</sub> = 175°C I <sub>FM</sub> = 8.0A; T <sub>J</sub> = 150°C * I <sub>FM</sub> = 8.0A; T <sub>J</sub> = 25°C * V <sub>RRM</sub> , T <sub>J</sub> = 25°C V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C
Maximum surge current	I <sub>F(AV)</sub> 400 Amps	
Max peak forward voltage	V <sub>FM</sub> .47 Volts	
Max peak forward voltage	V <sub>FM</sub> .62 Volts	
Max peak reverse current	I <sub>RM</sub> 250 μA	
Typical junction capacitance	C <sub>J</sub> 660pF	
* Pulse test: Pulse width 300 μsec, Duty cycle 2%		

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Maximum thermal resistance	L = 3/8" R <sub>θJL</sub>	9.0°C/W Junction to Lead
Weight		.032 ounces (1.0 grams) typical

# MS825 — MS845

Figure 1  
Typical Forward Characteristic

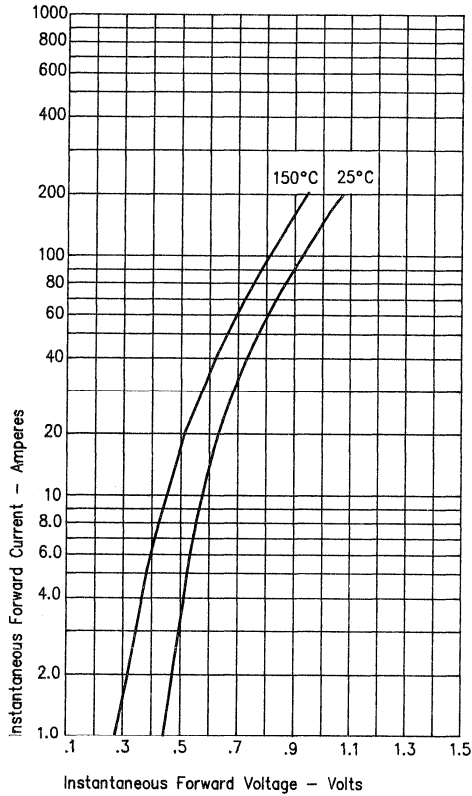


Figure 3  
Typical Junction Capacitance

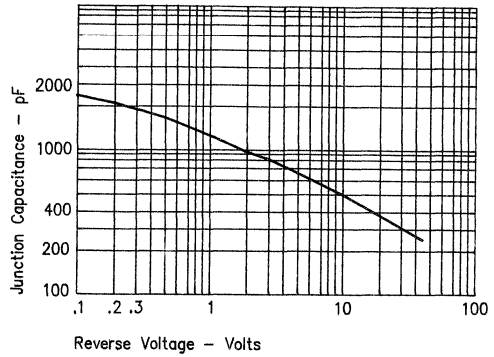


Figure 4  
Forward Current Derating

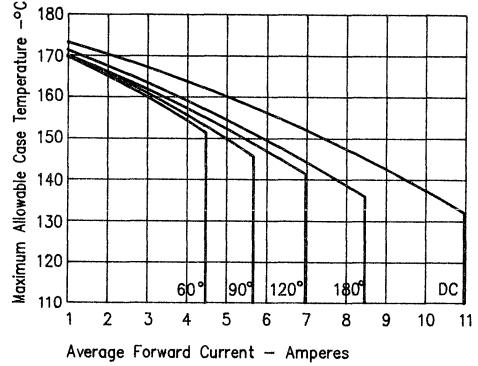


Figure 2  
Typical Reverse Characteristics

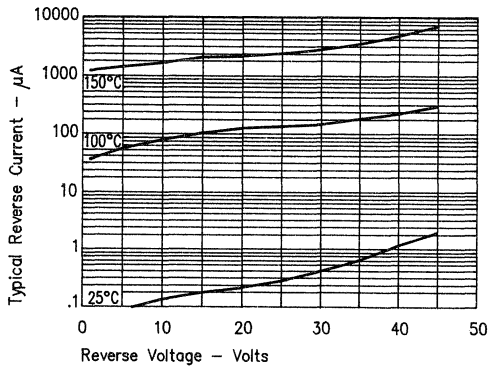
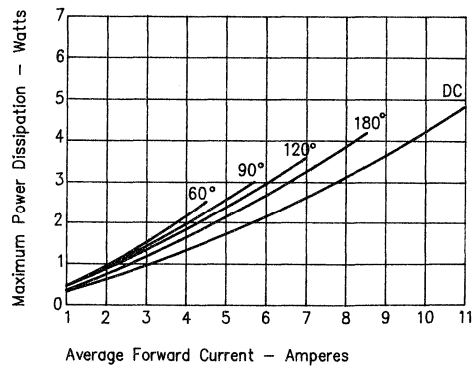
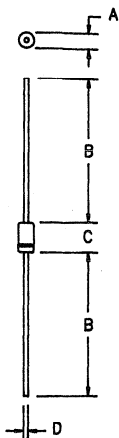


Figure 5  
Maximum Forward Power Dissipation





# 8 Amp Schottky Rectifier MSP835, MSP845



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.

PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
MSP835	35V	35V
MSP845	45V	45V

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- 150°C Junction Temperature
- High Current Capability

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 8.0 Amps	$T_A = 112^\circ\text{C}$ Square wave, $R_{\theta J L} = 9.0^\circ\text{C/W}$ , $L = 3/8"$ $8.3$ ms, half sine, $T_J = 150^\circ\text{C}$ $I_{FM} = 8.0\text{A}; T_J = 150^\circ\text{C}^*$ $I_{FM} = 8.0\text{A}; T_J = 25^\circ\text{C}^*$ $V_{RRM}, T_J = 25^\circ\text{C}$ $V_R = 5.0\text{V}, T_J = 25^\circ\text{C}$
Maximum surge current	I <sub>F(AV)</sub> 400 Amps	
Max peak forward voltage	V <sub>FM</sub> .40 Volts	
Max peak forward voltage	V <sub>FM</sub> .52 Volts	
Max peak reverse current	I <sub>RM</sub> 2 mA	
Typical junction capacitance	C <sub>J</sub> 575 pF	
* Pulse test: Pulse width 300 $\mu\text{sec}$ , Duty cycle 2%		

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 150°C
Operating junction temp range	T <sub>J</sub>	-40°C to 150°C
Maximum thermal resistance	L = 3/8" R <sub><math>\theta</math>JL</sub>	9.0°C/W
Weight		.032 ounces (1.0 grams) typical
		Junction to Lead



# MSP835, MSP845

Figure 1  
Typical Forward Characteristic

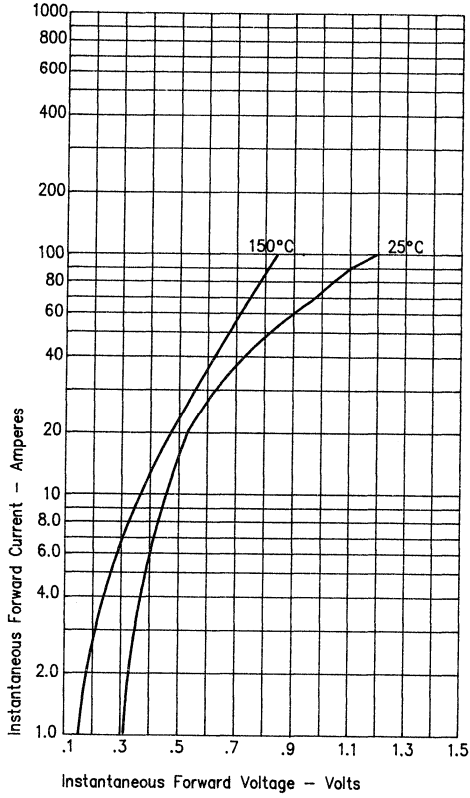


Figure 3  
Typical Junction Capacitance

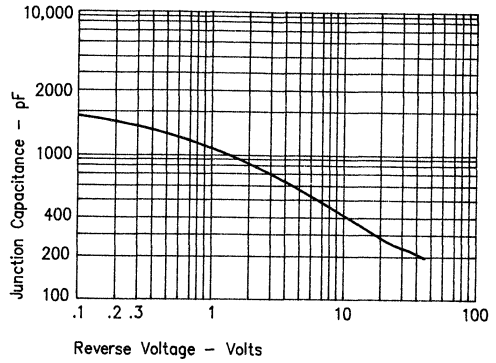


Figure 4  
Forward Current Derating

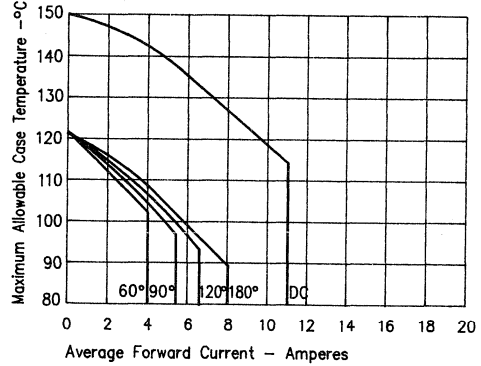


Figure 2  
Typical Reverse Characteristics

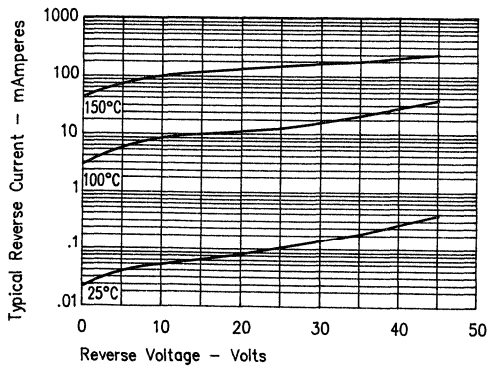
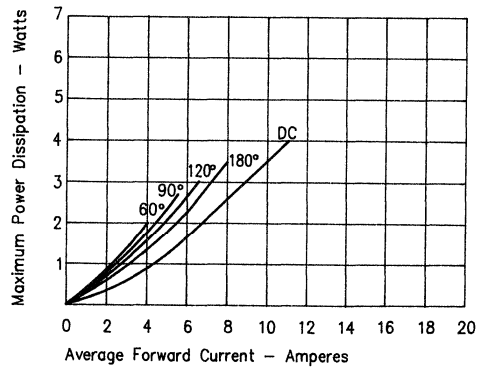
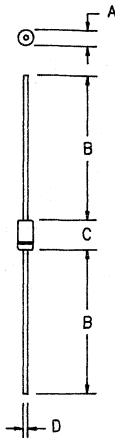


Figure 5  
Maximum Forward Power Dissipation



# 8 Amp Schottky Rectifier MS880 — MS890



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.

PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
MS880	80V	80V
MS890	90V	90V

- Schottky Barrier Rectifier
- Guard Ring Protection
- 175°C Junction Temperature
- High Current Capability
- VRRM 80 to 90 Volts

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 8.0 Amps	T <sub>A</sub> = 120°C Square wave, R <sub>θJL</sub> = 9.0°C/W, L = 3/8"
Maximum surge current	I <sub>F(AV)</sub> 400 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .59 Volts	I <sub>FM</sub> = 8.0A; T <sub>J</sub> = 175°C *
Max peak forward voltage	V <sub>FM</sub> .77 Volts	I <sub>FM</sub> = 8.0A; T <sub>J</sub> = 25°C *
Max peak reverse current	I <sub>RM</sub> 250 μA	V <sub>RRM, T<sub>J</sub></sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 440pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C
* Pulse test: Pulse width 300 μsec, Duty cycle 2%		

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Maximum thermal resistance	L = 3/8" R <sub>θJL</sub>	9.0°C/W Junction to Lead
Weight		.032 ounces (1.0 grams) typical

# MS880 — MS890

Figure 1  
Typical Forward Characteristics

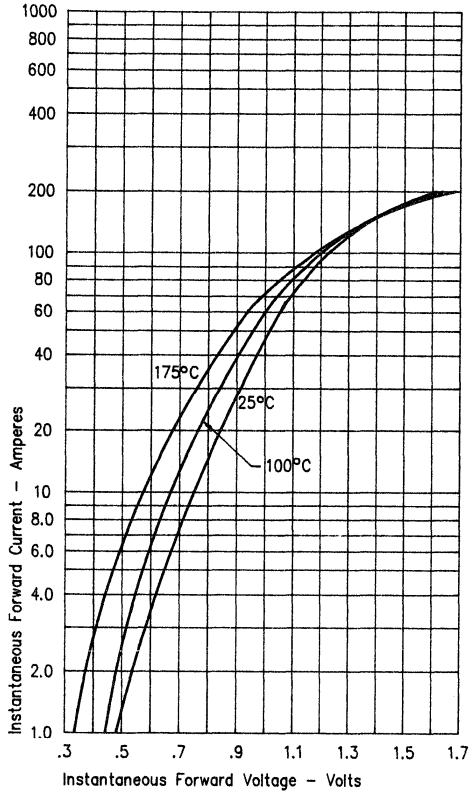


Figure 3  
Typical Junctions Capacitance

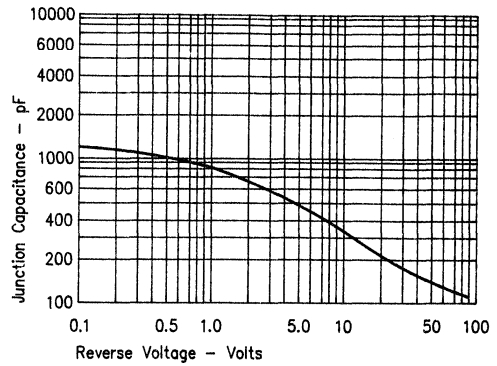


Figure 4  
Forward Current Derating

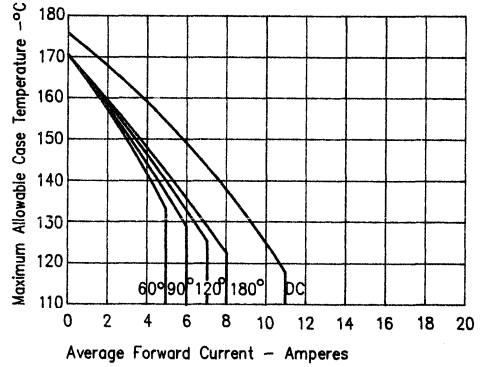


Figure 2  
Typical Reverse Characteristics

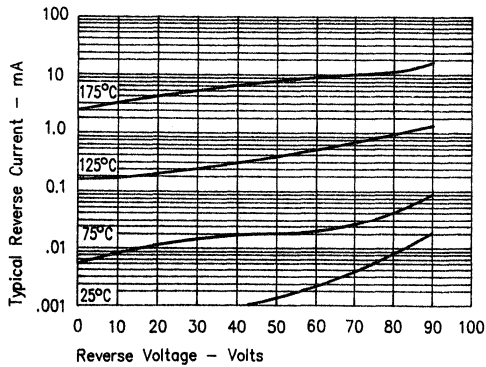
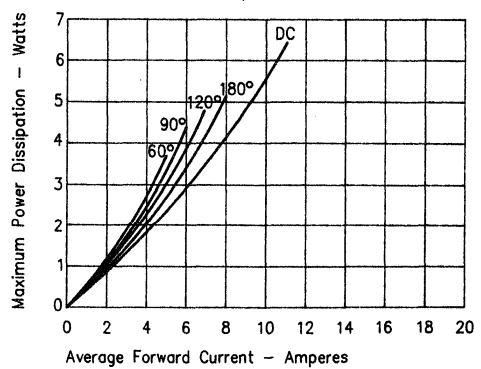
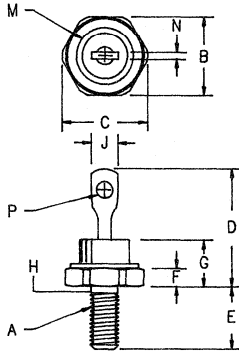


Figure 5  
Maximum Forward Power Dissipation



# Military Schottky Rectifier 1N6391



- Notes:  
 1. 10-32 UNF3A threads  
 2. Full threads within 2 1/2 threads Standard Polarity: Stud is Cathode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.424	.437	10.77	11.10	
C	---	.505	---	12.82	
D	.600	.800	15.24	20.32	
E	.422	.453	10.72	11.50	
F	.075	.175	1.91	4.44	
G	---	.405	---	---	
H	.163	.189	4.15	4.80	2
J	---	.310	---	7.87	
M	---	.350	---	8.89	Dia.
N	.020	.065	.510	1.95	
P	.070	.100	1.78	2.54	Dia.

## D0203AA (D04)

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
1N6391	45V	45V

- Schottky Barrier Rectifier
- Available in JAN, JANTX, JANTXV
- Mil-S-19500/553
- Low Forward Voltage
- 600 Amps surge rating
- Reverse Energy Tested

### Electrical Characteristics

Average forward current	$I_F(AV)$ 25 Amps	$T_C = 136^\circ C$ , Square wave, $R_{\theta JC} = 2.0^\circ C/W$
Maximum surge current	$I_{FSM}$ 600 Amps	8.3 ms, half sine, $T_J = 175^\circ C$
Max repetitive peak reverse current	$I_R(OV)$ 2 Amps	$f = 1$ KHz, $25^\circ C$ , 1 $\mu sec$ Square wave
Max peak forward voltage	$V_{FM}$ .48 Volts	$I_{FM} = 5A$ : $T_J = 25^\circ C^*$
Max peak forward voltage	$V_{FM}$ .68 Volts	$I_{FM} = 50A$ : $T_J = 25^\circ C^*$
Max peak reverse current	$I_{RM}$ 15 mA	$V_{RRM}$ , $T_J = 25^\circ C$
Max peak reverse current	$I_{RM}$ 40 mA	$V_{RRM}$ , $T_J = 125^\circ C^*$
Max peak reverse current	$I_{RM}$ 400 mA	$V_{RRM}$ , $T_J = 175^\circ C^*$
Maximum junction capacitance	$C_J$ 2000 pF	$V_R = 5.0V$ , $T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu sec$ , Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-55^\circ C$ to $175^\circ C$
Operating junction temp range	$T_J$	$-55^\circ C$ to $175^\circ C$
Max thermal resistance	$R_{\theta JC}$	$2.0^\circ C/W$ Junction to case
Typical thermal resistance	$R_{\theta CJ}$	$1.1^\circ C/W$ Junction to case
Max mounting torque		15 inch pounds maximum
Weight		.16 ounces (5.0 grams) typical

**Microsemi Corp.**  
**Colorado**

# 1N6391

Figure 1  
Typical Forward Characteristics

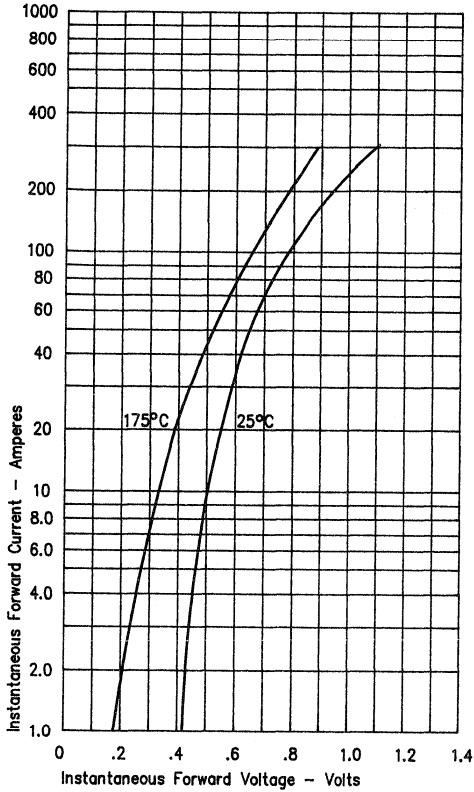


Figure 3  
Typical Junction Capacitance

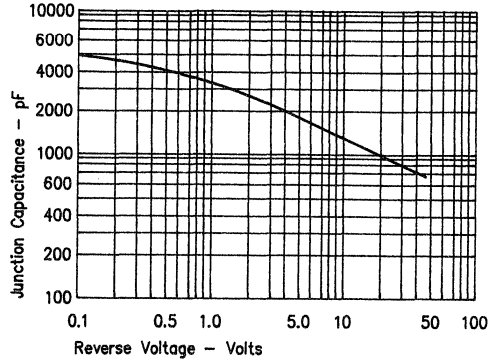


Figure 4  
Forward Current Derating

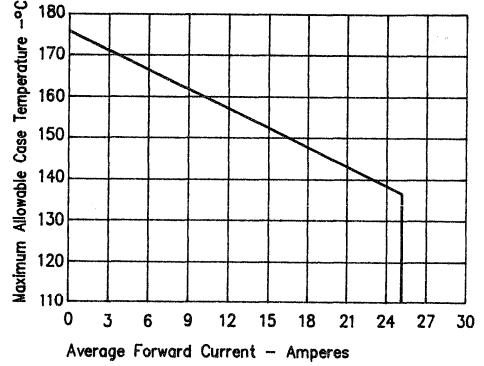
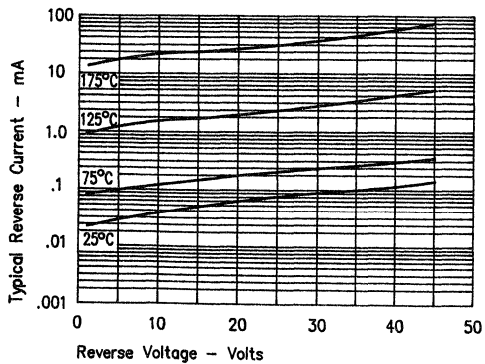
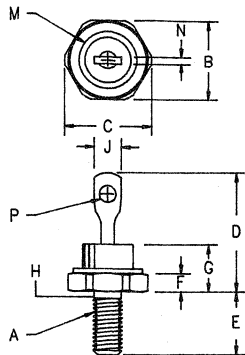


Figure 2  
Typical Reverse Characteristics



# Schottky Rectifier SBR 25



- Notes:  
 1. 10-32 UNF3A threads  
 2. Full threads within 2 1/2 threads Standard Polarity: Stud is Cathode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	----	----	----	----	1
B	.424	.437	10.77	11.10	
C	----	.505	----	12.82	
D	.600	.800	15.24	20.32	
E	.422	.453	10.72	11.50	
F	.075	.175	1.91	4.44	
G	----	.405	----	10.29	
H	.163	.189	4.15	4.80	2
J	----	.310	----	7.87	
M	----	.350	----	8.89	Dia.
N	.020	.065	.510	1.65	
P	.060	.100	1.53	2.54	Dia.

## D0203AA (D04)

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
SBR2520	20V	20V
SBR2525	25V	25V
SBR2530	30V	30V
SBR2535	35V	35V
SBR2540	40V	40V
SBR2545	45V	45V

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- $V_{RRM} - 20$  to 45V
- 25 Amperes
- Reverse Energy Tested

Electrical Characteristics		
Average forward current	$I_F(AV)$ 25 Amps	$T_C = 100^\circ C$ , Square wave, $R_{\theta JC} = 1.8^\circ C/W$
Maximum surge current	$I_{FSM}$ 600 Amps	8.3 ms, half sine $T_J = 150^\circ C$
Max repetitive peak reverse current	$I_R(OV)$ 2 Amps	$f = 1$ KHz, $25^\circ C$ , 1 $\mu$ sec Square wave
Max peak forward voltage	$V_{FM}$ .53 Volts	$I_{FM} = 25A$ ; $T_J = 150^\circ C^*$
Max peak forward voltage	$V_{FM}$ .58 Volts	$I_{FM} = 25A$ ; $T_J = 25^\circ C^*$
Max peak reverse current	$I_{RM}$ 250 mA	$V_{RRM}$ , $T_J = 125^\circ C^*$
Max peak reverse current	$I_{RM}$ 2 mA	$V_{RRM}$ , $T_J = 25^\circ C$
Typical reverse current	$I_{RM}$ 350 $\mu A$	$V_{RRM}$ , $T_J = 25^\circ C$
Typical junction capacitance	$C_J$ 1200 pF	$V_R = 5.0V$ , $T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu$ sec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	$T_{STG}$	$-55^\circ C$ to $175^\circ C$
Operating junction temp range	$T_J$	$-55^\circ C$ to $150^\circ C$
Max thermal resistance	$R_{\theta JC}$	$1.8^\circ C/W$ Junction to case
Typical thermal resistance	$R_{\theta JC}$	$1.2^\circ C/W$ Junction to case
Typical thermal resistance	$R_{\theta CS}$	$0.5^\circ C/W$ Case to sink
Max mounting torque		15 inch pounds maximum
Weight		0.2 ounces (6.0 grams) typical



# SBR25

Figure 1  
Typical Forward Characteristics

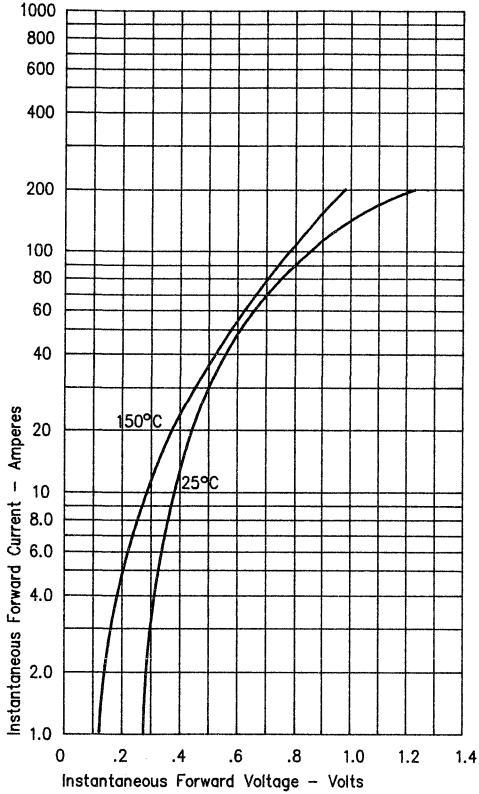


Figure 3  
Typical Junction Capacitance

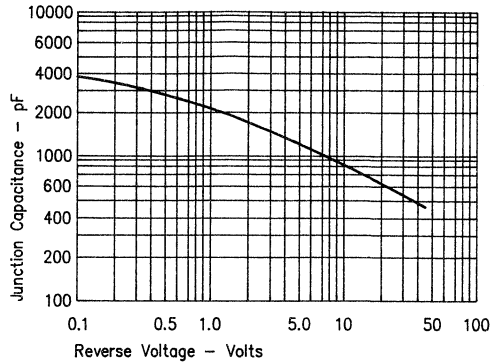


Figure 4  
Forward Current Derating

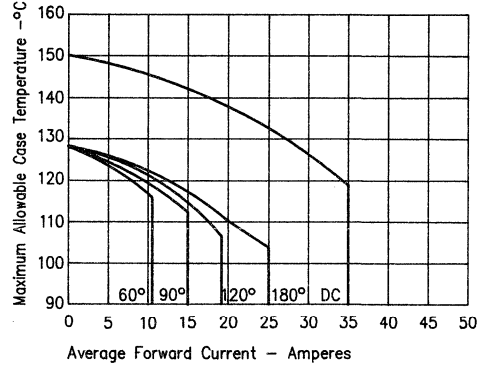


Figure 2  
Typical Reverse Characteristics

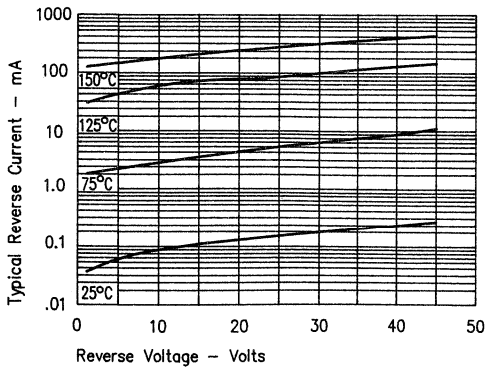
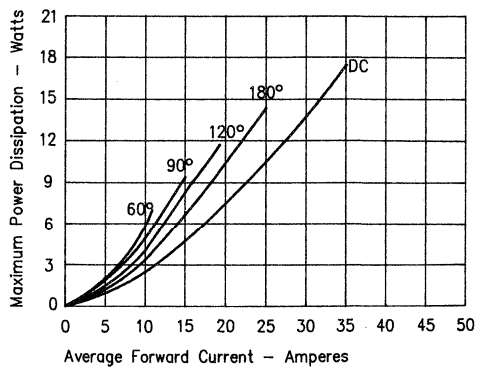
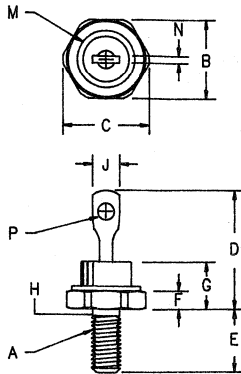


Figure 5  
Maximum Forward Power Dissipation





# 30 Amp Schottky Rectifier SBR 30



Notes:  
 1. 10-32 UNF3A threads  
 2. Full threads within 2 1/2 threads Standard Polarity: Stud is Cathode. Reverse Polarity Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.424	.437	10.77	11.10	
C	---	.505	---	12.82	
D	.600	.800	15.24	20.32	
E	.422	.453	10.72	11.50	
F	.075	.175	1.91	4.44	
G	---	.405	---	10.29	
H	.163	.189	4.15	4.80	2
J	---	.250	2.54	3.56	
M	---	.350	---	8.89	Dia.
N	.020	.065	.510	1.65	
P	.070	.100	1.78	2.54	Dia.

## D0203AA (D04)

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
SBR3035*	35V	35V
SBR3040*	40V	40V
SBR3045*	45V	45V
SBR3050*	50V	50V

\*Add Suffix R For Reverse Polarity

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- $V_{RRM}$  35 to 50V
- 30 Amperes
- Reverse Energy Tested

Electrical Characteristics		
Average forward current	IF(AV) 30 Amps	$T_C = 145^\circ\text{C}$ Square wave, $R_{\theta JC} = 1.5^\circ\text{C/W}$ 8.3 ms, half sine $T_J = 175^\circ\text{C}$ $f = 1 \text{ KHz}, 25^\circ\text{C}, 1 \mu\text{sec}$ Square wave $I_{FM} = 30A: T_J = 175^\circ\text{C}^*$ $I_{FM} = 30A: T_J = 25^\circ\text{C}^*$ $V_{RRM}, T_J = 125^\circ\text{C}^*$ $V_{RRM}, T_J = 25^\circ\text{C}$ $V_{RRM}, T_J = 25^\circ\text{C}$ $V_R = 5.0V, T_J = 25^\circ\text{C}$
Maximum surge current	IFSM 600 Amps	
Max repetitive peak reverse current	IR(OV) 2 Amps	
Max peak forward voltage	VFM .49 Volts	
Max peak forward voltage	VFM .63 Volts	
Max peak reverse current	IRM 25 mA	
Max peak reverse current	IRM 1.5 mA	
Typical reverse current	IRM 6 $\mu\text{A}$	
Typical junction capacitance	CJ 1800 pF	
*Pulse test: Pulse width 300 $\mu\text{sec}$ , Duty cycle 2%		

Thermal and Mechanical Characteristics		
Storage temp range	TSTG	-55°C to 175°C
Operating junction temp range	TJ	-55°C to 175°C
Max thermal resistance	R $\theta$ JC	1.5°C/W Junction to case
Typical thermal resistance	R $\theta$ JC	1.1°C/W Junction to case
Typical thermal resistance	R $\theta$ CS	0.5°C/W Case to sink
Max mounting torque		15 inch pounds maximum
Weight		0.2 ounces (6.0 grams) typical

# SBR 30

Figure 1  
Typical Forward Characteristics

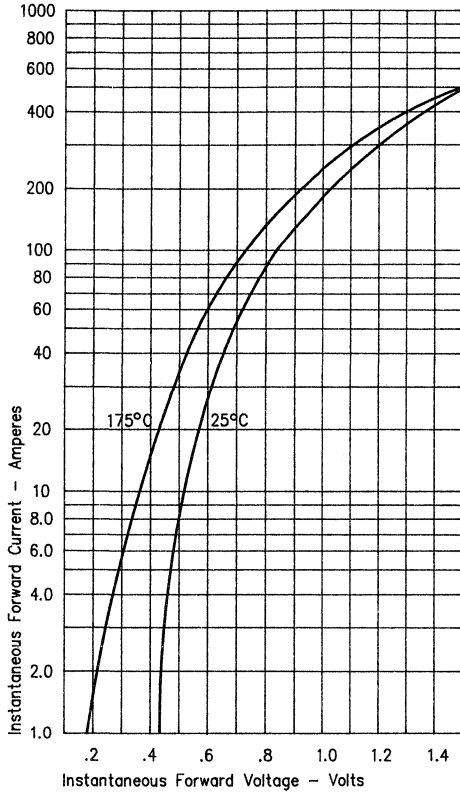


Figure 3  
Typical Junction Capacitance

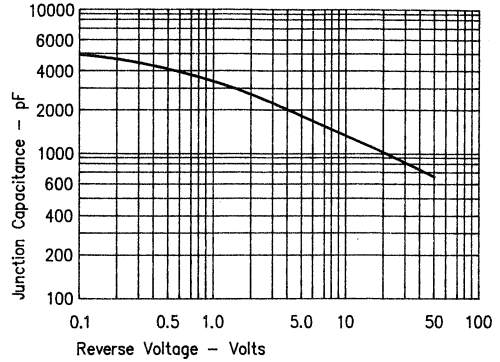


Figure 4  
Forward Current Derating

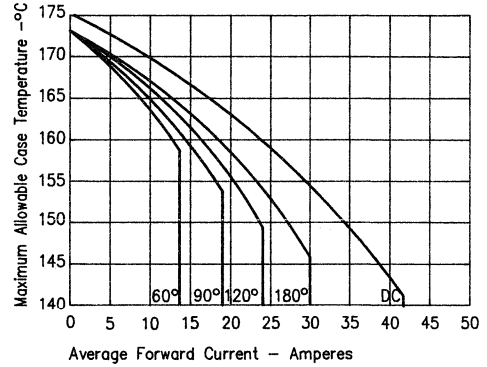


Figure 2  
Typical Reverse Characteristics

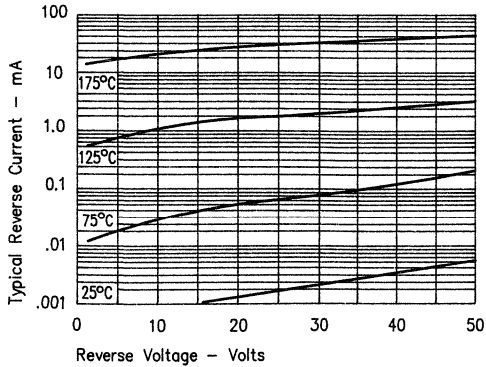
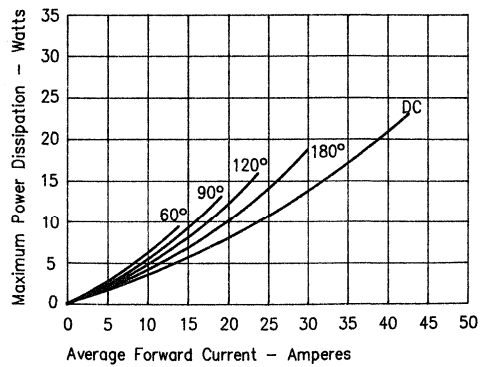
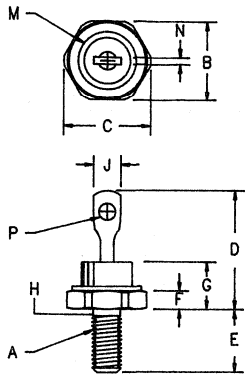


Figure 5  
Maximum Forward Power Dissipation



# Schottky Rectifier SD 41



**Notes:**  
 1. 10-32 UNF3A threads  
 2. Full threads within 2 1/2 threads Standard Polarity: Stud is Cathode. Reverse Polarity Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.424	.437	10.77	11.10	
C	---	.505	---	12.82	
D	.600	.800	15.24	20.32	
E	.422	.453	10.72	11.50	
F	.075	.175	1.91	4.44	
G	---	.405	---	10.29	
H	.163	.189	4.15	4.80	2
J	---	.310	---	7.87	
M	---	.350	---	8.89	Dia.
N	.020	.065	.510	1.65	
P	.060	.100	1.53	2.54	Dia.

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
SD41*	35V	35V
SD4145*	45V	45V

\*Add Suffix R For Reverse Polarity

- ### D0203AA (D04)
- Schottky Barrier Rectifier
  - Guard Ring Protection
  - Low Forward Voltage
  - VRRM - 35 & 45 Volts
  - 30 Amperes/45 Volts
  - Reverse Energy Tested

### Electrical Characteristics

Average forward current	$I_F(AV)$ 30 Amps	$T_C = 140^\circ C$ , Square wave, $R_{\theta JC} = 1.5^\circ C/W$ 8.3 ms, half sine $T_J = 175^\circ C$ $f = 1$ KHz, $25^\circ C$ , 1 $\mu$ sec Square wave
Maximum surge current	$I_{FSM}$ 600 Amps	
Max repetitive peak reverse current	$I_R(OV)$ 2 Amps	
Max peak forward voltage	V <sub>FM</sub> .57 Volts	$I_{FM} = 30A$ ; $T_J = 175^\circ C^*$
Max peak forward voltage	V <sub>FM</sub> .68 Volts	$I_{FM} = 30A$ ; $T_J = 25^\circ C^*$
Max peak reverse current	$I_{RM}$ 25 mA	V <sub>RRM</sub> , $T_J = 125^\circ C^*$
Max peak reverse current	$I_{RM}$ 1.5 mA	V <sub>RRM</sub> , $T_J = 25^\circ C$
Typical reverse current	$I_{RM}$ 2 $\mu$ A	V <sub>RRM</sub> , $T_J = 25^\circ C$
Typical junction capacitance	$C_J$ 1350 pF	$V_R = 5.0V$ , $T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu$ sec, Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-55°C to 175°C
Operating junction temp range	T <sub>J</sub>	-55°C to 175°C
Max thermal resistance	R <sub><math>\theta</math>JC</sub>	1.5°C/W Junction to case
Typical thermal resistance	R <sub><math>\theta</math>JC</sub>	1.3°C/W Junction to case
Typical thermal resistance	R <sub><math>\theta</math>CS</sub>	0.5°C/W Case to sink
Max mounting torque		15 inch pounds maximum
Weight		0.2 ounces (6.0 grams) typical



# SD 41

Figure 1  
Typical Forward Characteristics

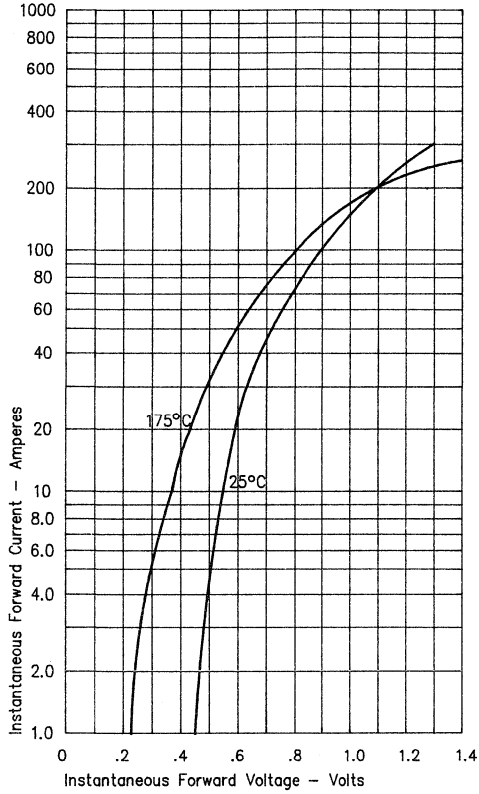


Figure 2  
Typical Reverse Characteristics

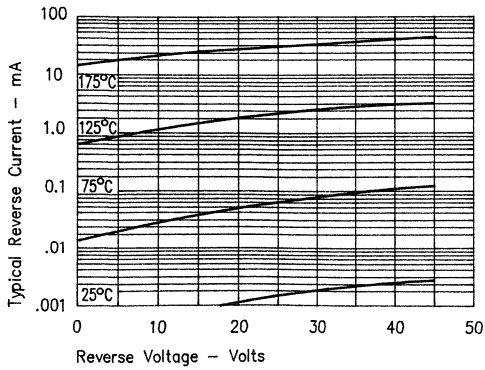


Figure 3  
Typical Junction Capacitance

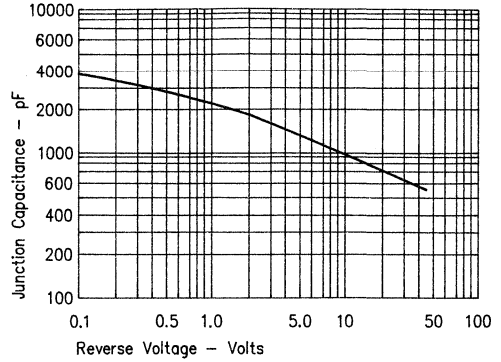


Figure 4  
Forward Current Derating

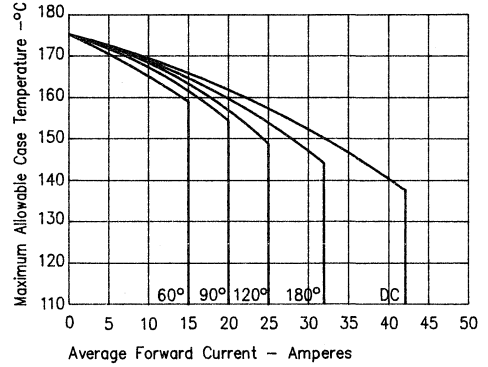
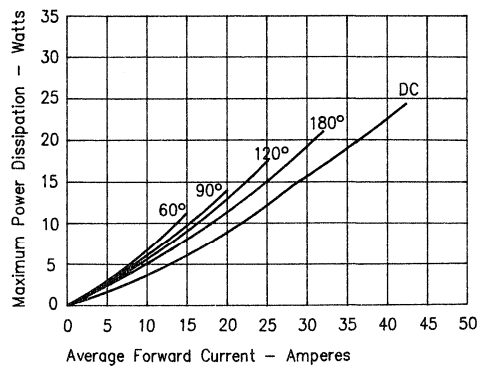
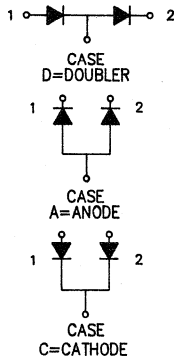
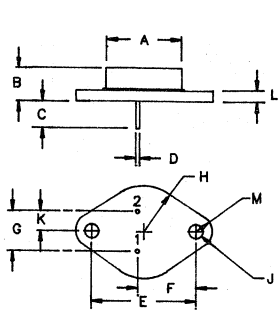


Figure 5  
Maximum Forward Power Dissipation



# Schottky Rectifier SBT 25



Dim. Inches	Millimeter		Notes
	Minimum	Maximum	
A	—	.875	22.23 Dia.
B	.250	.450	6.35 11.43
C	.312	—	7.92 —
D	.038	.043	.97 1.09 Dia.
E	1.177	1.197	29.90 30.40
F	.655	.675	16.64 17.15
G	.420	.440	10.67 11.18
H	—	.525	— 13.34 Rad.
J	.151	.161	3.84 4.09 Dia.
K	.205	.225	5.21 5.72
L	—	.135	— 3.43
M	—	.188	— 4.78 Rad.

## TO-204AA (TO-3)

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
SBT2520*	20V	20V
SBT2525*	25V	25V
SBT2530*	30V	30V
SBT2535*	35V	35V
SBT2540*	40V	40V
SBT2545*	45V	45V

\*ADD D, C, or A

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- VRRM - 20 to 45V
- 25 Amperes
- Reverse Energy Tested

Electrical Characteristics Per Leg		
Average forward current (standard)	I <sub>F(AV)</sub> 25 Amps	T <sub>C</sub> = 110 °C, Square wave, R <sub>θJC</sub> = 1.4 °C/W
Average forward current (reverse)	I <sub>F(AV)</sub> 25 Amps	T <sub>C</sub> = 90 °C, Square wave, R <sub>θJC</sub> = 2.2 °C/W
Maximum surge current	I <sub>FSM</sub> 600 Amps	8.3 ms, half sine T <sub>J</sub> = 150 °C
Max repetitive peak reverse current	I <sub>R(OV)</sub> 2 Amps	f = 1 KHz, 25 °C, 1 μsec Square wave
Max peak forward voltage	V <sub>FM</sub> .53 Volts	I <sub>FM</sub> = 25A; T <sub>J</sub> = 150 °C*
Max peak forward voltage	V <sub>FM</sub> .58 Volts	I <sub>FM</sub> = 25A; T <sub>J</sub> = 25 °C*
Max peak reverse current	I <sub>RM</sub> 250 mA	V <sub>RRM</sub> , T <sub>J</sub> = 125 °C*
Max peak reverse current	I <sub>RM</sub> 2 mA	V <sub>RRM</sub> , T <sub>J</sub> = 25 °C
Typical reverse current	I <sub>RM</sub> 350 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25 °C
Typical junction capacitance	C <sub>J</sub> 1200 pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25 °C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	T <sub>STG</sub>	-55 °C to 175 °C
Operating junction temp range	T <sub>J</sub>	-55 °C to 150 °C
Maximum thermal resistance (standard polarity)	R <sub>θJC</sub>	1.4 °C/W Junction to case
Typical thermal resistance (standard polarity)	R <sub>θJC</sub>	1.2 °C/W Junction to case
Maximum thermal resistance (reverse polarity)	R <sub>θJC</sub>	2.2 °C/W Junction to case
Typical thermal resistance (reverse polarity)	R <sub>θJC</sub>	2.0 °C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.5 °C/W Case to sink
Weight		1.0 ounces (28 grams) typical

# SBT 25

Figure 1  
Typical Forward Characteristics

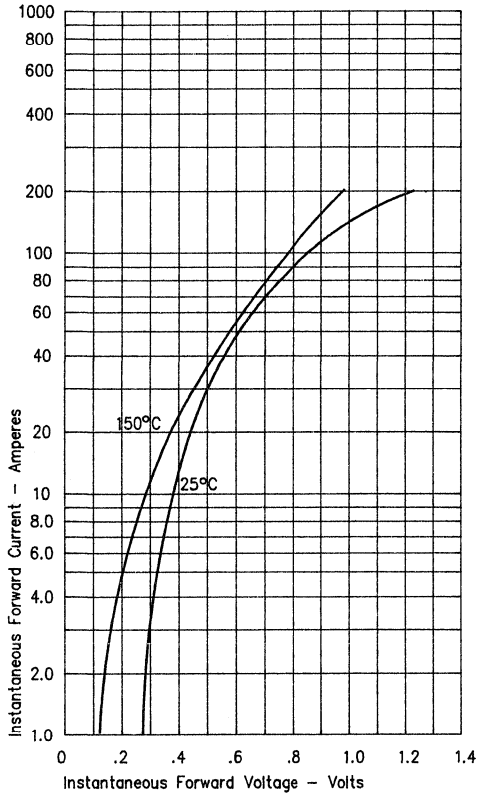


Figure 3  
Typical Junction Capacitance

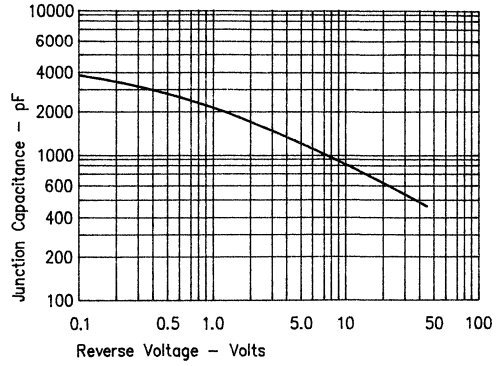


Figure 4  
Forward Current Derating - Standard Polarity

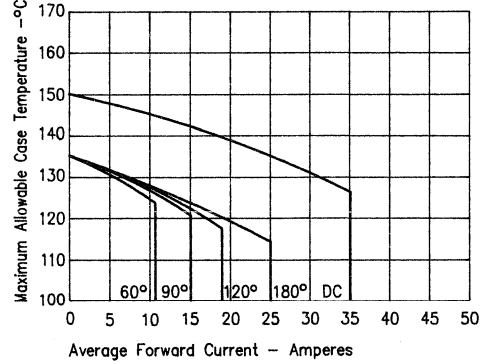


Figure 2  
Typical Reverse Characteristics

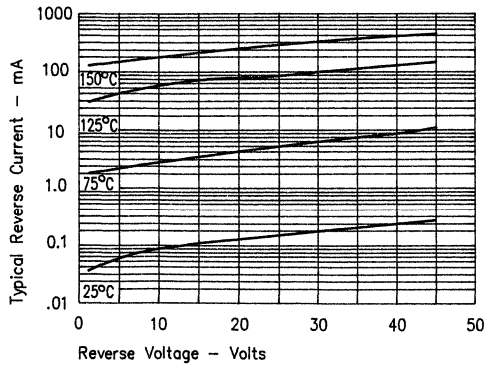
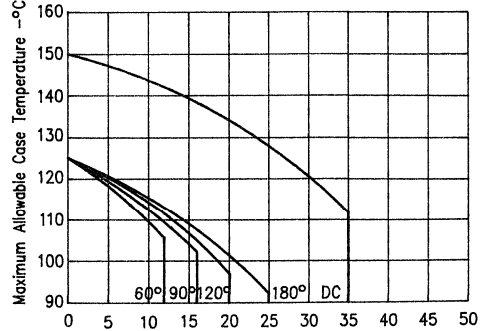


Figure 5  
Forward Current Derating - Reverse Polarity



# SBT 25



Figure 6  
Maximum Forward Power Dissipation - Standard Polarity

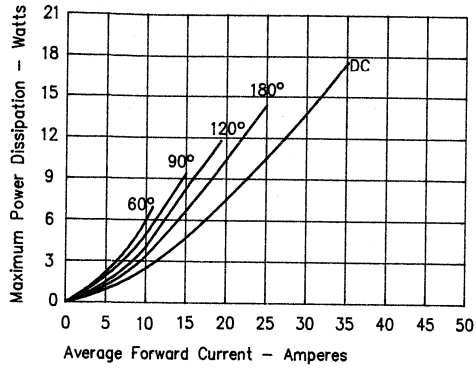
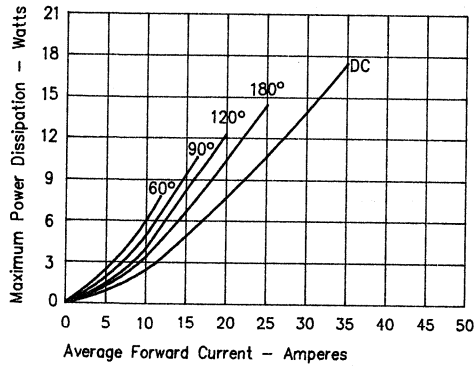
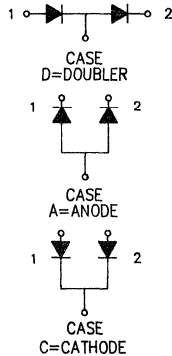
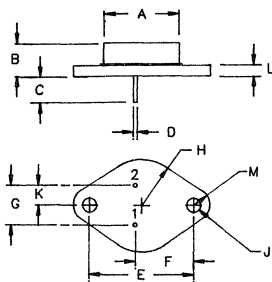


Figure 7  
Maximum Forward Power Dissipation - Reverse Polarity



# Schottky Rectifier

## SBT 30



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	—	.875	—	22.23	Dia.
B	.250	.450	6.35	11.43	—
C	.312	—	7.92	—	—
D	.038	.043	.97	1.09	Dia.
E	1.177	1.197	29.90	30.40	—
F	.655	.675	16.64	17.15	—
G	.420	.440	10.67	11.18	—
H	—	.525	—	13.34	Rad.
J	.151	.161	3.84	4.09	Dia.
K	.205	.225	5.21	5.72	—
L	—	.135	—	3.43	—
M	—	.188	—	4.78	Rad.

### TO-204AA (TO-3)

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
SBT3035*	35V	35V
SBT3040*	40V	40V
SBT3045*	45V	45V
SBT3050*	50V	50V

\*ADD D, C, or A

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- VRRM - 35 to 50V
- 30 Amperes/50Volts
- Reverse Energy Tested

### Electrical Characteristics Per Leg

Average forward current (standard)	$I_{F(AV)}$ 30 Amps	$T_C = 145^\circ\text{C}$ , Square wave, $R_{\theta JC} = 1.4^\circ\text{C/W}$
Average forward current (reverse)	$I_{F(AV)}$ 30 Amps	$T_C = 130^\circ\text{C}$ , Square wave, $R_{\theta JC} = 2.2^\circ\text{C/W}$
Maximum surge current	$I_{FSM}$ 600 Amps	8.3 ms, half sine $T_J = 175^\circ\text{C}$
Max repetitive peak reverse current	$I_{R(OV)}$ 2 Amps	$f = 1 \text{ KHz}$ , $25^\circ\text{C}$ , 1 $\mu\text{sec}$ Square wave
Max peak forward voltage	$V_{FM}$ .57 Volts	$I_{FM} = 30\text{A}$ ; $T_J = 175^\circ\text{C}^*$
Max peak forward voltage	$V_{FM}$ .70 Volts	$I_{FM} = 30\text{A}$ ; $T_J = 25^\circ\text{C}^*$
Max peak reverse current	$I_{RM}$ 25 mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}^*$
Max peak reverse current	$I_{RM}$ 1.5 mA	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical reverse current	$I_{RM}$ 6 $\mu\text{A}$	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical junction capacitance	$C_J$ 1800 pF	$V_R = 5.0\text{V}$ , $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-55^\circ\text{C}$ to $175^\circ\text{C}$
Operating junction temp range	$T_J$	$-55^\circ\text{C}$ to $150^\circ\text{C}$
Maximum thermal resistance (standard polarity)	$R_{\theta JC}$	$1.4^\circ\text{C/W}$ Junction to case
Typical thermal resistance (standard polarity)	$R_{\theta JC}$	$1.2^\circ\text{C/W}$ Junction to case
Maximum thermal resistance (reverse polarity)	$R_{\theta JC}$	$2.2^\circ\text{C/W}$ Junction to case
Typical thermal resistance (reverse polarity)	$R_{\theta JC}$	$2.0^\circ\text{C/W}$ Junction to case
Typical thermal resistance	$R_{\theta CS}$	$0.5^\circ\text{C/W}$ Case to sink
Weight		1.0 ounces (28 grams) typical

**Microsemi Corp.**  
**Colorado**



# SBT 30

Figure 1  
Typical Forward Characteristics

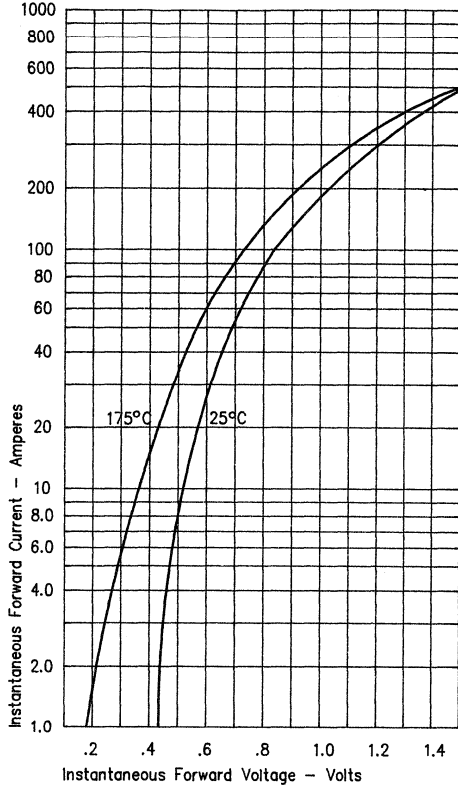


Figure 3  
Typical Junction Capacitance

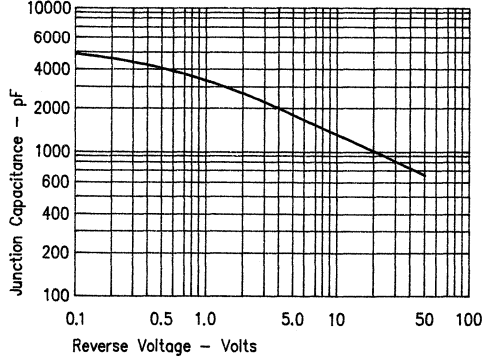


Figure 4  
Forward Current Derating - Standard Polarity

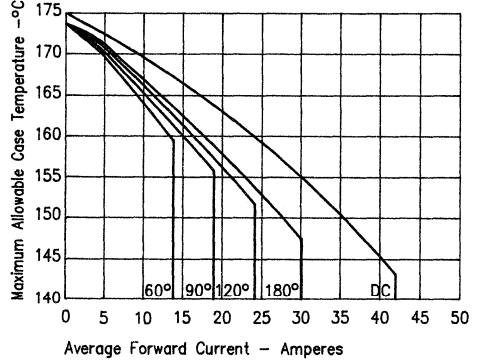


Figure 2  
Typical Reverse Characteristics

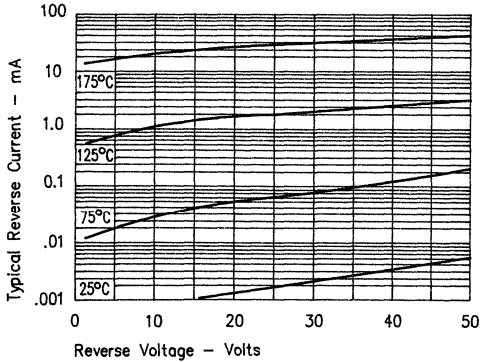
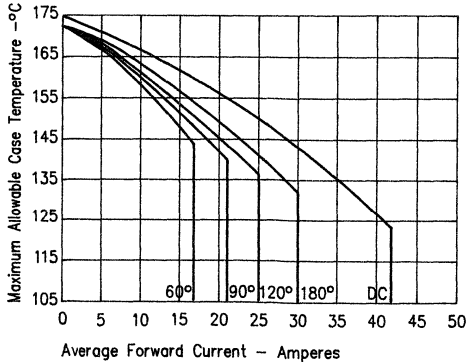


Figure 5  
Forward Current Derating - Reverse Polarity



# SBT 30

Figure 6  
Maximum Forward Power Dissipation - Standard Polarity

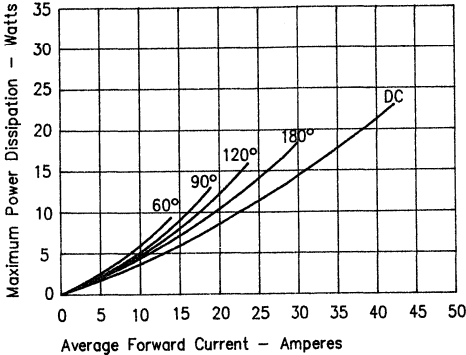
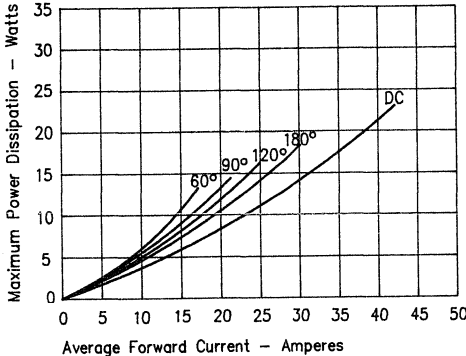
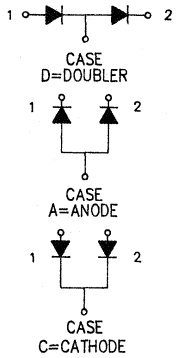
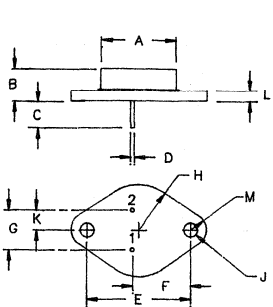


Figure 7  
Maximum Forward Power Dissipation - Reverse Polarity



# Schottky Rectifier SD 241



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	—	.875	—	22.23	Dia.
B	.250	.450	6.35	11.43	
C	.312	—	7.92	—	
D	.038	.043	.97	1.09	Dia.
E	1.177	1.197	29.90	30.40	
F	.655	.675	16.64	17.15	
G	.420	.440	10.67	11.18	
H	—	.525	—	13.34	Rad.
J	.151	.161	3.84	4.09	Dia.
K	.205	.225	5.21	5.72	
L	—	.135	—	3.43	
M	—	.188	—	4.78	Rad.

## TO-204AA (TO-3)

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
SD241*	35V	35V
SD24145*	45V	45V

\*ADD D, C, or A

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- $V_{RRM} - 35 \text{ \& } 45\text{V}$
- 30 Amperes/45 Volts
- Reverse Energy Tested

Electrical Characteristics Per Leg		
Average forward current (standard)	$I_F(AV)$ 30 Amps	$T_C = 145^\circ\text{C}$ , Square wave, $R_{\theta JC} = 1.4^\circ\text{C/W}$
Average forward current (reverse)	$I_F(AV)$ 30 Amps	$T_C = 130^\circ\text{C}$ , Square wave, $R_{\theta JC} = 2.2^\circ\text{C/W}$
Maximum surge current	$I_{FSM}$ 600 Amps	8.3 ms, half sine $T_J = 175^\circ\text{C}$
Max repetitive peak reverse current	$I_R(OV)$ 2 Amps	$f = 1 \text{ KHz}$ , $25^\circ\text{C}$ , 1 $\mu\text{sec}$ Square wave
Max peak forward voltage	$V_{FM}$ .57 Volts	$I_{FM} = 30\text{A}$ ; $T_J = 175^\circ\text{C}^*$
Max peak forward voltage	$V_{FM}$ .70 Volts	$I_{FM} = 30\text{A}$ ; $T_J = 25^\circ\text{C}^*$
Max peak reverse current	$I_{RM}$ 25 mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}^*$
Max peak reverse current	$I_{RM}$ 1.5 mA	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical reverse current	$I_{RM}$ 2 $\mu\text{A}$	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical junction capacitance	$C_J$ 1350 pF	$V_R = 5.0\text{V}$ , $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	$T_{STG}$	$-55^\circ\text{C}$ to $175^\circ\text{C}$
Operating junction temp range	$T_J$	$-55^\circ\text{C}$ to $175^\circ\text{C}$
Maximum thermal resistance (standard polarity)	$R_{\theta JC}$	$1.4^\circ\text{C/W}$ Junction to case
Typical thermal resistance (standard polarity)	$R_{\theta JC}$	$1.2^\circ\text{C/W}$ Junction to case
Maximum thermal resistance (reverse polarity)	$R_{\theta JC}$	$2.2^\circ\text{C/W}$ Junction to case
Typical thermal resistance (reverse polarity)	$R_{\theta JC}$	$2.0^\circ\text{C/W}$ Junction to case
Typical thermal resistance	$R_{\theta CS}$	$0.5^\circ\text{C/W}$ Case to sink
Weight		1.0 ounces (28 grams) typical

# SD 241

Figure 1  
Typical Forward Characteristics

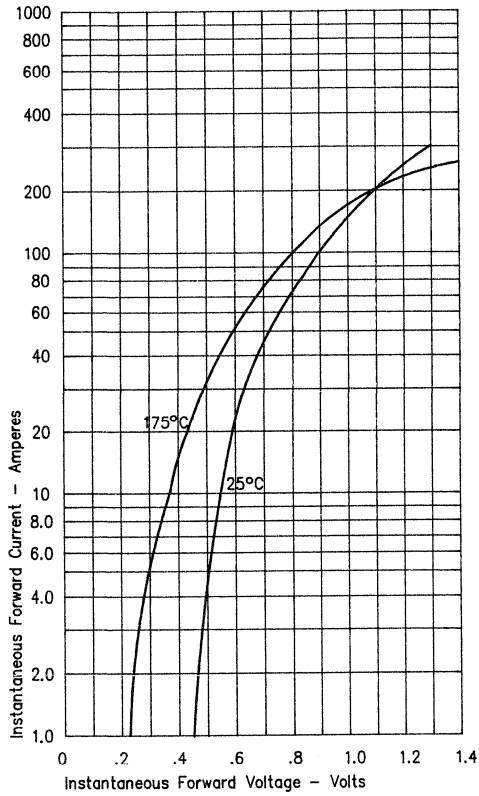


Figure 3  
Typical Junction Capacitance

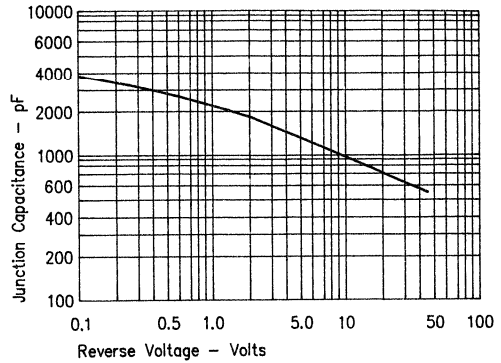


Figure 4  
Forward Current Derating - Standard Polarity

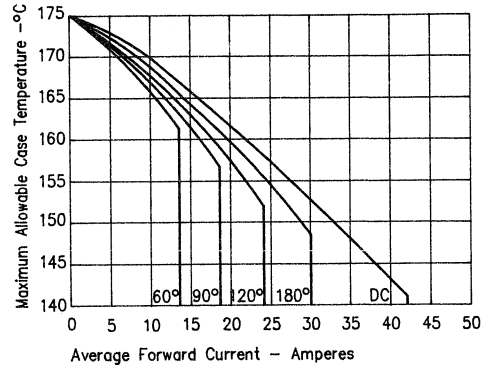


Figure 2  
Typical Reverse Characteristics

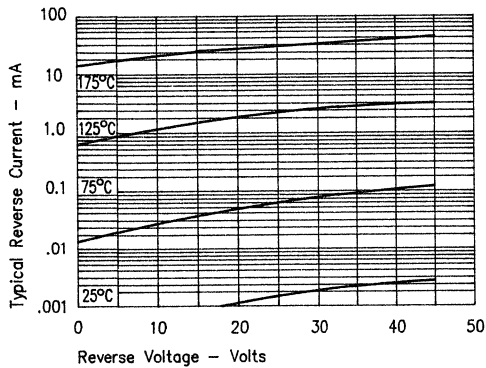


Figure 5  
Forward Current Derating - Reverse Polarity

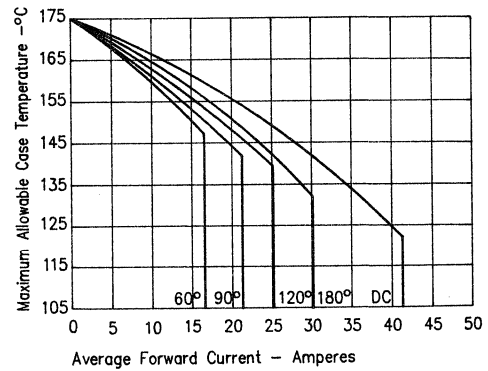


Figure 6  
Maximum Forward Power Dissipation - Standard Polarity

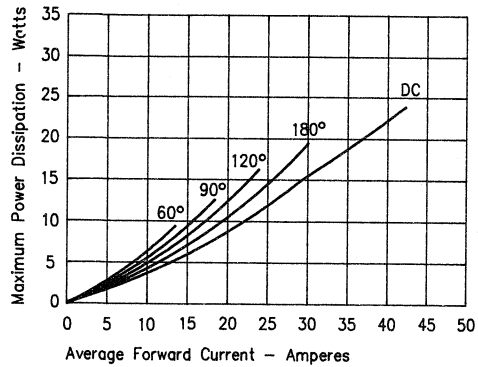
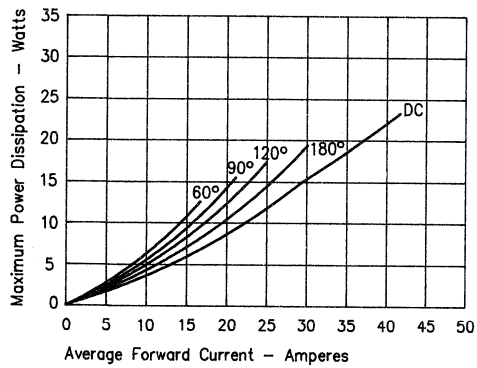
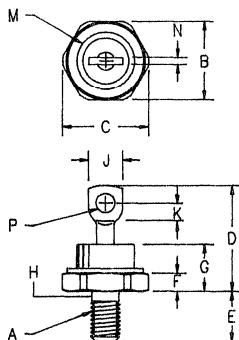


Figure 7  
Maximum Forward Power Dissipation - Reverse Polarity



# Military Schottky Rectifier

## 1N6392



- Notes:
1. Full threads within 2 1/2 threads
  2. Standard Polarity: Stud is Cathode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	----	----	----	----	1/4-28
B	.669	.687	17.19	17.44	
C	----	.794	----	20.16	
D	----	1.000	----	25.40	
E	.422	.453	10.72	11.50	
F	.115	.200	2.93	5.08	
G	----	.450	----	11.43	
H	.220	.249	5.58	6.32	1
J	----	.375	----	9.52	
K	.156	----	3.96	----	
M	----	.667	----	16.94	Dia.
N	----	.080	----	2.03	
P	.140	.175	3.56	4.45	Dia.

### D0203AB (D05)

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
1N6392	45V	45V

- Schottky Barrier Rectifier
- Available in JAN, JANTX, JANTXV
- Mil-S-19500/554
- Low Forward Voltage
- 1000 Amps surge rating
- Reverse Energy Tested

### Electrical Characteristics

Average forward current	I <sub>F(AV)</sub> 60 Amps	T <sub>C</sub> = 115°C, Square wave, R <sub>θJC</sub> = 1.0°C/W
Maximum surge current	I <sub>FSM</sub> 1000 Amps	8.3 ms, half sine, T <sub>J</sub> = 175°C
Max repetitive peak reverse current	I <sub>R(OV)</sub> 2 Amps	f = 1 KHz, 25°C, 1 μsec Square wave
Max peak forward voltage	V <sub>FM</sub> .51 Volts	I <sub>FM</sub> = 10A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> .68 Volts	I <sub>FM</sub> = 60A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> .82 Volts	I <sub>FM</sub> = 120A; T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> 20 mA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> 60 mA	V <sub>RRM</sub> , T <sub>J</sub> = 125°C*
Max peak reverse current	I <sub>RM</sub> 600 mA	V <sub>RRM</sub> , T <sub>J</sub> = 175°C*
Maximum junction capacitance	C <sub>J</sub> 3000 pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-55°C to 175°C
Operating junction temp range	T <sub>J</sub>	-55°C to 175°C
Max thermal resistance	R <sub>θJC</sub>	1.0°C/W Junction to case
Typical thermal resistance	R <sub>θJC</sub>	0.9°C/W Junction to case
Max mounting torque		30 inch pounds maximum
Weight		.54 ounces (15.3 grams) typical

**Microsemi Corp.**  
**Colorado**

# 1N6392

C

Figure 1  
Typical Forward Characteristics

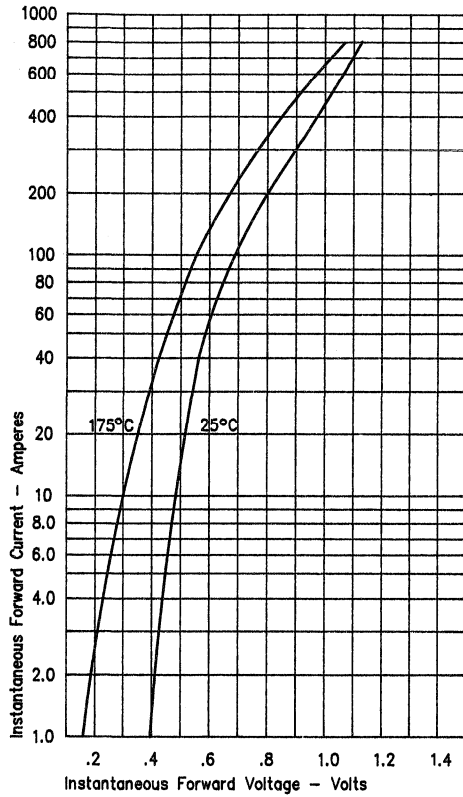


Figure 3  
Typical Junction Capacitance

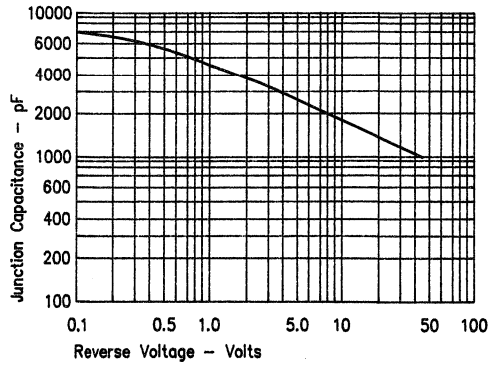


Figure 4  
Forward Current Derating

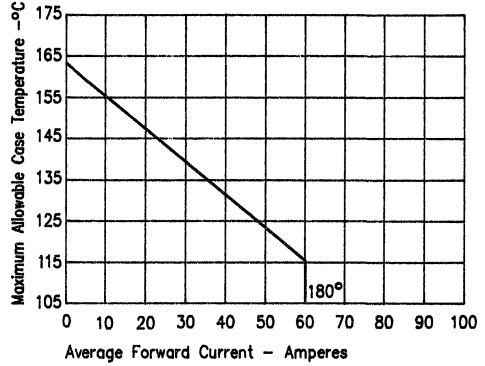
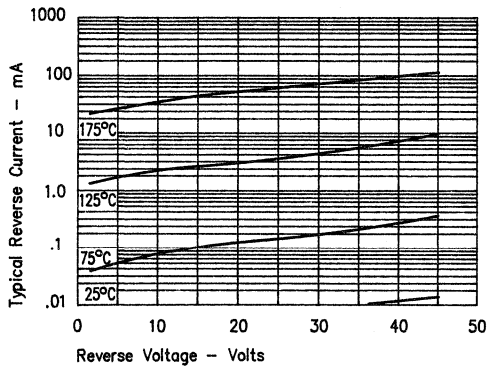
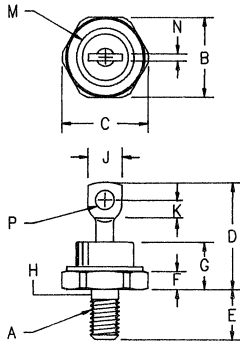


Figure 2  
Typical Reverse Characteristics



# 60 Amp Schottky Rectifier SBR60 Series



- Notes:
1. Full threads within 2 1/2 threads
  2. Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1/4-28
B	.677	.687	17.19	17.44	
C	---	.793	---	20.14	
D	---	1.00	---	25.40	
E	.427	.447	10.84	11.35	
F	.115	.200	2.92	5.08	
G	---	.450	---	11.43	
H	.220	.249	5.59	6.32	1
J	---	.375	---	9.52	
K	.156	---	3.97	---	
M	---	.510	---	12.95	Dia
N	---	.080	---	2.03	
P	.140	.175	3.56	4.44	Dia

## D0203AB (D05)

Microsemi Catalog Number	Peak Reverse Voltage
SBR6030	30V
SBR6035	35V
SBR6040	40V
SBR6045	45V

- Schottky Barrier Rectifier
- Low forward voltage
- Guard Ring Protected
- 150°C Junction Temperature
- $V_{RRM}$  -30 to 45 Volts

### Electrical Characteristics

Average forward current per leg	$I_F(AV)$ 60 Amps	$T_C = 89^\circ C$ , Square wave, $R_{\theta JC} = 1.0^\circ C/W$
Maximum surge current per leg	$I_{FSM}$ 1000 Amps	8.3ms, half sine, $T_J = 125^\circ C$
Max repetitive peak reverse current	$I_R(OV)$ 2 Amp	$f = 1$ KHz, $25^\circ C$ , 1 $\mu$ sec Square wave
Max peak forward voltage	$V_{FM}$ .60 Volts	$I_{FM} = 60A: 25^\circ C *$
Max peak forward voltage	$V_{FM}$ .58 Volts	$I_{FM} = 60A: 125^\circ C *$
Max peak reverse current	$I_{RM}$ 600 mA	$V_{RRM}, T_J = 125^\circ C *$
Max peak reverse current	$I_{RM}$ 2.0 mA	$V_{RRM}, T_J = 25^\circ C$
Typical junction capacitance	$C_J$ 2700 pF	$V_R = 5.0V, T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu$ sec, Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	-65°C to 150°C
Operating junction temp range	$T_J$	-65°C to 125°C
Max thermal resistance	$R_{\theta JC}$	1.0°C/W Junction to Case
Typical thermal resistance	$R_{\theta JC}$	0.9°C/W Junction to Case
Max mounting torque		30 inch pounds maximum
Typical Weight		.54 ounces (15.3 grams) typical

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**Colorado**



# SBR60



Figure 1  
Typical Forward Characteristics

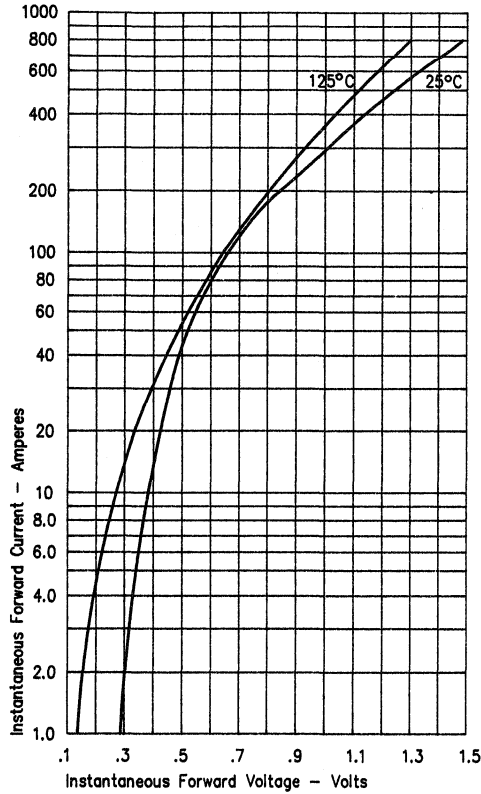


Figure 3  
Typical Junction Capacitance

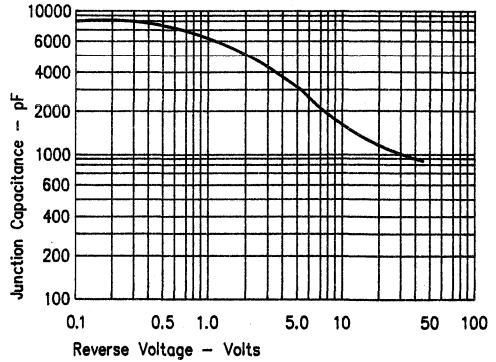


Figure 4  
Forward Current Derating

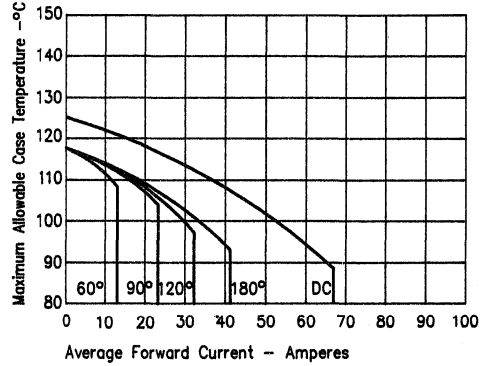


Figure 2  
Typical Reverse Characteristics

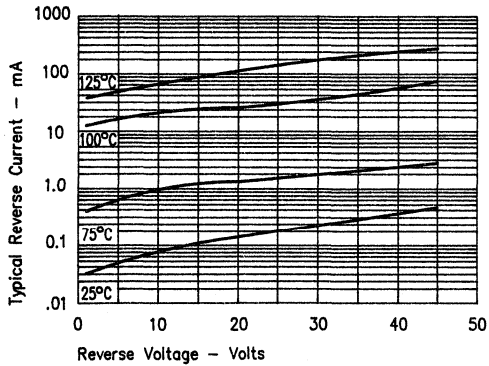
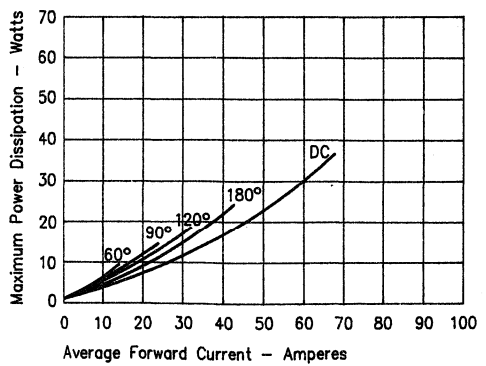
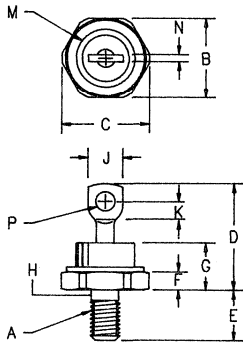


Figure 5  
Maximum Forward Power Dissipation



# Schottky Rectifier SBR80 Series



- Notes:
1. Full threads within 2 1/2 threads
  2. Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1/4-28
B	.669	.687	17.19	17.44	
C	---	.794	---	20.16	
D	---	1.000	---	25.40	
E	.422	.453	10.72	11.50	
F	.115	.200	2.93	5.08	
G	---	.450	---	11.43	
H	.220	.249	5.58	6.32	1
J	---	.375	---	9.52	
K	.156	---	3.96	---	
M	---	.515	---	13.08	Dia.
N	---	.080	---	2.03	
P	.140	.175	3.56	4.45	Dia.

## D0203AB (D05)

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
SBR8035 *	35V	35V
SBR8040 *	40V	40V
SBR8045 *	45V	45V
SBR8050 *	50V	50V

\*Add Suffix R For Reverse Polarity

- Schottky Barrier Rectifier
- 175°C Junction Temperature
- Guard Ring Protection
- Low Forward Voltage
- VRRM - 35 to 50 Volts
- 85 Amperes/50 Volts
- Reverse Energy Tested

Electrical Characteristics		
Average forward current,	I <sub>F(AV)</sub> = 85 Amps	T <sub>C</sub> = 120°C, Square wave, R <sub>θJC</sub> = 0.8°C/W
Maximum surge current,	I <sub>FSM</sub> = 1200 Amps	8.3 ms, half sine T <sub>J</sub> = 175°C
Max repetitive peak reverse current	I <sub>R(OV)</sub> = 2 Amps	f = 1 KHz, 25°C, 1 μsec Square wave
Max peak forward voltage,	V <sub>FM</sub> = 0.58 Volts	I <sub>FM</sub> = 80A, T <sub>J</sub> = 175°C*
Max peak forward voltage,	V <sub>FM</sub> = 0.74 Volts	I <sub>FM</sub> = 80A, T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> = 30 mA	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 125°C*
Max peak reverse current	I <sub>RM</sub> = 2 mA	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C
Typical reverse current	I <sub>RM</sub> = 20 μA	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> = 2300 pF	

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	T <sub>STG</sub>	-55°C to +175°C
Operating junction temp range	T <sub>J</sub>	-55°C to +175°C
Max thermal resistance	R <sub>θJC</sub>	0.8°C/W Junction to sink
Typical thermal resistance	R <sub>θCS</sub>	0.5°C/W Case to sink
Max mounting torque		30.0 inch pounds maximum
Weight		0.54 ounce (15.3 grams) typical

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# SBR80



Figure 1  
Typical Forward Characteristics

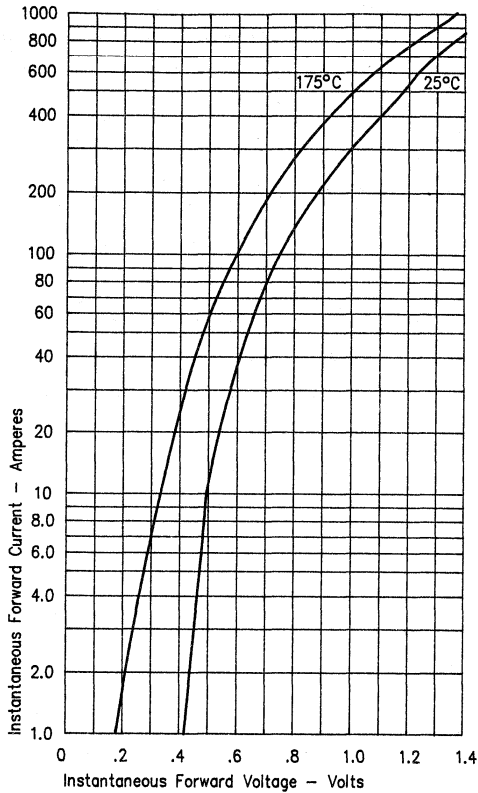


Figure 3  
Typical Junction Capacitance

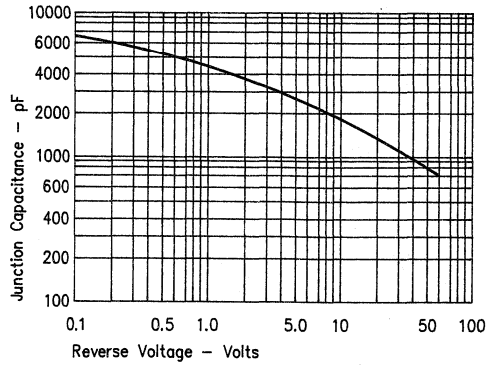


Figure 4  
Forward Current Derating

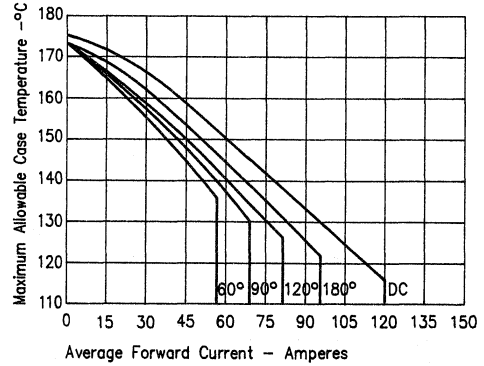


Figure 2  
Typical Reverse Characteristics

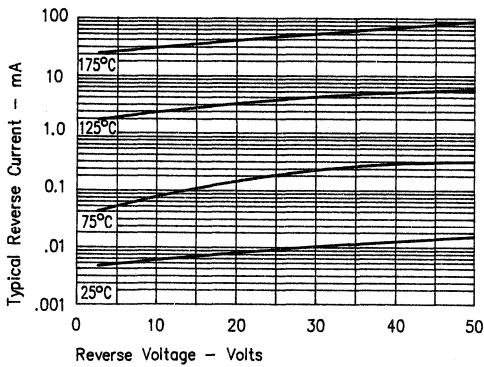
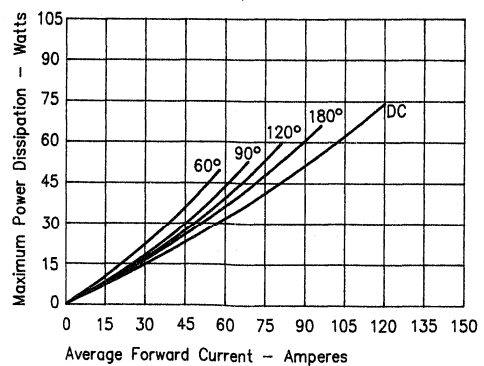
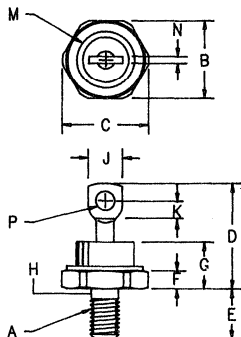


Figure 5  
Maximum Forward Power Dissipation



# Schottky OR'ing Diode SBR 82



- Notes:
1. Full threads within 2 1/2 threads
  2. Standard Polarity: Stud is Cathode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	----	----	----	----	1/4-28
B	.677	.687	17.19	17.44	
C	----	.793	----	20.14	
D	----	1.00	----	25.40	
E	.432	.442	10.97	11.22	
F	.125	.135	3.17	3.42	
G	.323	.450	8.20	11.43	
H	.220	.249	5.58	6.32	1
J	----	.375	----	9.52	
K	.156	----	3.96	----	
M	----	.510	----	12.95	Dia
N	----	.080	----	2.03	
P	.140	.175	3.55	4.45	Dia

## D0203AB (D05)

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
SBR8210	10V	10V
SBR8215	15V	15V

- Schottky Barrier Rectifier
- Low forward voltage
- Guard Ring Protected
- 150°C Junction Temperature
- VRRM -10 to 15 Volts

Electrical Characteristics		
Average forward current per leg	I <sub>F(AV)</sub> 80 Amps	T <sub>C</sub> = 100°C, Square wave, R <sub>θJC</sub> = 1.0°C/W
Maximum surge current per leg	I <sub>FSM</sub> 1200 Amps	8.3ms, half sine, T <sub>J</sub> = 150°C
Max repetitive peak reverse current	I <sub>R(OV)</sub> 2 Amp	f = 1 KHz, 25°C, 1 μsec Square wave
Max peak forward voltage	V <sub>FM</sub> .50 Volts	I <sub>FM</sub> = 80A: 25°C*
Max peak forward voltage	V <sub>FM</sub> .38 Volts	I <sub>FM</sub> = 80A: 150°C*
Max peak reverse current	I <sub>RM</sub> 1.5 A	VRRM, T <sub>J</sub> = 125°C*
Max peak reverse current	I <sub>RM</sub> 5.0 mA	VRRM, T <sub>J</sub> = 25°C
Typical reverse current	I <sub>RM</sub> 650 μA	VRRM, T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 4600 pF	VR = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	T <sub>STG</sub>	-65°C to 150°C
Operating junction temp range	T <sub>J</sub>	-65°C to 150°C
Max thermal resistance		1.0°C/W
Typical thermal resistance		0.9°C/W
Max mounting torque		30 inch pounds maximum
Typical Weight		.54 ounces (15.3 grams) typical

# SBR 82



Figure 1  
Typical Forward Characteristics

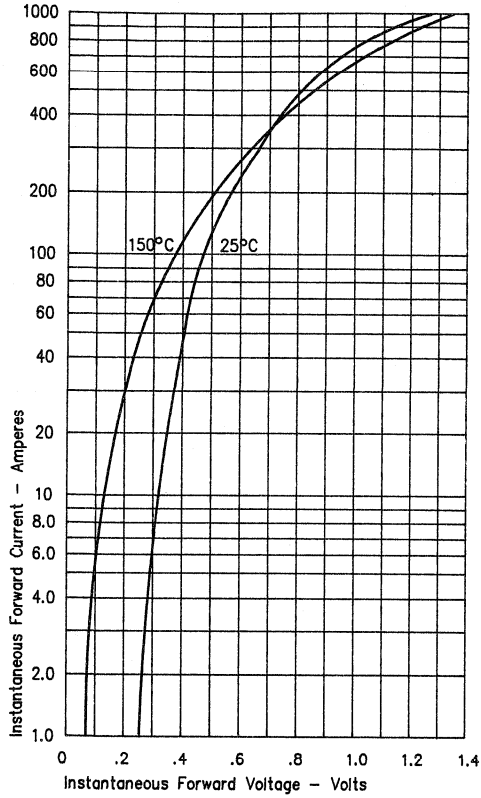


Figure 3  
Typical Junction Capacitance

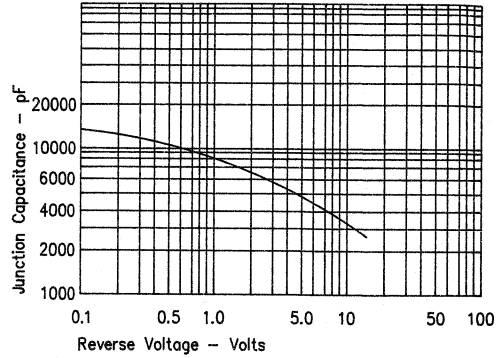


Figure 4  
Forward Current Derating

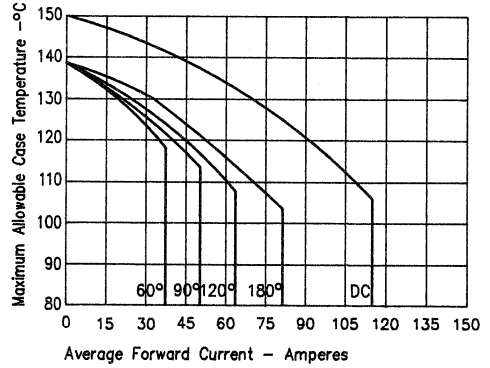


Figure 2  
Typical Reverse Characteristics

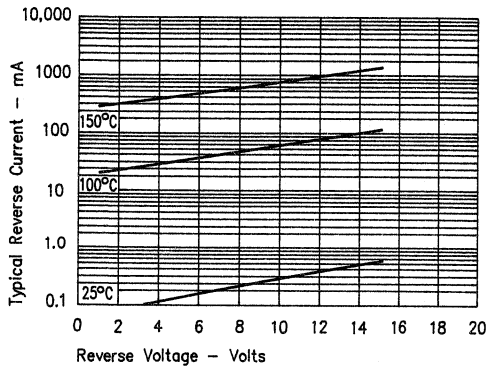
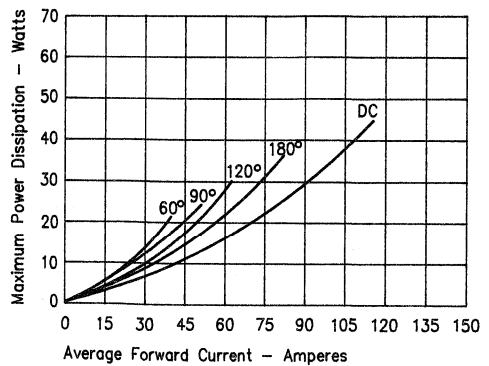
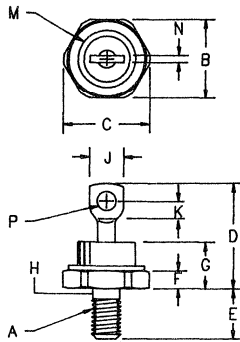


Figure 5  
Maximum Forward Power Dissipation



# 60 Amp Schottky Rectifier SD 51



- Notes:
1. Full threads within 2 1/2 threads
  2. Standard Polarity: Stud is Cathode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1/4-28
B	.669	.687	17.19	17.44	
C	---	.794	---	20.16	
D	---	1.000	---	25.40	
E	.422	.453	10.72	11.50	
F	.115	.200	2.93	5.08	
G	---	.450	---	11.43	
H	.220	.249	5.58	6.32	1
J	---	.375	---	9.52	
K	.156	---	3.96	---	
M	---	.515	---	13.08	Dia.
N	---	.080	---	2.03	
P	.140	.175	3.56	4.45	Dia.

## D0203AB (D05)

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
SD51	35V	35V
SD5145	45V	45V

- Schottky Barrier Rectifier
- 150°C Junction Temperature
- Guard Ring Protection
- VRRM - 35 to 45 Volts
- Reverse Energy Tested

### Electrical Characteristics

Average forward current	I <sub>F(AV)</sub> 60 Amps	T <sub>C</sub> = 135°C, Square wave, R <sub>θJC</sub> = 1.0°C/W
Maximum surge current	I <sub>FSM</sub> 800 Amps	8.3 ms, half sine T <sub>J</sub> = 175°C
Max repetitive peak reverse current	I <sub>R(OV)</sub> 2 Amps	f = 1 KHz, 25°C, 1 μsec Square wave
Max peak forward voltage	V <sub>FM</sub> .70 Volts	I <sub>FM</sub> = 60A: T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> .60 Volts	I <sub>FM</sub> = 60A: T <sub>J</sub> = 125°C*
Max peak reverse current	I <sub>RM</sub> 30 mA	V <sub>RRM</sub> , T <sub>J</sub> = 125°C*
Max peak reverse current	I <sub>RM</sub> 2 mA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 2300 pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-55°C to 175°C
Operating junction temp range	T <sub>J</sub>	-55°C to 175°C
Max thermal resistance	R <sub>θJC</sub>	1.0°C/W Junction to case
Typical thermal resistance	R <sub>θJC</sub>	0.9°C/W Junction to case
Max mounting torque		30.0 inch pounds maximum
Weight		0.54 ounce (15.3 grams) typical

**Microsemi Corp.**  
**Colorado**

# SD 51



Figure 1  
Typical Forward Characteristics

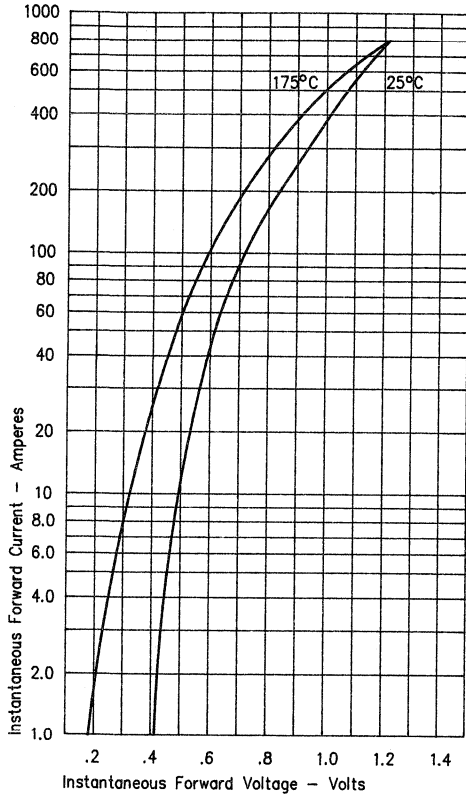


Figure 3  
Typical Junction Capacitance

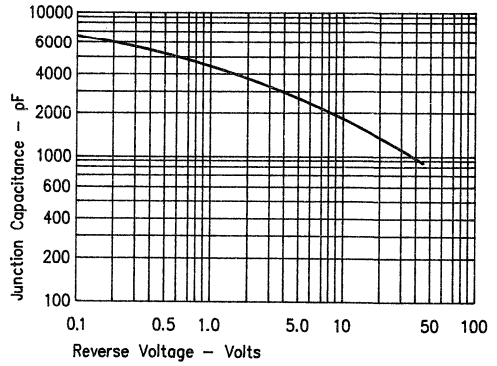


Figure 4  
Forward Current Derating

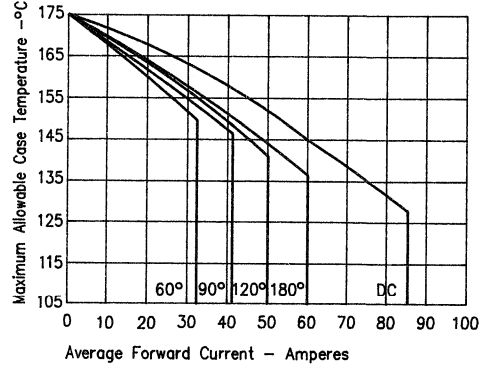


Figure 2  
Typical Reverse Characteristics

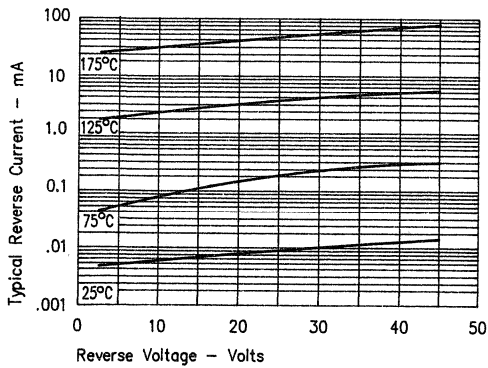
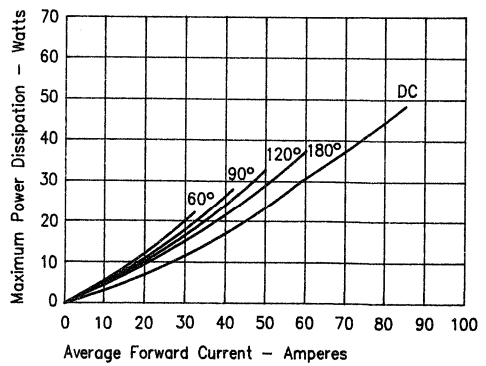
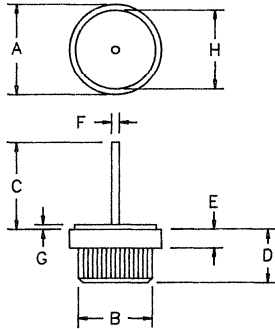


Figure 5  
Maximum Forward Power Dissipation



# 50 Amp Schottky Rectifier

## SBR5035 — SBR5050



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.590	.630	15.0	16.0	Dia.
B	.499	.510	12.6	13.0	Dia.
C	.600	—	15.2	—	
D	.350	.370	8.90	9.40	
E	.090	.130	2.28	3.30	
F	.097	.103	2.46	2.62	Dia.
G	.030	.035	.762	.900	
H	.500	.510	12.7	13.0	Dia.

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
SBR5035	35V	35V
SBR5040	40V	40V
SBR5050	50V	50V

- Schottky Barrier Rectifier
- Guard Ring Protected
- 175°C Junction Temperature
- VRRM - 35 to 50 Volts
- Reverse Energy Tested

### Electrical Characteristics

Average forward current	$I_{F(AV)}$ 50 Amps	$T_C = 140^\circ\text{C}$ , Square wave, $R_{\theta JC} = 1.0^\circ\text{C/W}$
Maximum surge current	$I_{FSM}$ 1200 Amps	8.3 ms, half sine, $T_J = 175^\circ\text{C}$
Max repetitive peak reverse current	$I_{R(OV)}$ 2 Amps	$f = 1 \text{ KHz}$ , $25^\circ\text{C}$ , 1 $\mu\text{sec}$ Square wave
Max peak forward voltage	$V_{FM}$ .68 Volts	$I_{FM} = 50\text{A}$ ; $T_J = 25^\circ\text{C}^*$
Max peak forward voltage	$V_{FM}$ .55 Volts	$I_{FM} = 50\text{A}$ ; $T_J = 175^\circ\text{C}^*$
Max peak reverse current	$I_{RM}$ 30 mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}^*$
Max peak reverse current	$I_{RM}$ 2 mA	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Max peak reverse current	$I_{RM}$ 20 $\mu\text{A}$	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Maximum junction capacitance	$C_J$ 2300 pF	$V_R = 5.0\text{V}$ , $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-55^\circ\text{C}$ to $175^\circ\text{C}$
Operating junction temp range	$T_J$	$-55^\circ\text{C}$ to $175^\circ\text{C}$
Max thermal resistance	$R_{\theta JC}$	1.0 $^\circ\text{C/W}$ Junction to case
Typical thermal resistance	$R_{\theta JC}$	0.9 $^\circ\text{C/W}$ Junction to case
Weight		.3 ounces (9.0 grams) typical



# SBR5035 — SBR5050



Figure 1  
Typical Forward Characteristics

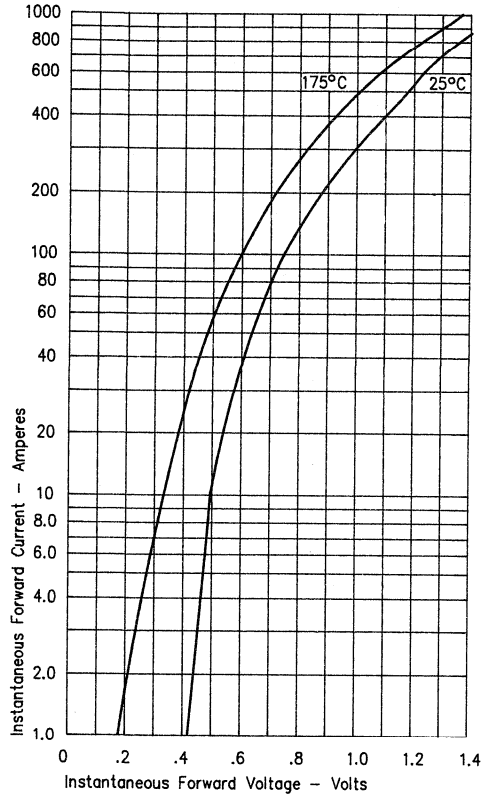


Figure 3  
Typical Junction Capacitance

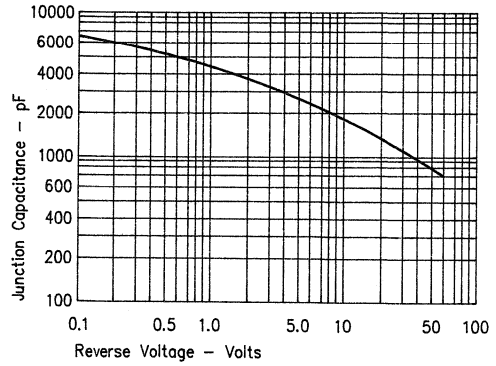


Figure 4  
Forward Current Derating

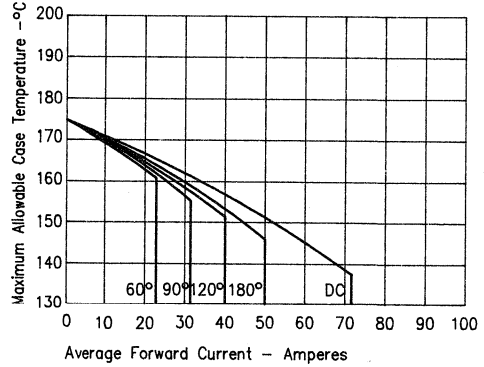


Figure 2  
Typical Reverse Characteristics

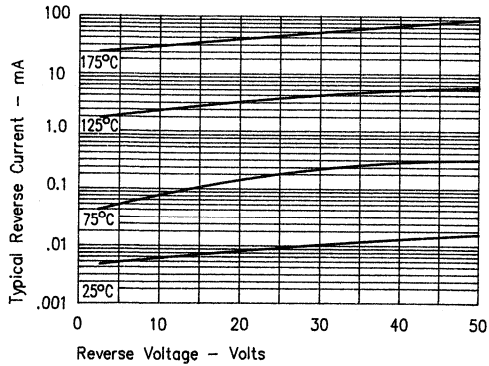
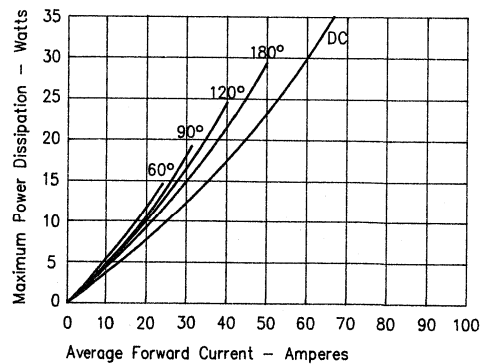
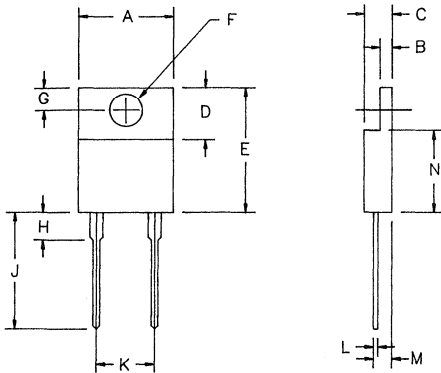


Figure 5  
Maximum Forward Power Dissipation



# 10 Amp Schottky Barrier Rectifiers MS1002 — MS1004



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.390	.415	9.90	10.5	
B	.050	.055	1.27	1.40	
C	.180	.185	4.57	4.70	
D	.248	.260	6.30	6.60	
E	.590	.605	14.98	15.40	
F	.145	.150	3.68	3.81	Dia.
G	.108	.120	2.74	3.05	
H	.163	.170	4.14	4.32	
J	.540	.570	13.72	14.5	
K	.200	.205	5.08	5.21	
L	.021	.025	.533	.635	
M	.125	.140	3.18	3.56	
N	.335	.342	8.50	8.69	

## PLASTIC T0220A

Microsemi Catalog Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage	
MS1002	20V	20V	<ul style="list-style-type: none"> <li>• Schottky barrier rectifier</li> <li>• Guard ring for reverse protection</li> <li>• Low power loss, high efficiency</li> <li>• High surge capacity</li> <li>• <math>V_{RRM}</math> 20 to 40 Volts</li> </ul>
MS1003	30V	30V	
MS1004	40V	40V	

### Electrical Characteristics

Average Forward Current	$I_F(AV)$ 10 Amps	$T_C = 158^\circ C$ , Square wave, $R_{\theta JC} = 2.5^\circ C/W$
Maximum Surge Current	$I_{FSM}$ 500 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Max. Peak Forward Voltage	$V_{FM}$ .48 Volts	$I_{FM} = 10A$ , $T_J = 175^\circ C^*$
Max. Peak Forward Voltage	$V_{FM}$ .65 Volts	$I_{FM} = 10A$ , $T_J = 25^\circ C^*$
Max. Peak Reverse Current	$I_{RM}$ 10 mA	$V_{RRM}$ , $T_J = 125^\circ C^*$
Max. Peak Reverse Current	$I_{RM}$ 250 $\mu A$	$V_{RRM}$ , $T_J = 25^\circ C$
Typical Junction Capacitance	$C_J$ 660 pF	$V_R = 5.0V$ , $T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu sec$ . Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	TSTG	$-40^\circ C$ to $+175^\circ C$
Operating junction temp range	$T_J$	$-40^\circ C$ to $+175^\circ C$
Max thermal resistance	$R_{\theta JC}$	$2.5^\circ C/W$
Typical thermal resistance	$R_{\theta JC}$	$1.9^\circ C/W$
Mounting torque		14 inch pounds maximum (6-32 screw)
Typical Weight		.08 ounces (2.3 grams) typical

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# MS1002 — MS1004



Figure 1  
Typical Forward Characteristics

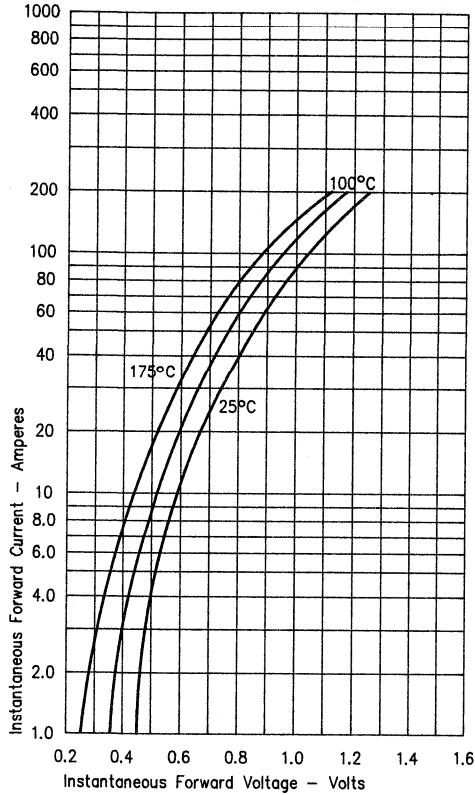


Figure 3  
Typical Junction Capacitance

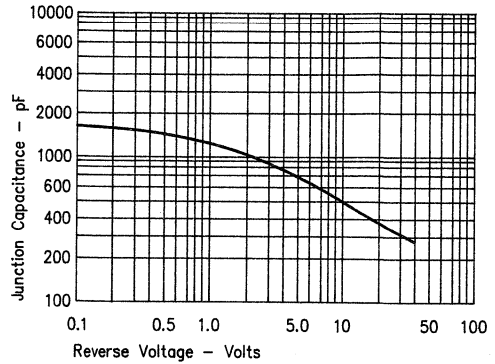


Figure 4  
Forward Current Derating

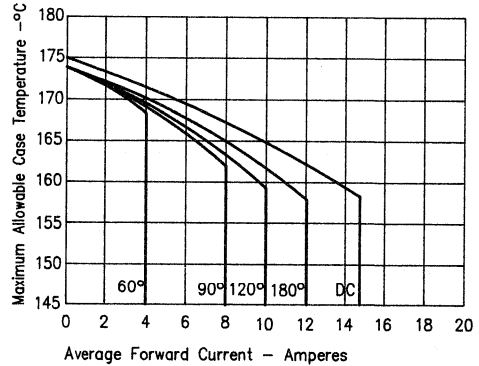


Figure 2  
Typical Reverse Characteristics

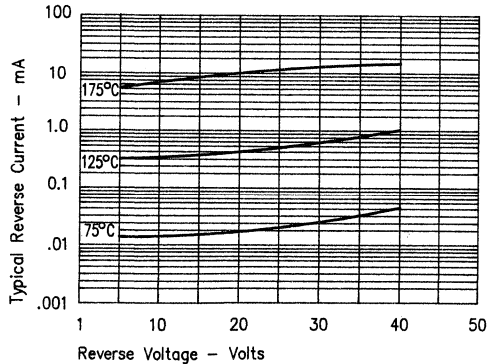
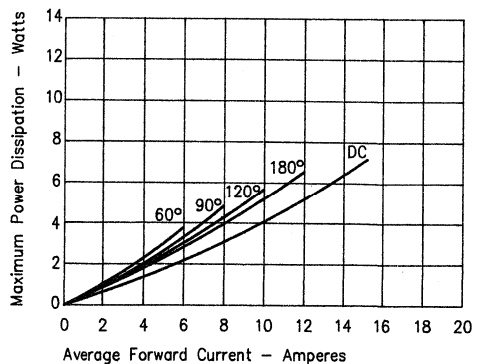
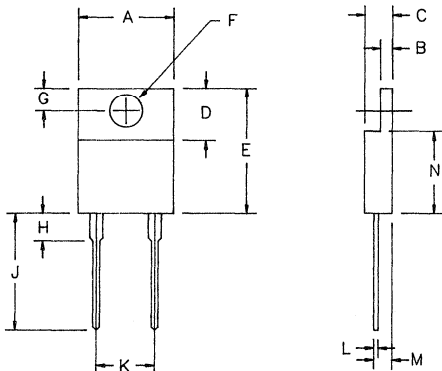


Figure 5  
Maximum Forward Power Dissipation



# 10 Amp Schottky Barrier Rectifiers MS1005, MS1006



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.390	.415	9.90	10.5	
B	.050	.055	1.27	1.40	
C	.180	.185	4.57	4.70	
D	.248	.260	6.30	6.60	
E	.590	.605	14.98	15.40	
F	.145	.150	3.68	3.81	Dia.
G	.108	.120	2.74	3.05	
H	.163	.170	4.14	4.32	
J	.540	.570	13.72	14.5	
K	.200	.205	5.08	5.21	
L	.021	.025	.533	.635	
M	.125	.140	3.18	3.56	
N	.335	.342	8.50	8.69	

## PLASTIC TO220A

Microsemi Catalog Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage	Features
MS1005 MS1006	50V 60V	50V 60V	<ul style="list-style-type: none"> <li>• Schottky barrier rectifier</li> <li>• Guard ring for reverse protection</li> <li>• Low power loss, high efficiency</li> <li>• High surge capacity</li> <li>• <math>V_{RRM}</math> 50 to 60 Volts</li> </ul>

### Electrical Characteristics

Average Forward Current  
 Maximum Surge Current  
 Max. Peak Forward Voltage  
 Max. Peak Forward Voltage  
 Max. Peak Reverse Current  
 Max. Peak Reverse Current  
 Typical Junction Capacitance

$I_F(AV)$  10 Amps  
 $I_{FSM}$  500 Amps  
 $V_{FM}$  .53 Volts  
 $V_{FM}$  .67 Volts  
 $I_{RM}$  10 mA  
 $I_{RM}$  250  $\mu$ A  
 $C_J$  570 pF

$T_C = 158^\circ\text{C}$ , Square wave,  $R_{\theta JC} = 2.5^\circ\text{C/W}$   
 8.3ms, half sine,  $T_J = 175^\circ\text{C}$   
 $I_{FM} = 10\text{A}$ ,  $T_J = 175^\circ\text{C}$  \*  
 $I_{FM} = 10\text{A}$ ,  $T_J = 25^\circ\text{C}$  \*  
 $V_{RRM}$ ,  $T_J = 125^\circ\text{C}$  \*  
 $V_{RRM}$ ,  $T_J = 25^\circ\text{C}$   
 $V_R = 5.0\text{V}$ ,  $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300  $\mu$ sec. Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range  
 Operating junction temp range  
 Max thermal resistance  
 Typical thermal resistance  
 Mounting torque  
 Typical Weight

$T_{STG}$   
 $T_J$   
 $R_{\theta JC}$   
 $R_{\theta JC}$

$-40^\circ\text{C}$  to  $+175^\circ\text{C}$   
 $-40^\circ\text{C}$  to  $+175^\circ\text{C}$   
 $2.5^\circ\text{C/W}$   
 $2.0^\circ\text{C/W}$   
 14 inch pounds maximum (6-32 screw)  
 .08 ounces (2.3 grams) typical

# MS1005, MS1006



Figure 1  
Typical Forward Characteristics

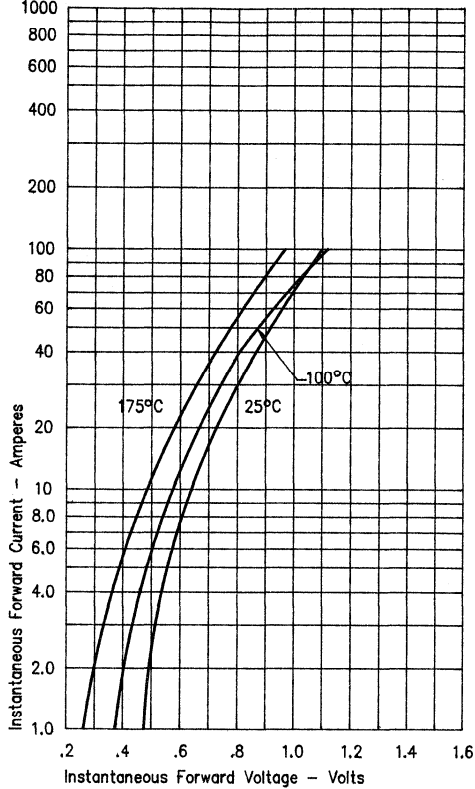


Figure 3  
Typical Junction Capacitance

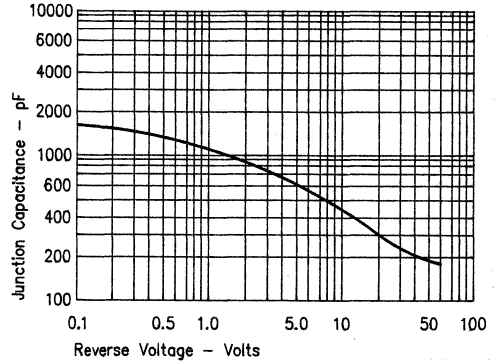


Figure 4  
Forward Current Derating

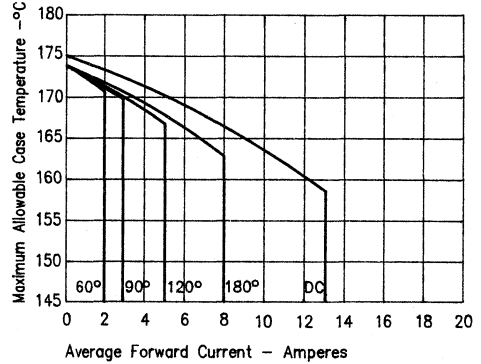


Figure 2  
Typical Reverse Characteristics

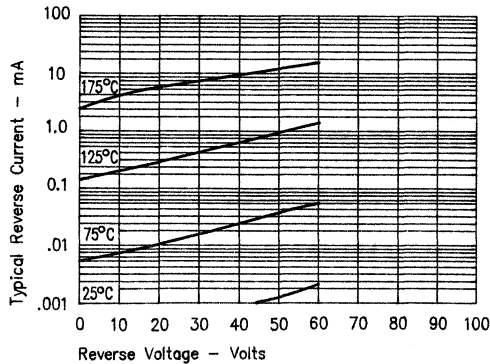
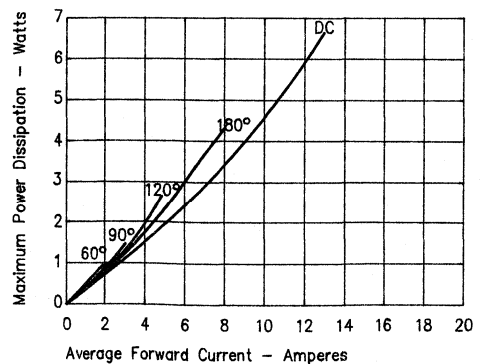
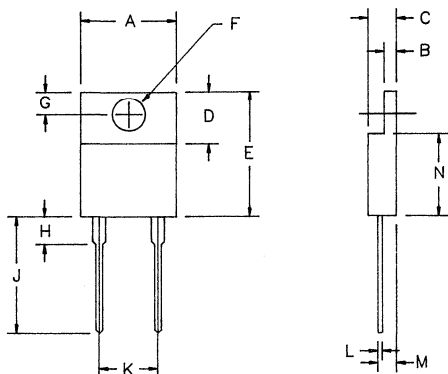


Figure 5  
Maximum Forward Power Dissipation



# 10 Amp Schottky Barrier Rectifiers MS1008, MS1009



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.390	.415	9.90	10.5	
B	.050	.055	1.27	1.40	
C	.180	.185	4.57	4.70	
D	.248	.260	6.30	6.60	
E	.590	.605	14.98	15.40	
F	.145	.150	3.68	3.81	Dia.
G	.108	.120	2.74	3.05	
H	.163	.170	4.14	4.32	
J	.540	.570	13.72	14.5	
K	.200	.205	5.08	5.21	
L	.021	.025	.533	.635	
M	.125	.140	3.18	3.56	
N	.335	.342	8.50	8.69	

## PLASTIC T0220A

Microsemi Catalog Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
MS1008	80V	80V
MS1009	90V	90V

- Schottky barrier rectifier
- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- $V_{RRM}$  80 to 90 Volts

### Electrical Characteristics

Average Forward Current	$I_F(AV)$ 10 Amps	$T_C = 158^\circ C$ , Square wave, $R_{\theta JC} = 2.0^\circ C/W$
Maximum Surge Current	$I_{FSM}$ 500 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Max. Peak Forward Voltage	$V_{FM}$ .62 Volts	$I_{FM} = 10A$ , $T_J = 175^\circ C$ *
Max. Peak Forward Voltage	$V_{FM}$ .80 Volts	$I_{FM} = 10A$ , $T_J = 25^\circ C$ *
Max. Peak Reverse Current	$I_{RM}$ 10 mA	$V_{RRM}$ , $T_J = 125^\circ C$ *
Max. Peak Reverse Current	$I_{RM}$ 250 $\mu A$	$V_{RRM}$ , $T_J = 25^\circ C$
Typical Junction Capacitance	$C_J$ 440 pF	$VR = 5.0V$ , $T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu sec$ . Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	TSTG	-40°C to + 175°C
Operating junction temp range	$T_J$	-40°C to + 175°C
Max thermal resistance	$R_{\theta JC}$	2.0°C/W
Typical thermal resistance	$R_{\theta JC}$	1.9°C/W
Mounting torque		14 inch pounds maximum (6-32 screw)
Typical Weight		.08 ounces (2.3 grams) typical

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# MS1008, MS1009



Figure 1  
Typical Forward Characteristics

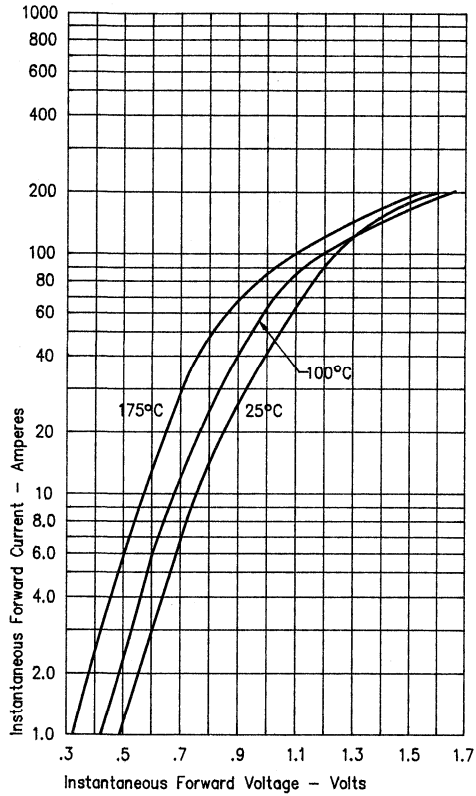


Figure 3  
Typical Junction Capacitance

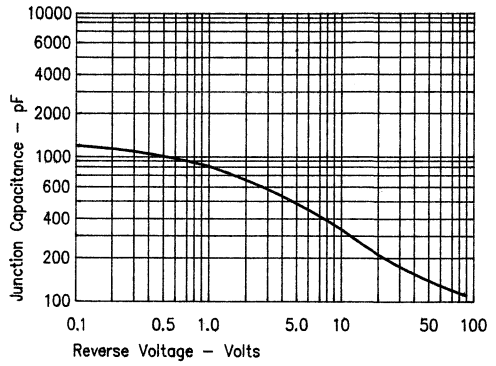


Figure 4  
Forward Current Derating

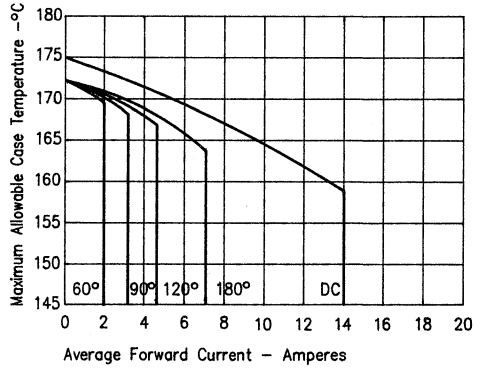


Figure 2  
Typical Reverse Characteristics

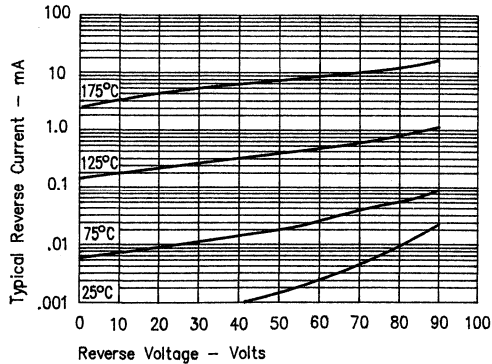
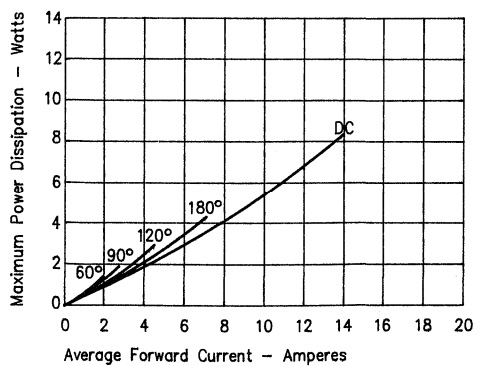
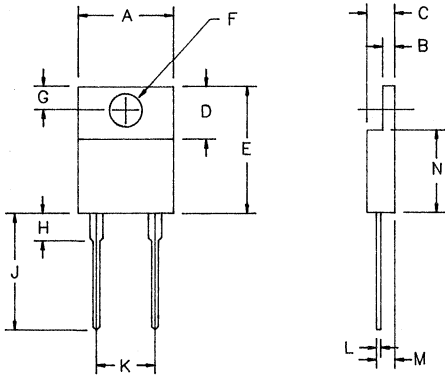


Figure 5  
Maximum Forward Power Dissipation



# 10 Amp Schottky Rectifier MS1045



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.390	.415	9.90	10.5	
B	.050	.055	1.27	1.40	
C	.180	.185	4.57	4.70	
D	.248	.260	6.30	6.60	
E	.590	.605	14.98	15.40	
F	.145	.150	3.68	3.81	Dia.
G	.108	.120	2.74	3.05	
H	.163	.170	4.14	4.32	
J	.540	.570	13.72	14.5	
K	.200	.205	5.08	5.21	
L	.021	.025	.533	.635	
M	.125	.140	3.18	3.56	
N	.335	.342	8.50	8.69	

## PLASTIC T0220A

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
MS1045	45V	45V

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- 150°C Junction Temperature
- High Current Capability
- Reverse Energy Tested

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 10 Amps	T <sub>C</sub> = 106°C Square wave, R <sub>θJC</sub> = 2.5°C/W
Maximum surge current	I <sub>F(AV)</sub> 400 Amps	8.3 ms, half sine, T <sub>J</sub> = 150°C
Max peak forward voltage	V <sub>FM</sub> .47 Volts	I <sub>FM</sub> = 10A; T <sub>J</sub> = 150°C*
Max peak forward voltage	V <sub>FM</sub> .56 Volts	I <sub>FM</sub> = 10A; T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> 2 mA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 575 pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C
* Pulse test: Pulse width 300 μsec, Duty cycle 2%		

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 150°C
Operating junction temp range	T <sub>J</sub>	-40°C to 150°C
Maximum thermal resistance	R <sub>θJC</sub>	2.5°C/W Junction to Case
Typical thermal resistance	R <sub>θJC</sub>	2.0°C/W Junction to Case
Weight		.08 ounces (2.3 grams) typical



# MS1045

C

Figure 1  
Typical Forward Characteristic

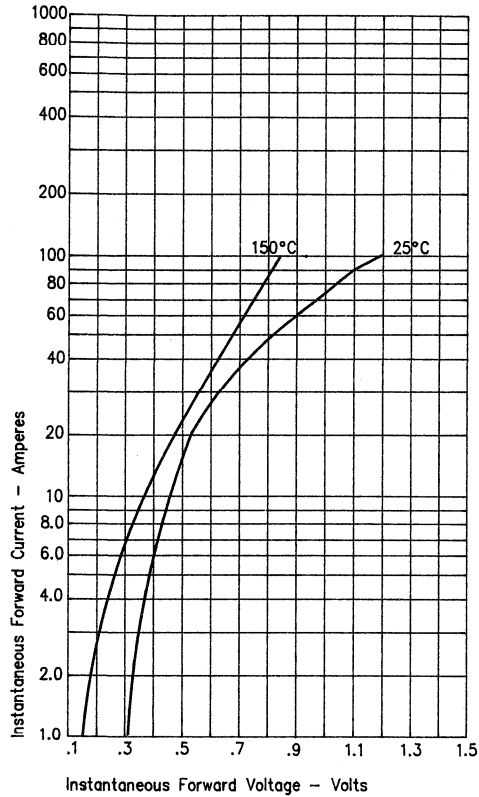


Figure 3  
Typical Junction Capacitance

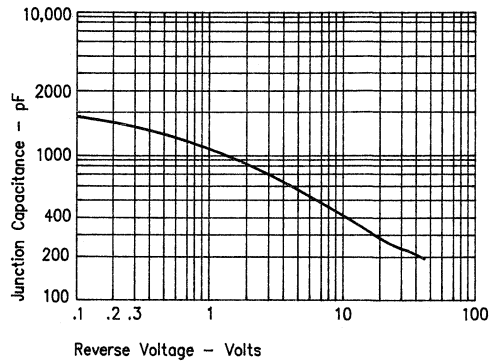


Figure 4  
Forward Current Derating

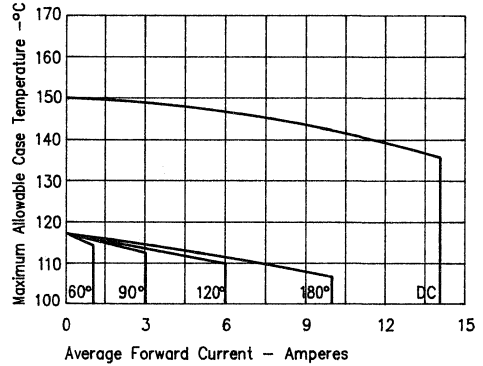


Figure 2  
Typical Reverse Characteristics

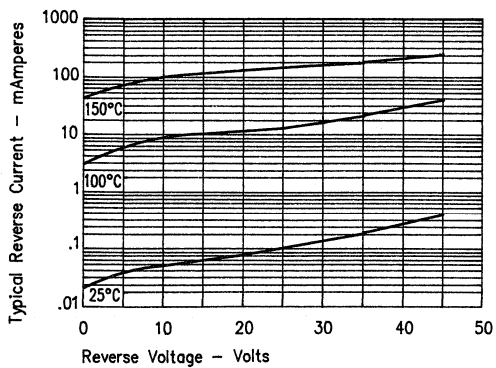
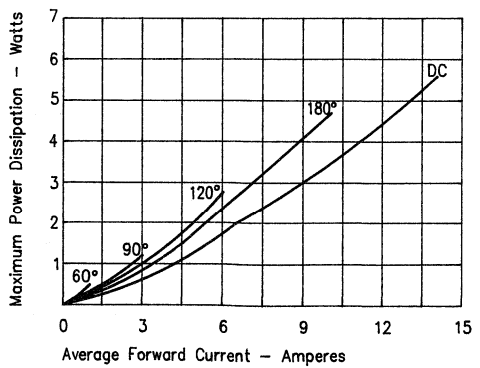
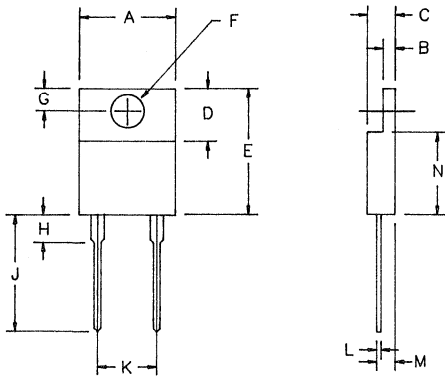


Figure 5  
Maximum Forward Power Dissipation



# 10 Amp Schottky Barrier Rectifiers MS1060



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.390	.415	9.90	10.5	
B	.050	.055	1.27	1.40	
C	.180	.185	4.57	4.70	
D	.248	.260	6.30	6.60	
E	.590	.605	14.98	15.40	
F	.145	.150	3.68	3.81	Dia.
G	.108	.120	2.74	3.05	
H	.163	.170	4.14	4.32	
J	.540	.570	13.72	14.5	
K	.200	.205	5.08	5.21	
L	.021	.025	.533	.635	
M	.125	.140	3.18	3.56	
N	.335	.342	8.50	8.69	

## PLASTIC TO220A

Microsemi Catalog Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage	<ul style="list-style-type: none"> <li>• Schottky barrier rectifier</li> <li>• Guard ring for reverse protection</li> <li>• Low power loss, high efficiency</li> <li>• High surge capacity</li> <li>• <math>V_{RRM}</math> 60 Volts</li> </ul>
MS1060	60V	60V	

### Electrical Characteristics

Average Forward Current	$I_F(AV)$ 10 Amps	$T_C = 158^\circ C$ , Square wave, $R_{\theta JC} = 2.5^\circ C/W$
Maximum Surge Current	$I_{FSM}$ 500 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Max. Peak Forward Voltage	$V_{FM}$ .53 Volts	$I_{FM} = 10A$ , $T_J = 175^\circ C$ *
Max. Peak Forward Voltage	$V_{FM}$ .67 Volts	$I_{FM} = 10A$ , $T_J = 25^\circ C$ *
Max. Peak Reverse Current	$I_{RM}$ 10 mA	$V_{RRM}$ , $T_J = 125^\circ C$ *
Max. Peak Reverse Current	$I_{RM}$ 250 $\mu A$	$V_{RRM}$ , $T_J = 25^\circ C$
Typical Junction Capacitance	$C_J$ 570 pF	$V_R = 5.0V$ , $T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu sec$ . Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-40^\circ C$ to $+175^\circ C$
Operating junction temp range	$T_J$	$-40^\circ C$ to $+175^\circ C$
Max thermal resistance	$R_{\theta JC}$	$2.5^\circ C/W$
Typical thermal resistance	$R_{\theta JC}$	$2.0^\circ C/W$
Mounting torque		14 inch pounds maximum (6-32 screw)
Typical Weight		.08 ounces (2.3 grams) typical

# MS1060



Figure 1  
Typical Forward Characteristics

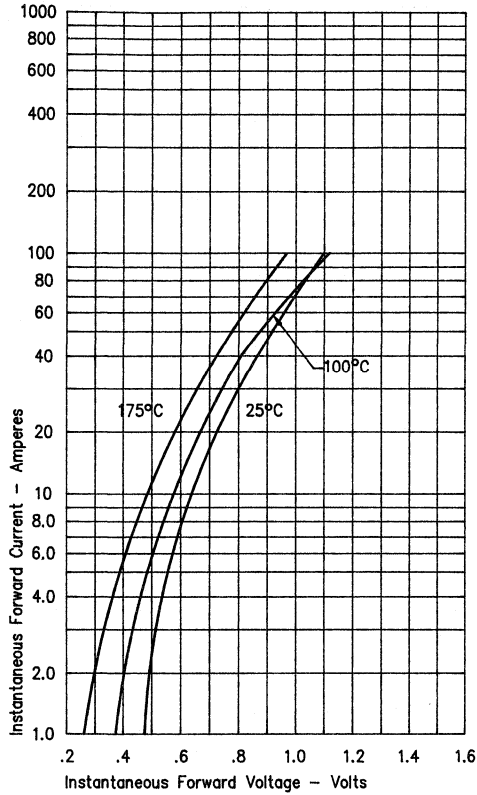


Figure 3  
Typical Junction Capacitance

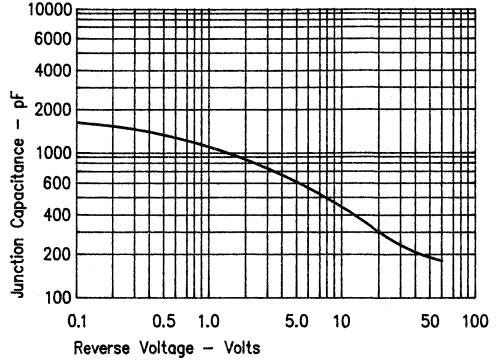


Figure 4  
Forward Current Derating

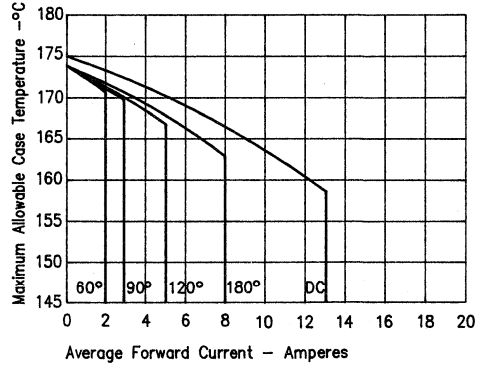


Figure 2  
Typical Reverse Characteristics

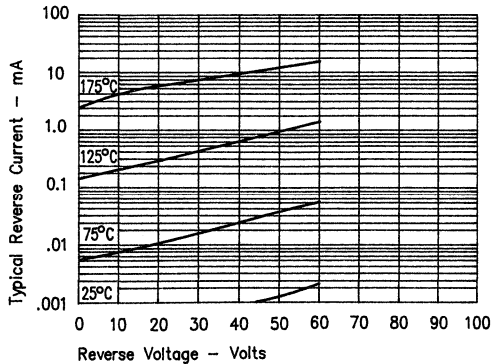
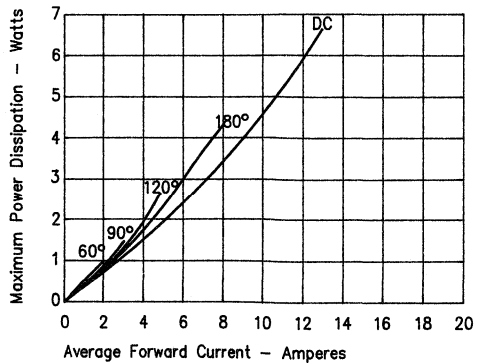
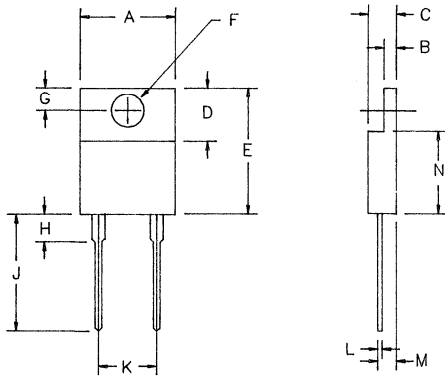


Figure 5  
Maximum Forward Power Dissipation



# 16 Amp Schottky Barrier Rectifiers MS1625 – MS1645



PLASTIC TO220A

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.390	.415	9.90	10.5	
B	.050	.055	1.27	1.40	
C	.180	.185	4.57	4.70	
D	.248	.260	6.30	6.60	
E	.590	.605	14.98	15.40	
F	.145	.150	3.68	3.81	Dia.
G	.108	.120	2.74	3.05	
H	.163	.170	4.14	4.32	
J	.540	.570	13.72	14.5	
K	.200	.205	5.08	5.21	
L	.021	.025	.533	.635	
M	.125	.140	3.18	3.56	
N	.335	.342	8.50	8.69	

Microsemi Catalog Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
MS1625	25V	25V
MS1635	35V	35V
MS1645	45V	45V

- Schottky barrier rectifier
- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- $V_{RRM}$  25 to 45 Volts

## Electrical Characteristics

Average Forward Current	$I_F(AV)$ 16 Amps	$T_C = 153^\circ C$ , Square wave, $R_{\theta JC} = 2.0^\circ C/W$
Maximum Surge Current	$I_{FSM}$ 600 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Max. Peak Forward Voltage	$V_{FM}$ .56 Volts	$I_{FM} = 16A$ , $T_J = 150^\circ C^*$
Max. Peak Forward Voltage	$V_{FM}$ .67 Volts	$I_{FM} = 16A$ , $T_J = 25^\circ C^*$
Max. Peak Reverse Current	$I_{RM}$ 10 mA	$V_{RRM}$ , $T_J = 125^\circ C^*$
Max. Peak Reverse Current	$I_{RM}$ 250 $\mu A$	$V_{RRM}$ , $T_J = 25^\circ C$
Typical Junction Capacitance	$C_J$ 850 pF	$V_R = 5.0V$ , $T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu sec$  Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-40^\circ C$ to $175^\circ C$
Operating junction temp range	$T_J$	$-40^\circ C$ to $175^\circ C$
Max thermal resistance	$R_{\theta JC}$	$2.0^\circ C/W$
Mounting torque		15 inch pounds maximum (6-32 screw)
Typical Weight		.08 ounces (2.3 grams) typical

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# MS1625 — MS1645



Figure 1  
Typical Forward Characteristics

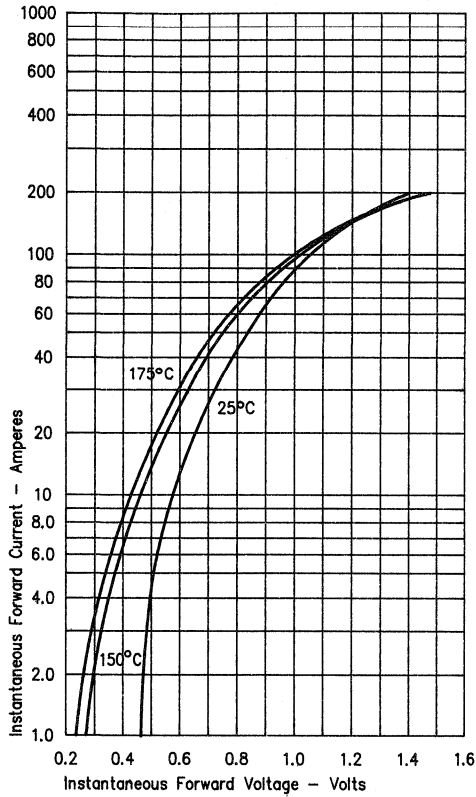


Figure 3  
Typical Junction Capacitance

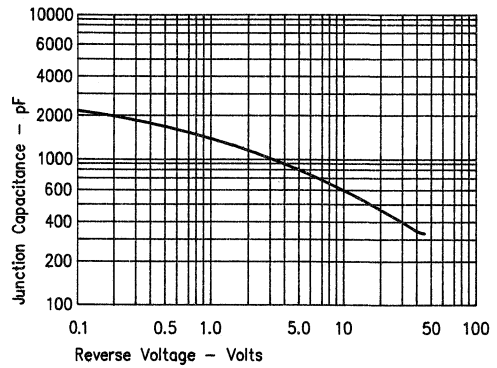


Figure 4  
Forward Current Derating

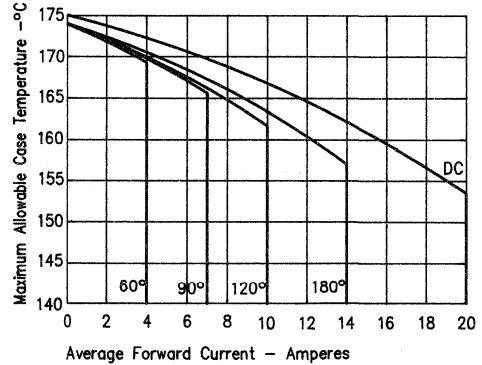


Figure 2  
Typical Reverse Characteristics

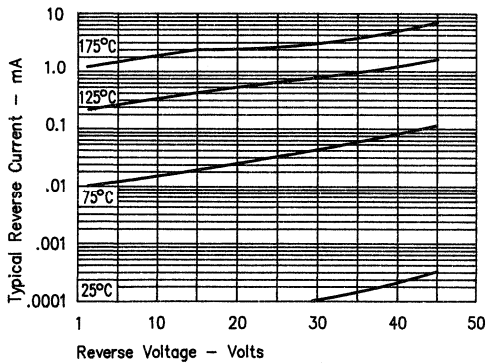
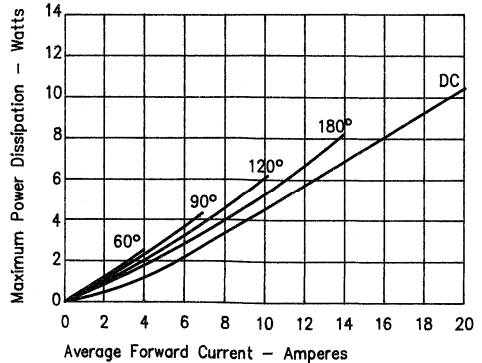
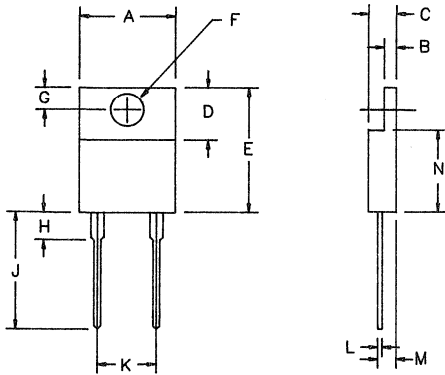


Figure 5  
Maximum Forward Power Dissipation



# 16 Amp Schottky Barrier Rectifiers MS1680, MS1690



PLASTIC TO220A

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.390	.415	9.90	10.5	
B	.050	.055	1.27	1.40	
C	.180	.185	4.57	4.70	
D	.248	.260	6.30	6.60	
E	.590	.605	14.98	15.40	
F	.145	.150	3.68	3.81	Dia.
G	.108	.120	2.74	3.05	
H	.163	.170	4.14	4.32	
J	.540	.570	13.72	14.5	
K	.200	.205	5.08	5.21	
L	.021	.025	.533	.635	
M	.125	.140	3.18	3.56	
N	.335	.342	8.50	8.69	

Microsemi Catalog Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
MS1680	80V	80V
MS1690	90V	90V

- Schottky barrier rectifier
- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- $V_{RRM}$  80 to 90 Volts

Electrical Characteristics		
Average Forward Current	$I_F(AV)$ 16 Amps	$T_C = 147^\circ C$ , Square wave, $R_{\theta JC} = 2.0^\circ C/W$
Maximum Surge Current	$I_{FSM}$ 600 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Max. Peak Forward Voltage	$V_{FM}$ .62 Volts	$I_{FM} = 16A$ , $T_J = 175^\circ C^*$
Max. Peak Forward Voltage	$V_{FM}$ .85 Volts	$I_{FM} = 16A$ , $T_J = 25^\circ C^*$
Max. Peak Reverse Current	$I_{RM}$ 15 mA	$V_{RRM}$ , $T_J = 125^\circ C^*$
Max. Peak Reverse Current	$I_{RM}$ 500 $\mu A$	$V_{RRM}$ , $T_J = 25^\circ C$
Typical Junction Capacitance	$C_J$ 570 pF	$V_R = 5.0V$ , $T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu$ sec Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	$T_{STG}$	$-40^\circ C$ to $175^\circ C$
Operating junction temp range	$T_J$	$-40^\circ C$ to $175^\circ C$
Max thermal resistance	$R_{\theta JC}$	$2.0^\circ C/W$
Typical thermal resistance	$R_{\theta JC}$	$1.6^\circ C/W$
Mounting torque		15 inch pounds maximum (6-32 screw)
Typical Weight		.08 ounces (2.3 grams) typical



# MS1680, MS1690



Figure 1  
Typical Forward Characteristics

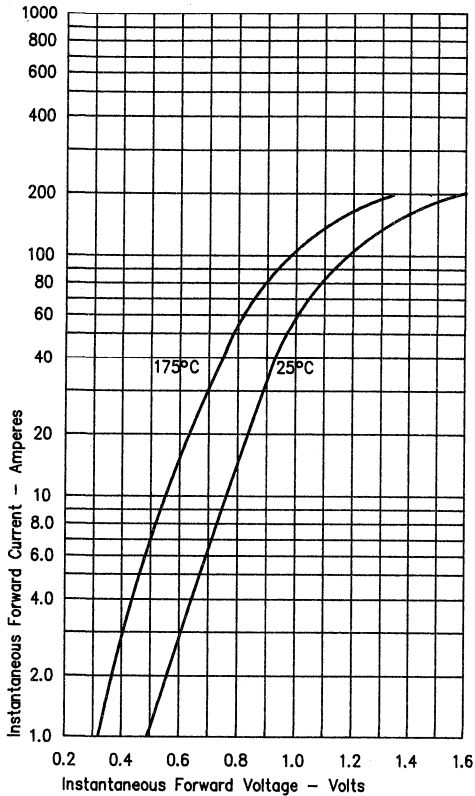


Figure 3  
Typical Junction Capacitance

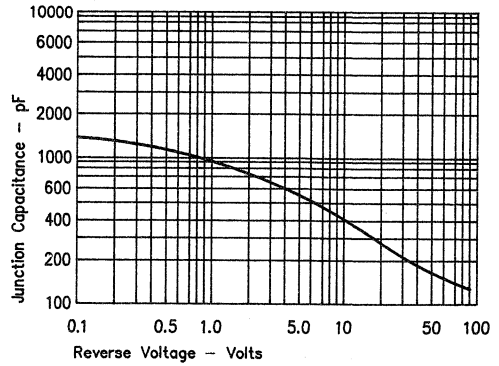


Figure 4  
Forward Current Derating

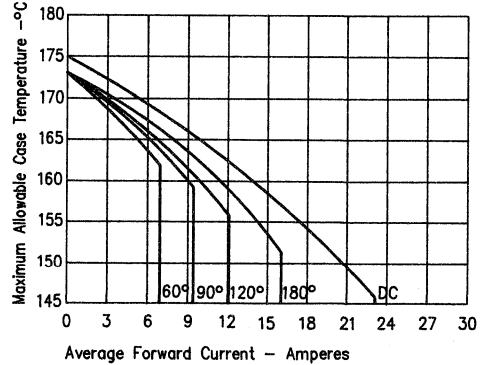


Figure 2  
Typical Reverse Characteristics

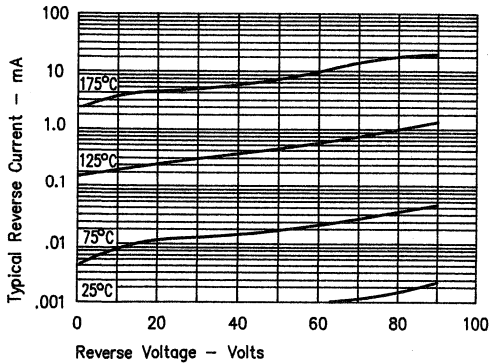
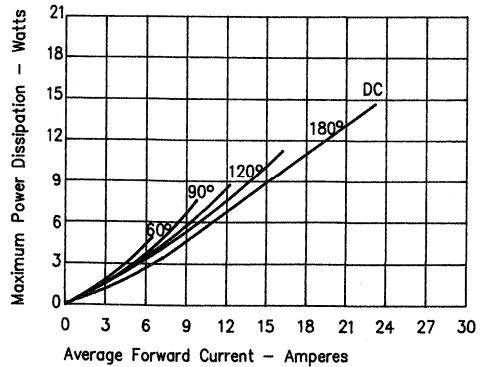
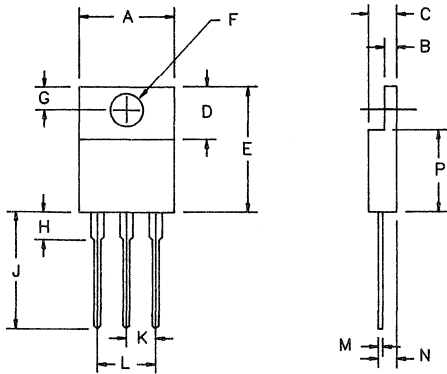


Figure 5  
Maximum Forward Power Dissipation



# 10 Amp Schottky Barrier Rectifiers

## FST1045



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.390	.415	9.90	10.5	
B	.050	.055	1.27	1.40	
C	.180	.185	4.57	4.70	
D	.248	.260	6.30	6.60	
E	.590	.605	14.98	15.40	
F	.145	.150	3.68	3.81	Dia.
G	.108	.120	2.74	3.05	
H	.163	.170	4.14	4.32	
J	.540	.570	13.72	14.5	
K	.087	.091	2.20	2.31	
L	.200	.205	5.08	5.21	
M	.021	.025	.533	.635	
N	.125	.140	3.18	3.56	
P	.335	.342	8.50	8.69	

### PLASTIC TO220

Microsemi Catalog Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
FST1045	45V	45V

- Schottky barrier rectifier
- Guard ring for reverse protection
- Low power loss, high efficiency
- Reverse energy tested
- $V_{RRM}$  45 Volts maximum

### Electrical Characteristics

Average Forward Current per pkg.	$I_{F(AV)}$ 10 Amps	$T_C = 110^\circ\text{C}$ , Square wave, $R_{\theta JC} = 2.8^\circ\text{C/W}$
Average Forward Current per leg	$I_{F(AV)}$ 5 Amps	$T_C = 110^\circ\text{C}$ , Square wave, $R_{\theta JC} = 5.6^\circ\text{C/W}$
Maximum Surge Current per leg	$I_{FSM}$ 300 Amps	8.3ms, half sine, $T_J = 150^\circ\text{C}$
Max. Peak Forward Voltage per leg	$V_{FM}$ .42 Volts	$I_{FM} = 5A, T_J = 150^\circ\text{C}^*$
Max. Peak Forward Voltage per leg	$V_{FM}$ .52 Volts	$I_{FM} = 5A, T_J = 25^\circ\text{C}^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 500 mA	$V_{RRM}, T_J = 125^\circ\text{C}^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 2 mA	$V_{RRM}, T_J = 25^\circ\text{C}$
Typical Junction Capacitance	$C_J$ 380 pF	$V_R = 5.0V, T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300  $\mu\text{sec}$  Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-40^\circ\text{C}$ to $150^\circ\text{C}$
Operating junction temp range	$T_J$	$-40^\circ\text{C}$ to $150^\circ\text{C}$
Max thermal resistance per leg	$R_{\theta JC}$	$5.6^\circ\text{C/W}$ Junction to case
Max thermal resistance per pkg.	$R_{\theta JC}$	$2.8^\circ\text{C/W}$ Junction to case
Typical thermal resistance per leg	$R_{\theta JC}$	$4.67^\circ\text{C/W}$ Junction to case
Mounting torque		15 inch pounds maximum (6-32 screw)
Typical Weight		.08 ounces (2.3 grams) typical

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# FST1045



Figure 1  
Typical Forward Characteristics - Per Leg

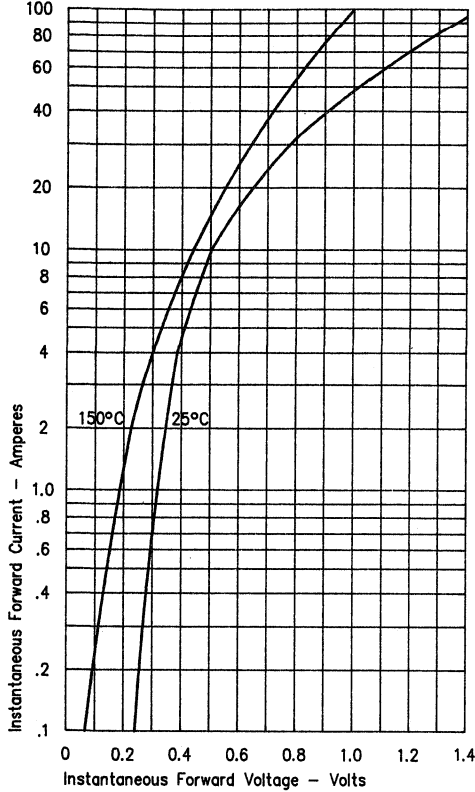


Figure 3  
Typical Junction Capacitance - Per Leg

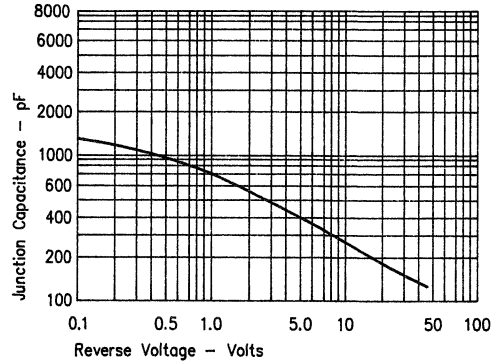


Figure 4  
Forward Current Derating - Per Leg

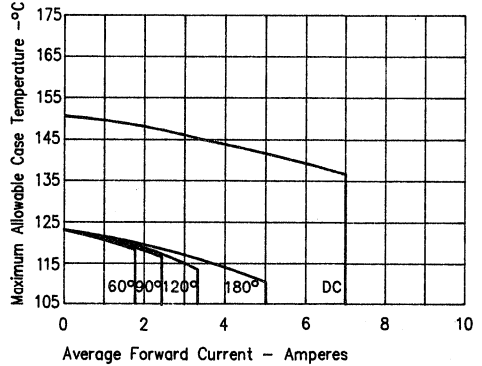


Figure 2  
Typical Reverse Characteristics - Per Leg

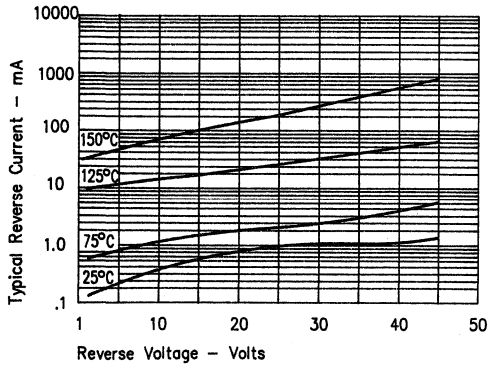
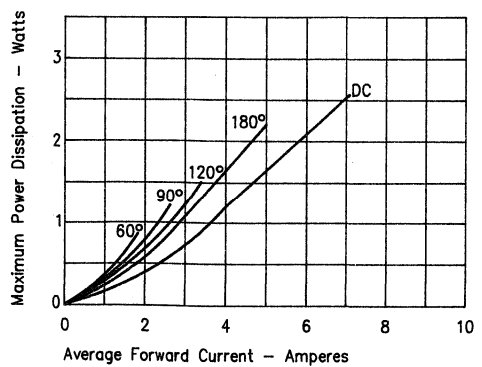
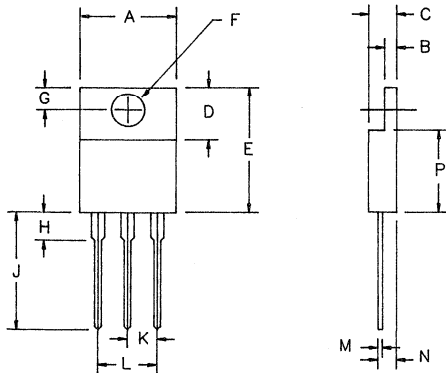


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# 10 Amp Schottky Barrier Rectifiers

## FST1080 — FST1090



PLASTIC T0220

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.390	.415	9.90	10.5	Dia.
B	.050	.055	1.27	1.40	
C	.180	.185	4.57	4.70	
D	.248	.260	6.30	6.60	
E	.590	.605	14.98	15.40	
F	.145	.150	3.68	3.81	
G	.108	.120	2.74	3.05	
H	.163	.170	4.14	4.32	
J	.540	.570	13.72	14.5	
K	.087	.091	2.20	2.31	
L	.200	.205	5.08	5.21	
M	.021	.025	.533	.635	
N	.125	.140	3.18	3.56	
P	.335	.342	8.50	8.69	

### Technical Bulletin

Microsemi Catalog  
Number

FST1080  
FST1090

Repetitive Peak  
Reverse Voltage

80V  
90V

Transient Peak  
Reverse Voltage

80V  
90V

- Schottky barrier rectifier
- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- $V_{RRM}$  80 to 90 Volts

### Electrical Characteristics

Average Forward Current per pkg.  
Average Forward Current per leg  
Maximum Surge Current per leg  
Max. Peak Forward Voltage per leg  
Max. Peak Forward Voltage per leg  
Max. Peak Reverse Current per leg  
Max. Peak Reverse Current per leg  
Typical Junction Capacitance

$I_{F(AV)}$  10 Amps  
 $I_{F(AV)}$  5 Amps  
 $I_{FSM}$  300 Amps  
 $V_{FM}$  .60 Volts  
 $V_{FM}$  .80 Volts  
 $I_{RM}$  10 mA  
 $I_{RM}$  250  $\mu$ A  
 $C_j$  280 pF

$T_C = 150^\circ\text{C}$ , Square wave,  $R_{\theta JC} = 2.8^\circ\text{C/W}$   
 $T_C = 150^\circ\text{C}$ , Square wave,  $R_{\theta JC} = 5.6^\circ\text{C/W}$   
8.3ms, half sine,  $T_J = 175^\circ\text{C}$   
 $I_{FM} = 5\text{A}$ ,  $T_J = 175^\circ\text{C}$ \*  
 $I_{FM} = 5\text{A}$ ,  $T_J = 25^\circ\text{C}$ \*  
 $V_{RRM}$ ,  $T_J = 125^\circ\text{C}$ \*  
 $V_{RRM}$ ,  $T_J = 25^\circ\text{C}$   
 $VR = 5.0\text{V}$ ,  $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300  $\mu$ sec Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range  
Operating junction temp range  
Max thermal resistance per leg  
Max thermal resistance per pkg.  
Typical thermal resistance per leg  
Mounting torque  
Typical Weight

$T_{STG}$   
 $T_J$   
 $R_{\theta JC}$   
 $R_{\theta JC}$   
 $R_{\theta JC}$

$-40^\circ\text{C}$  to  $175^\circ\text{C}$   
 $-40^\circ\text{C}$  to  $175^\circ\text{C}$   
 $5.6^\circ\text{C/W}$   
 $2.8^\circ\text{C/W}$   
 $4.7^\circ\text{C/W}$   
15 inch pounds maximum (6-32 screw)  
.08 ounces (2.3 grams) typical

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# FST1080 — FST1090

C

Figure 1  
Typical Forward Characteristics — Per Leg

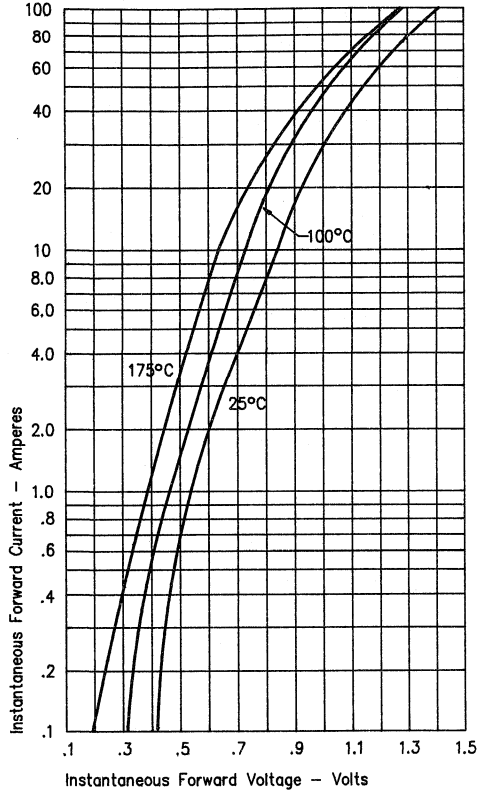


Figure 3  
Typical Junction Capacitance — Per Leg

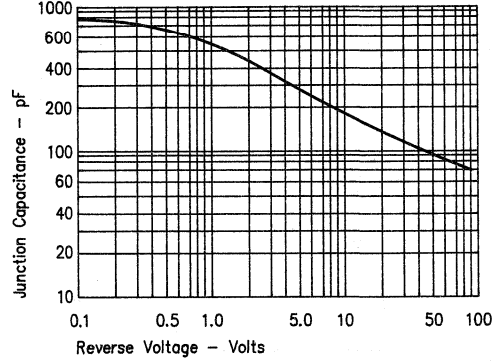


Figure 4  
Forward Current Derating — Per Leg

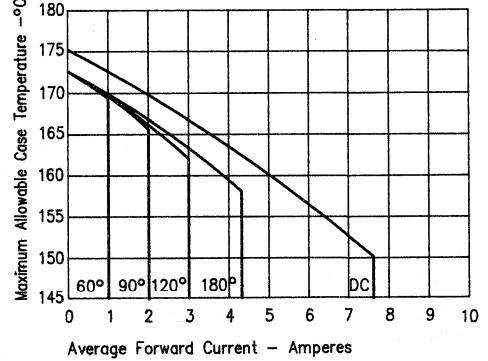


Figure 2  
Typical Reverse Characteristics — Per Leg

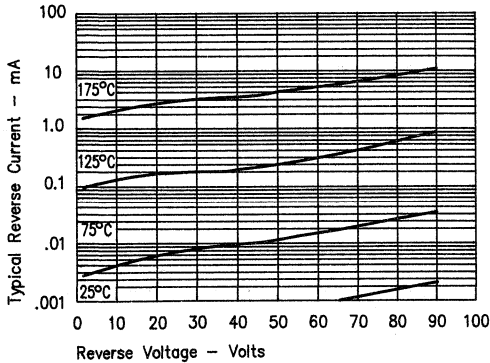
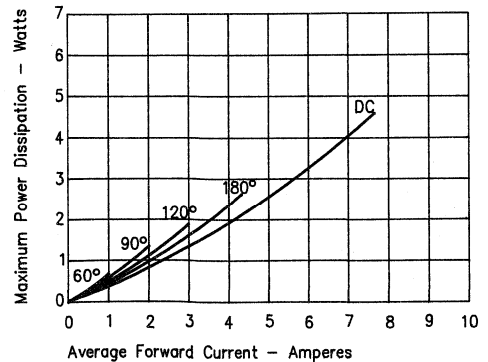
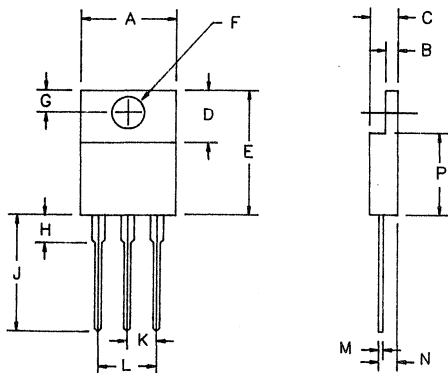


Figure 5  
Maximum Forward Power Dissipation — Per Leg



# 20 Amp Schottky Barrier Rectifiers FST2025 - FST2045



PLASTIC T0220

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.390	.415	9.90	10.5	
B	.050	.055	1.27	1.40	
C	.180	.185	4.57	4.70	
D	.248	.260	6.30	6.60	
E	.590	.605	14.98	15.40	
F	.145	.150	3.68	3.81	Dia.
G	.108	.120	2.74	3.05	
H	.163	.170	4.14	4.32	
J	.540	.570	13.72	14.5	
K	.087	.091	2.20	2.31	
L	.200	.205	5.08	5.21	
M	.021	.025	.533	.635	
N	.125	.140	3.18	3.56	
P	.335	.342	8.50	8.69	

## Technical Bulletin

Microsemi Catalog Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
FST2025	25V	25V
FST2035	35V	35V
FST2040	40V	40V
FST2045	45V	45V

- Schottky barrier rectifier
- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- $V_{RRM}$  25 to 45 Volts

## Electrical Characteristics

Average Forward Current per pkg.	$I_F(AV)$ 20 Amps	$T_C = 139^\circ C$ , Square wave, $R_{\theta JC} = 2.8^\circ C/W$
Average Forward Current per leg	$I_F(AV)$ 10 Amps	$T_C = 139^\circ C$ , Square wave, $R_{\theta JC} = 5.6^\circ C/W$
Maximum Surge Current per leg	$I_{FSM}$ 500 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Max. Peak Forward Voltage per leg	$V_{FM}$ .48 Volts	$I_{FM} = 10A$ , $T_J = 175^\circ C^*$
Max. Peak Forward Voltage per leg	$V_{FM}$ .65 Volts	$I_{FM} = 10A$ , $T_J = 25^\circ C^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 10 mA	$V_{RRM}$ , $T_J = 125^\circ C^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 250 $\mu A$	$V_{RRM}$ , $T_J = 25^\circ C$
Typical Junction Capacitance	$C_J$ 660 pF	$V_R = 5.0V$ , $T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu sec$  Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-40^\circ C$ to $175^\circ C$
Operating junction temp range	$T_J$	$-40^\circ C$ to $175^\circ C$
Max thermal resistance per leg	$R_{\theta JC}$	$5.6^\circ C/W$
Max thermal resistance per pkg.	$R_{\theta JC}$	$2.8^\circ C/W$
Typical thermal resistance per leg	$R_{\theta JC}$	$4.7^\circ C/W$
Mounting torque		15 inch pounds maximum (6-32 screw)
Typical Weight		.08 ounces (2.3 grams) typical

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# FST2025 — FST2045



Figure 1  
Typical Forward Characteristics — Per Leg

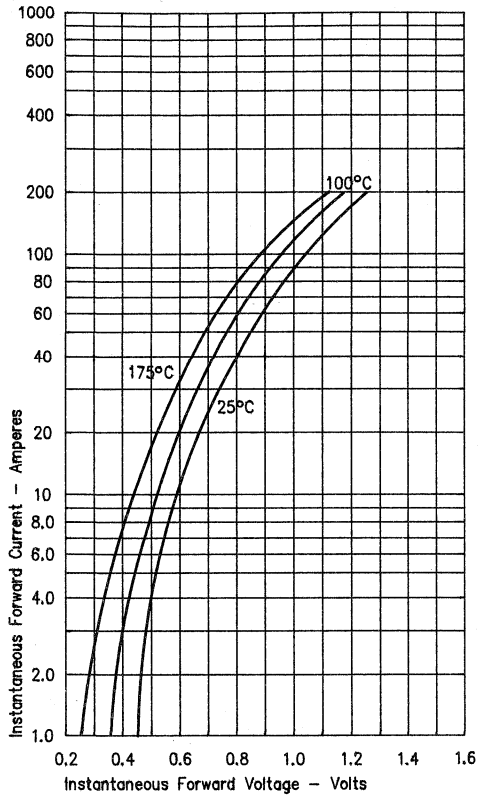


Figure 2  
Typical Reverse Characteristics — Per Leg

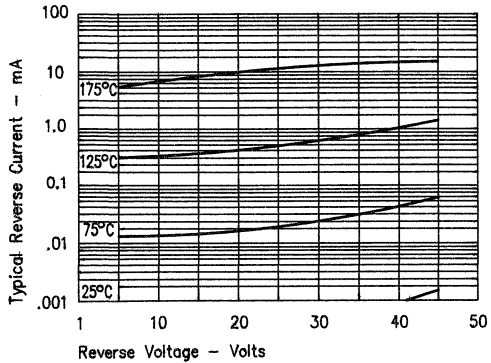


Figure 3  
Typical Junction Capacitance — Per Leg

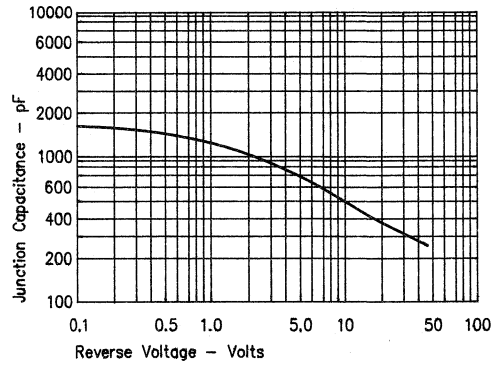


Figure 4  
Forward Current Derating — Per Leg

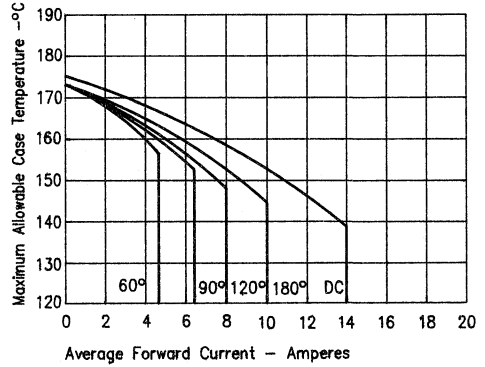
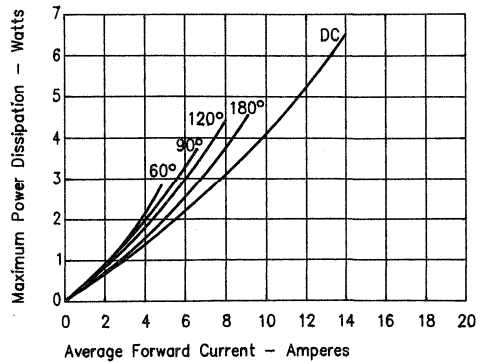
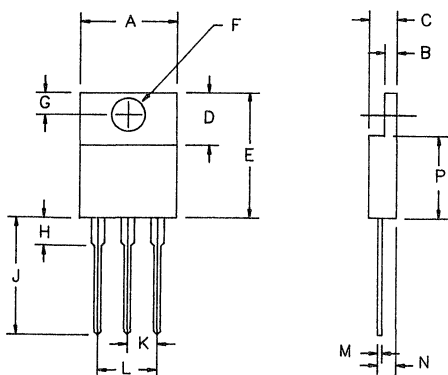


Figure 5  
Maximum Forward Power Dissipation — Per Leg



# 20 Amp Schottky Barrier Rectifiers FST2050 — FST2060



PLASTIC TO220

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.390	.415	9.90	10.5	
B	.050	.055	1.27	1.40	
C	.180	.185	4.57	4.70	
D	.248	.260	6.30	6.60	
E	.590	.605	14.98	15.40	
F	.145	.150	3.68	3.81	Dia.
G	.108	.120	2.74	3.05	
H	.163	.170	4.14	4.32	
J	.540	.570	13.72	14.5	
K	.087	.091	2.20	2.31	
L	.200	.205	5.08	5.21	
M	.021	.025	.533	.635	
N	.125	.140	3.18	3.56	
P	.335	.342	8.50	8.69	

Microsemi Catalog Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
FST2050	50V	50V
FST2060	60V	60V

- Schottky barrier rectifier
- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- $V_{RRM}$  50 to 60 Volts

Electrical Characteristics		
Average Forward Current per pkg.	$I_{F(AV)}$ 20 Amps	$T_C = 137^\circ\text{C}$ , Square wave, $R_{\theta JC} = 2.8^\circ\text{C/W}$
Average Forward Current per leg	$I_{F(AV)}$ 10 Amps	$T_C = 137^\circ\text{C}$ , Square wave, $R_{\theta JC} = 5.6^\circ\text{C/W}$
Maximum Surge Current per leg	$I_{FSM}$ 500 Amps	8.3ms, half sine, $T_J = 175^\circ\text{C}$
Max. Peak Forward Voltage per leg	$V_{FM}$ .53 Volts	$I_{FM} = 10\text{A}$ , $T_J = 175^\circ\text{C}^*$
Max. Peak Forward Voltage per leg	$V_{FM}$ .67 Volts	$I_{FM} = 10\text{A}$ , $T_J = 25^\circ\text{C}^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 10 mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 500 $\mu\text{A}$	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical Junction Capacitance	$C_J$ 570 pF	$V_R = 5.0\text{V}$ , $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300 usec. Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	TSTG	-40°C to + 175°C
Operating junction temp range	TJ	-40°C to + 175°C
Max thermal resistance per leg	$R_{\theta JC}$	5.6°C/W
Max thermal resistance per pkg.	$R_{\theta JC}$	2.8°C/W
Typical thermal resistance per leg	$R_{\theta JC}$	4.67°C/W
Typical Weight		.08 ounces (2.3 grams) typical

# FST2050, FST2060

Figure 1  
Typical Forward Characteristics – per leg

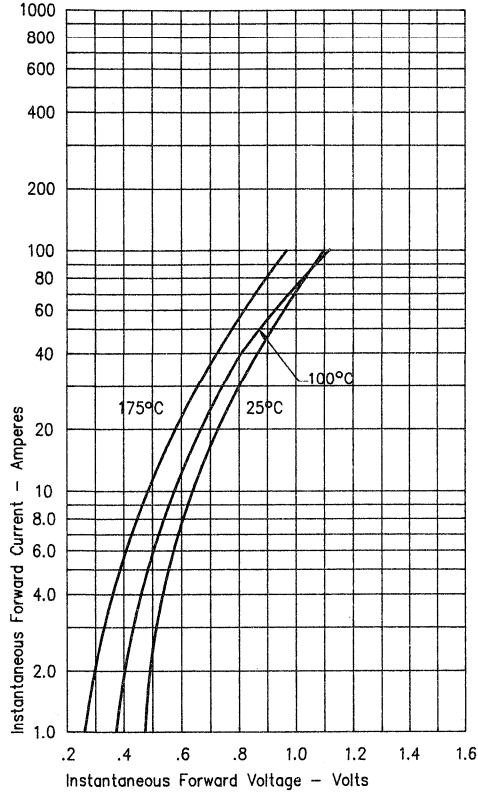


Figure 3  
Typical Junction Capacitance – per leg

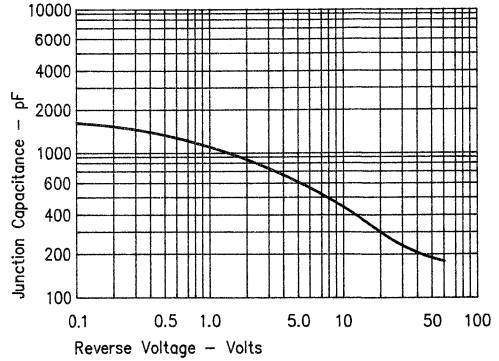


Figure 4  
Forward Current Derating – per leg

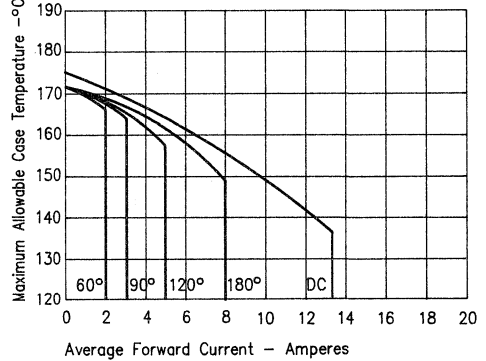


Figure 2  
Typical Reverse Characteristics – per leg

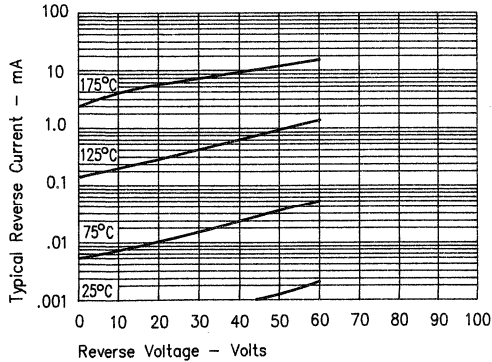
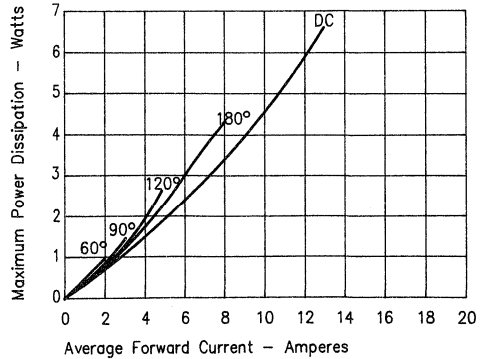
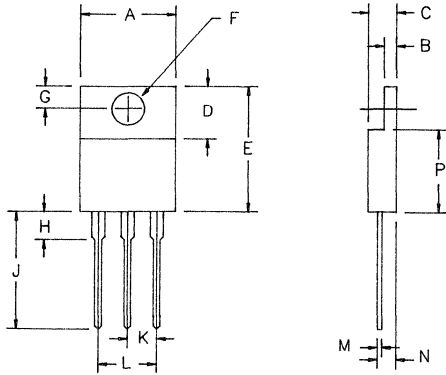


Figure 5  
Maximum Forward Power Dissipation – per leg



# 20 Amp Schottky Barrier Rectifiers FST2080 — FST2090



PLASTIC T0220

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.390	.415	9.90	10.5	
B	.050	.055	1.27	1.40	
C	.180	.185	4.57	4.70	
D	.248	.260	6.30	6.60	
E	.590	.605	14.98	15.40	
F	.145	.150	3.68	3.81	Dia.
G	.108	.120	2.74	3.05	
H	.163	.170	4.14	4.32	
J	.540	.570	13.72	14.5	
K	.087	.091	2.20	2.31	
L	.200	.205	5.08	5.21	
M	.021	.025	.533	.635	
N	.125	.140	3.18	3.56	
P	.335	.342	8.50	8.69	

Microsemi Catalog  
Number

FST2080  
FST2090

Repetitive Peak  
Reverse Voltage

80V  
90V

Transient Peak  
Reverse Voltage

80V  
90V

- Schottky barrier rectifier
- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- $V_{RRM}$  80 to 90 Volts

### Electrical Characteristics

Average Forward Current per pkg.	$I_F(AV)$ 20 Amps	$T_C = 132^\circ C$ , Square wave, $R_{\theta JC} = 2.8^\circ C/W$
Average Forward Current per leg	$I_F(AV)$ 10 Amps	$T_C = 132^\circ C$ , Square wave, $R_{\theta JC} = 5.6^\circ C/W$
Maximum Surge Current per leg	$I_{FSM}$ 500 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Max. Peak Forward Voltage per leg	$V_{FM}$ .62 Volts	$I_{FM} = 10A$ , $T_J = 175^\circ C$ *
Max. Peak Forward Voltage per leg	$V_{FM}$ .80 Volts	$I_{FM} = 10A$ , $T_J = 25^\circ C$ *
Max. Peak Reverse Current per leg	$I_{RM}$ 10 mA	$V_{RRM}$ , $T_J = 125^\circ C$ *
Max. Peak Reverse Current per leg	$I_{RM}$ 250 $\mu A$	$V_{RRM}$ , $T_J = 25^\circ C$
Typical Junction Capacitance	$C_J$ 440 pF	$V_R = 5.0V$ , $T_J = 25^\circ C$

\*Pulse test: Pulse width 300 usec. Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	TSTG	-40°C to + 175°C
Operating junction temp range	TJ	-40°C to + 175°C
Max thermal resistance per leg	$R_{\theta JC}$	5.6°C/W
Max thermal resistance per pkg.	$R_{\theta JC}$	2.8°C/W
Typical thermal resistance per leg	$R_{\theta JC}$	4.7°C/W
Mounting torque		15 inch pounds maximum (6-32 screw)
Typical Weight		.08 ounces (2.3 grams) typical

**Microsemi Corp.**  
**Colorado**



# FST2080 — FST2090



Figure 1  
Typical Forward Characteristics — Per Leg

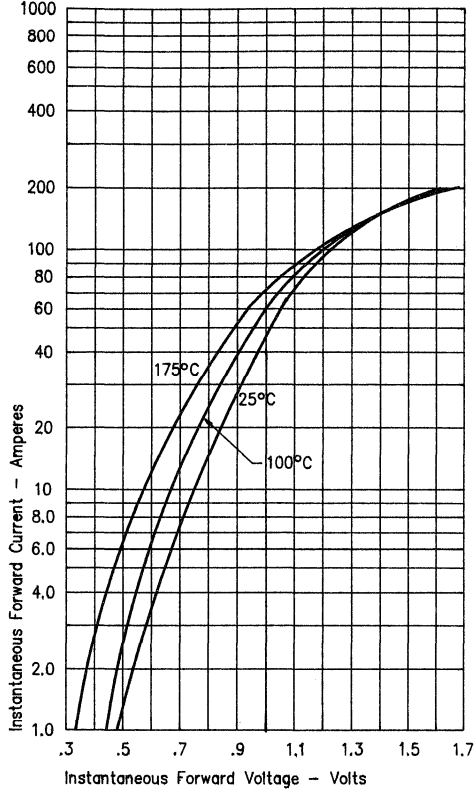


Figure 3  
Typical Junction Capacitance — Per Leg

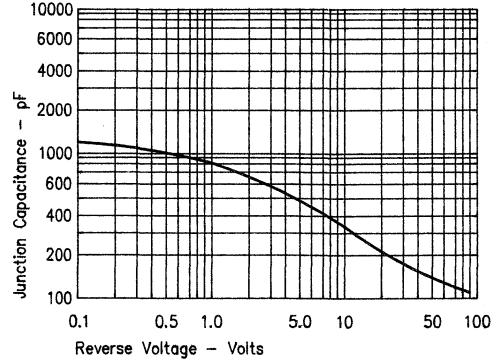


Figure 4  
Forward Current Derating — Per Leg

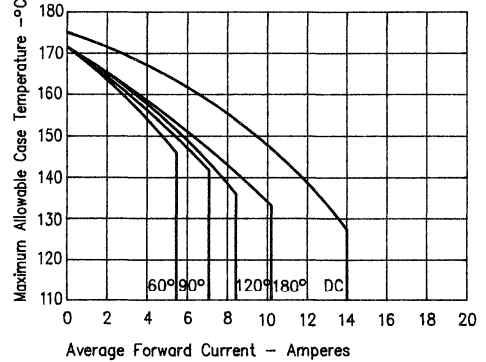


Figure 2  
Typical Reverse Characteristics — Per Leg

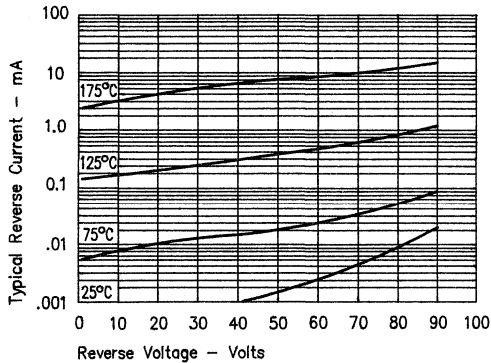
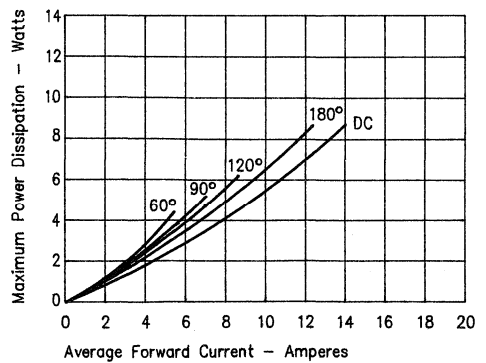
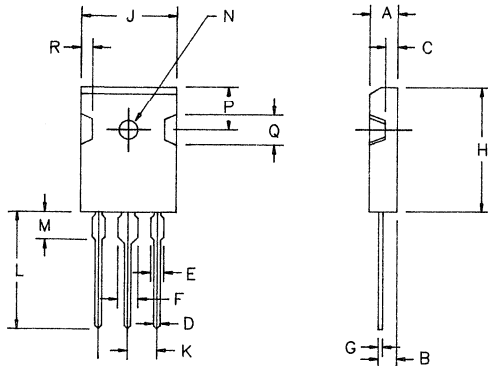


Figure 5  
Maximum Forward Power Dissipation — Per Leg



# 30Amp Schottky Barrier Rectifier FST3030 — FST3050



PLASTIC T03P

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.185	.209	4.70	5.30	
B	.110	.125	2.79	3.18	
C	.059	.098	1.50	2.50	
D	.040	.055	1.00	1.40	
E	.079	.094	2.00	2.40	
F	.118	.133	3.00	3.40	
G	.016	.031	.400	.800	
H	.860	.883	21.8	22.4	
J	.627	.650	15.9	16.5	
K	.215	—	5.45	—	
L	.795	.810	20.2	20.6	
M	.157	.180	4.00	4.60	
N	.118	.133	3.00	3.40	Dia.
P	.268	.300	6.80	7.62	
Q	.175	.210	4.44	5.30	
R	.068	.080	1.72	2.03	

Microsemi Catalog Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
FST3030	30V	30V
FST3040	40V	40V
FST3045	45V	45V
FST3050	50V	50V

- Schottky Barrier Rectifier
- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- V<sub>RRM</sub> 30 to 50 Volts

Electrical Characteristics		
Average Forward Current per pkg.	I <sub>F(AV)</sub> 30Amps	T <sub>C</sub> = 157°C, Square wave, R <sub>θJC</sub> = 0.9°C/W
Average Forward Current per leg	I <sub>F(AV)</sub> 15Amps	T <sub>C</sub> = 157°C, Square wave, R <sub>θJC</sub> = 1.8°C/W
Maximum Surge Current per leg	I <sub>FSM</sub> 600 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max. Peak Forward Voltage per leg	V <sub>FM</sub> .50 Volts	I <sub>FM</sub> = 15A, T <sub>J</sub> = 175°C*
Max. Peak Forward Voltage per leg	V <sub>FM</sub> .66 Volts	I <sub>FM</sub> = 15A, T <sub>J</sub> = 25°C*
Max. Peak Reverse Current per leg	I <sub>RM</sub> 15 mA	V <sub>RRM</sub> , T <sub>J</sub> = 125°C*
Max. Peak Reverse Current per leg	I <sub>RM</sub> 500 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical Junction Capacitance	C <sub>J</sub> 890pF	VR = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	ISTG	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance per leg	R <sub>θJC</sub>	1.8°C/W
Max thermal resistance per pkg.	R <sub>θJC</sub>	0.9°C/W
Typical thermal resistance per leg	R <sub>θJC</sub>	1.4°C/W
Mounting Torque		10 inch pounds maximum (4-40 screw)
Typical Weight		.22 ounces (6.36 grams) typical



# FST3030 — FST3050



Figure 1  
Typical Forward Characteristics — Per Leg

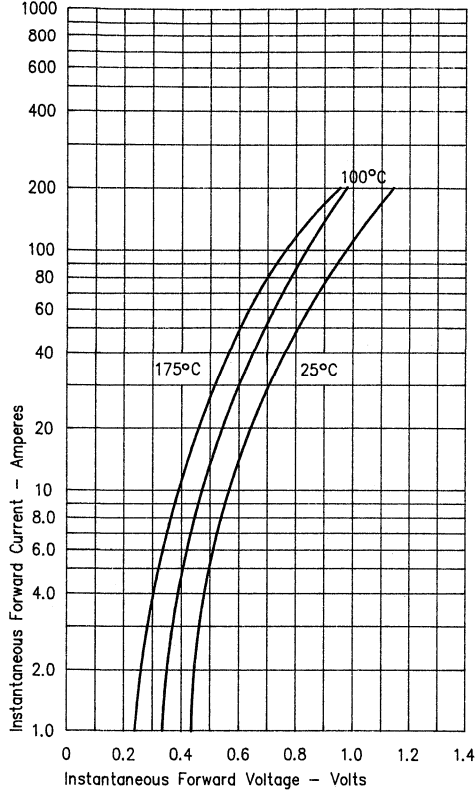


Figure 3  
Typical Junction Capacitance — Per Leg

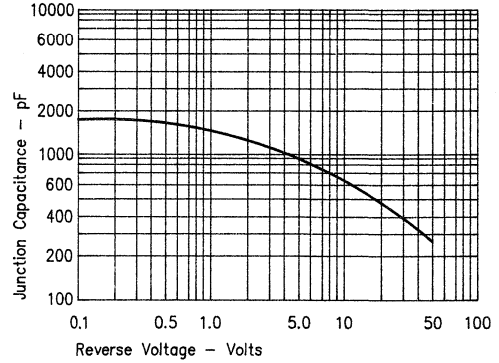


Figure 4  
Forward Current Derating — Per Leg

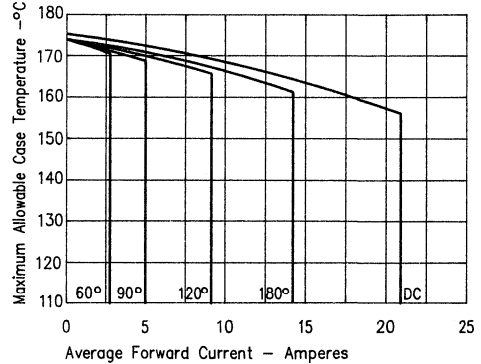


Figure 2  
Typical Reverse Characteristics — Per Leg

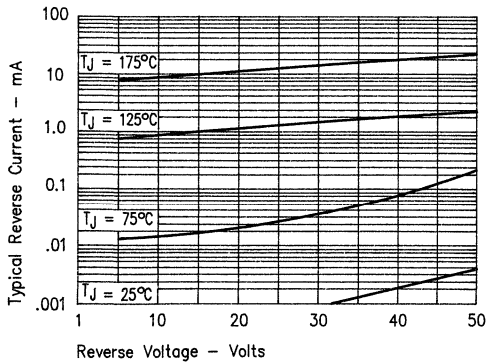
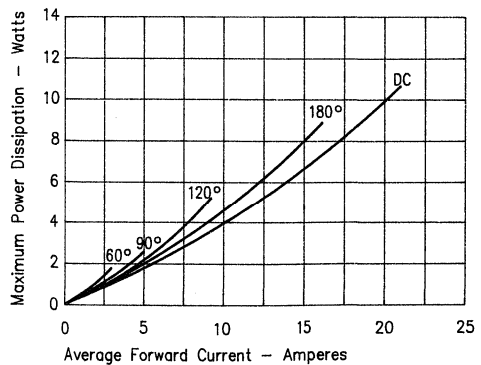
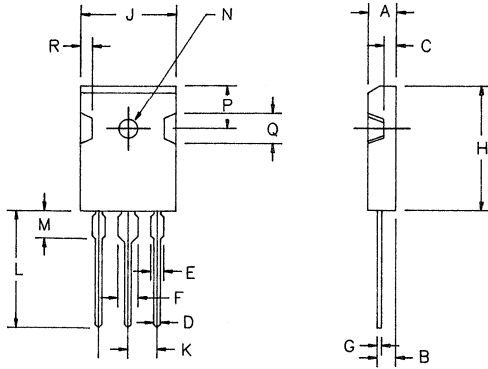


Figure 5  
Maximum Forward Power Dissipation — Per Leg



# 30Amp Schottky Barrier Rectifier FST3060



PLASTIC T03P

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.185	.209	4.70	5.30	
B	.110	.125	2.79	3.18	
C	.059	.098	1.50	2.50	
D	.040	.055	1.00	1.40	
E	.079	.094	2.00	2.40	
F	.118	.133	3.00	3.40	
G	.016	.031	.400	.800	
H	.860	.883	21.8	22.4	
J	.627	.650	15.9	16.5	
K	.215	—	5.45	—	
L	.795	.810	20.2	20.6	
M	.157	.180	4.00	4.60	
N	.118	.133	3.00	3.40	Dia.
P	.268	.300	6.80	7.62	
Q	.175	.210	4.44	5.30	
R	.068	.080	1.72	2.03	

Microsemi Catalog Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
FST3060	60V	60V

- Schottky Barrier Rectifier
- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- 175°C Junction Temperature

Electrical Characteristics		
Average Forward Current per pkg.	$I_F(AV)$ 30Amps	$T_C = 156^\circ C$ , Square Wave, $R_{\theta JC} = 0.9^\circ C/W$
Average Forward Current per leg	$I_F(AV)$ 15Amps	$T_C = 156^\circ C$ , Square Wave, $R_{\theta JC} = 1.8^\circ C/W$
Maximum Surge Current per leg	$I_{FSM}$ 600 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Max. Peak Forward Voltage per leg	$V_{FM}$ .56 Volts	$I_{FM} = 15A$ , $T_J = 175^\circ C^*$
Max. Peak Forward Voltage per leg	$V_{FM}$ .72 Volts	$I_{FM} = 15A$ , $T_J = 25^\circ C^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 15 mA	$V_{RRM}$ , $T_J = 125^\circ C^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 500 $\mu A$	$V_{RRM}$ , $T_J = 25^\circ C$
Typical Junction Capacitance	$C_J$ 660 pF	$V_R = 5.0V$ , $T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu sec$ , Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	ISTG	-40°C to 175°C
Operating junction temp range	$T_J$	-40°C to 175°C
Max thermal resistance per leg	$R_{\theta JC}$	1.8°C/W
Max thermal resistance per pkg.	$R_{\theta JC}$	0.9°C/W
Typical thermal resistance per leg	$R_{\theta JC}$	1.4°C/W
Mounting Torque		10 inch pounds maximum (4-40 screw)
Typical Weight		.22 ounces (6.36 grams) typical



# FST3060



Figure 1  
Typical Forward Characteristics - Per Leg

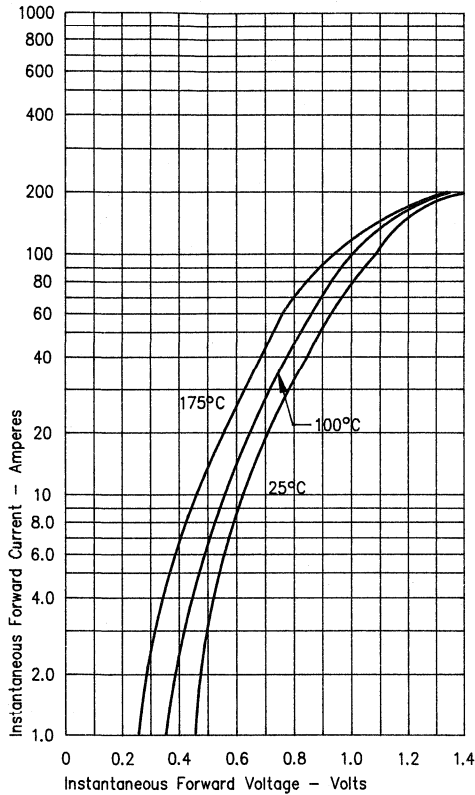


Figure 3  
Typical Junction Capacitance - Per Leg

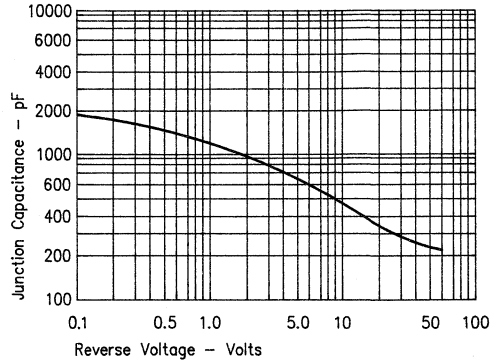


Figure 4  
Forward Current Derating - Per Leg

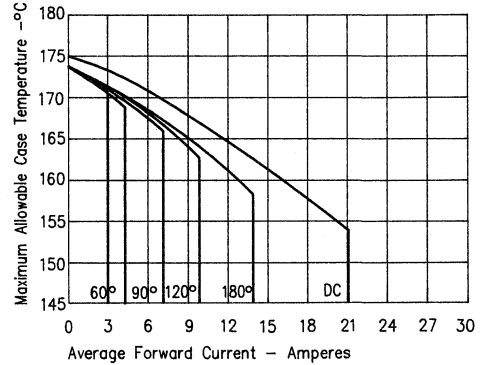


Figure 2  
Typical Reverse Characteristics - Per Leg

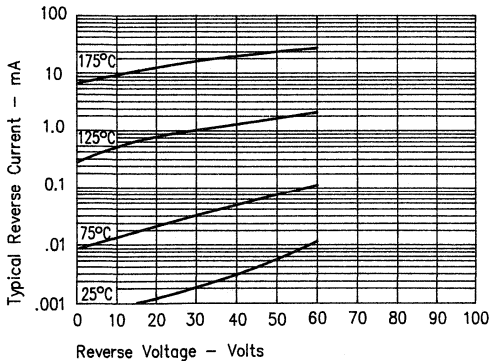
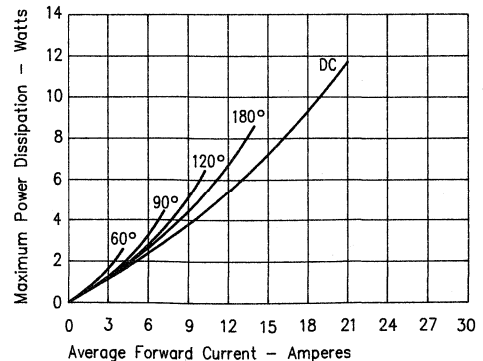
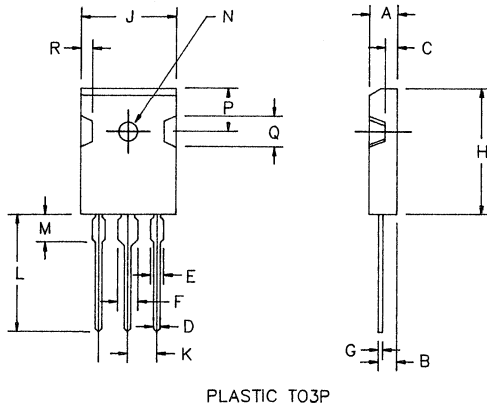


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# 30Amp Schottky Barrier Rectifier FST3080 — FST3090



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.185	.209	4.70	5.30	
B	.110	.125	2.79	3.18	
C	.059	.098	1.50	2.50	
D	.040	.055	1.00	1.40	
E	.079	.094	2.00	2.40	
F	.118	.133	3.00	3.40	
G	.016	.031	.400	.800	
H	.860	.883	21.8	22.4	
J	.627	.650	15.9	16.5	
K	.215	—	5.45	—	
L	.795	.810	20.2	20.6	
M	.157	.180	4.00	4.60	
N	.118	.133	3.00	3.40	Dia.
P	.268	.300	6.80	7.62	
Q	.175	.210	4.44	5.30	
R	.068	.080	1.72	2.03	

PLASTIC TO3P

Microsemi Catalog Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
FST3080	80V	80V
FST3090	90V	90V

- Schottky Barrier Rectifier
- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- $V_{RRM}$  80 to 90 Volts

Electrical Characteristics		
Average Forward Current per pkg.	$I_{F(AV)}$ 30Amps	$T_C = 153^\circ\text{C}$ , Square Wave, $R_{\theta JC} = 0.9^\circ\text{C/W}$
Average Forward Current per leg	$I_{F(AV)}$ 15Amps	$T_C = 153^\circ\text{C}$ , Square Wave, $R_{\theta JC} = 1.8^\circ\text{C/W}$
Maximum Surge Current per leg	$I_{FSM}$ 600 Amps	8.3ms, half sine, $T_J = 175^\circ\text{C}$
Max. Peak Forward Voltage per leg	$V_{FM}$ .60 Volts	$I_{FM} = 15A$ , $T_J = 175^\circ\text{C}^*$
Max. Peak Forward Voltage per leg	$V_{FM}$ .81 Volts	$I_{FM} = 15A$ , $T_J = 25^\circ\text{C}^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 15 mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 500 $\mu\text{A}$	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical Junction Capacitance	$C_J$ 570 pF	$V_R = 5.0V$ , $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	ISTG	-40°C to 175°C
Operating junction temp range	$T_J$	-40°C to 175°C
Max thermal resistance per leg	$R_{\theta JC}$	1.8°C/W
Max thermal resistance per pkg.	$R_{\theta JC}$	0.9°C/W
Typical thermal resistance per leg	$R_{\theta JC}$	1.4°C/W
Mounting Torque		10 inch pounds maximum (4-40 screw)
Typical Weight		.22 ounces (6.36 grams) typical

# FST3080 — FST3090

C

Figure 1  
Typical Forward Characteristics — Per Leg

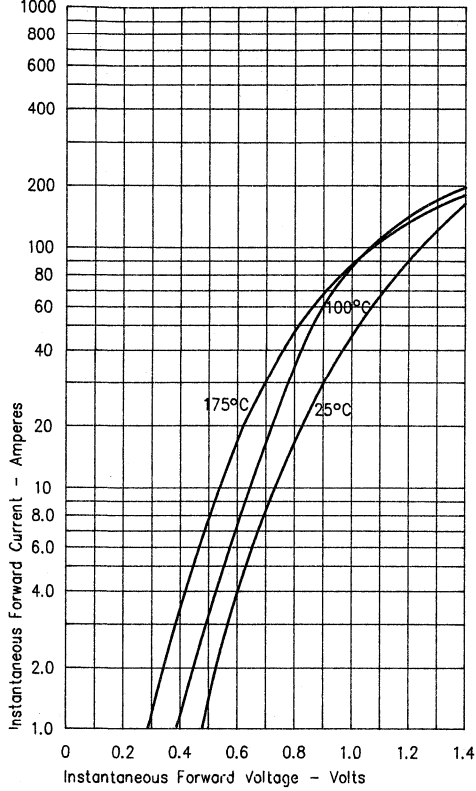


Figure 2  
Typical Reverse Characteristics — Per Leg

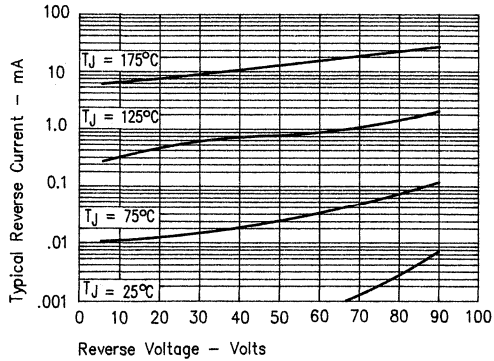


Figure 3  
Typical Junction Capacitance — Per Leg

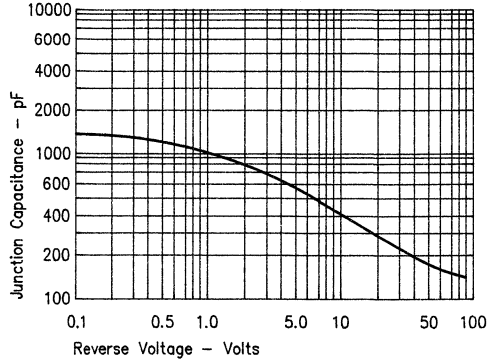


Figure 4  
Forward Current Derating — Per Leg

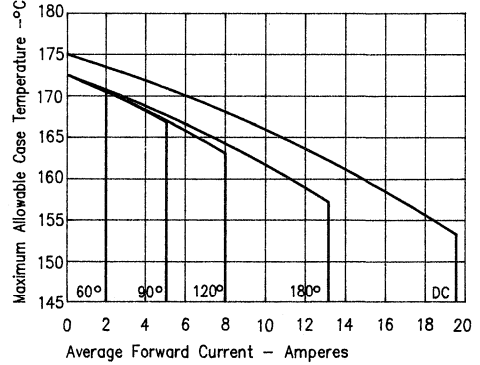
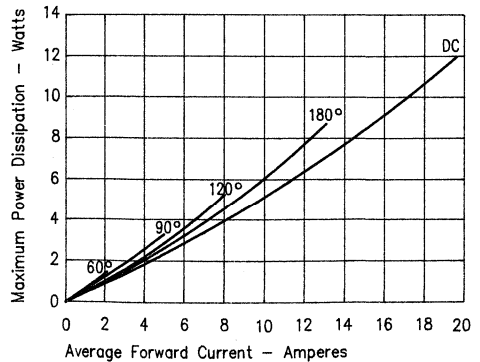
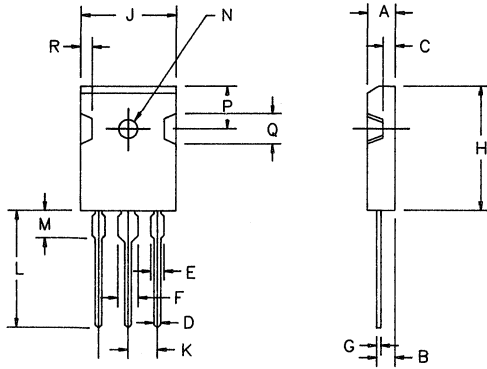


Figure 5  
Maximum Forward Power Dissipation — Per Leg



# 50Amp Schottky Barrier Rectifier FST5020 — FST5050



PLASTIC T03P

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.185	.209	4.70	5.30	
B	.110	.125	2.79	3.18	
C	.059	.098	1.50	2.50	
D	.040	.055	1.00	1.40	
E	.079	.094	2.00	2.40	
F	.118	.133	3.00	3.40	
G	.016	.031	.400	.800	
H	.860	.883	21.8	22.4	
J	.627	.650	15.9	16.5	
K	.215	—	5.45	—	
L	.795	.810	20.2	20.6	
M	.157	.180	4.00	4.60	
N	.118	.133	3.00	3.40	Dia.
P	.268	.300	6.80	7.62	
Q	.175	.210	4.44	5.30	
R	.068	.080	1.72	2.03	

Microsemi Catalog Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
FST5020	20V	20V
FST5030	30V	30V
FST5040	40V	40V
FST5045	45V	45V
FST5050	50V	50V

- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- For use in low voltage, high frequency inverter, free wheeling and protection application

Electrical Characteristics		
Average Forward Current per pkg.	$I_{F(AV)}$ 50 Amps	$T_C = 142^\circ\text{C}$ , Square wave, $R_{\theta JC} = 1.0^\circ\text{C/W}$
Average Forward Current per leg	$I_{F(AV)}$ 25 Amps	$T_C = 142^\circ\text{C}$ , Square wave, $R_{\theta JC} = 2.0^\circ\text{C/W}$
Maximum Surge Current per leg	$I_{FSM}$ 700 Amps	8.3ms, half sine, $T_J = 175^\circ\text{C}$
Max. Peak Forward Voltage per leg	$V_{FM}$ .50 Volts	$I_{FM} = 25\text{A}$ , $T_J = 175^\circ\text{C}^*$
Max. Peak Forward Voltage per leg	$V_{FM}$ .67 Volts	$I_{FM} = 25\text{A}$ , $T_J = 25^\circ\text{C}^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 15 mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 500 $\mu\text{A}$	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical Junction Capacitance	$C_J$ 1400 pF	$V_R = 5.0\text{V}$ , $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300 usec. Duty Cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	TSTG	$-40^\circ\text{C}$ to $+175^\circ\text{C}$
Operating junction temp range	$T_J$	$-40^\circ\text{C}$ to $+175^\circ\text{C}$
Max thermal resistance per leg	$R_{\theta JC}$	$2.0^\circ\text{C/W}$
Max thermal resistance per pkg.	$R_{\theta JC}$	$1.0^\circ\text{C/W}$
Typical thermal resistance per leg	$R_{\theta JC}$	$1.1^\circ\text{C/W}$
Typical Weight		.22 ounces (6.36 grams) typical

**Microsemi Corp.**  
**Colorado**



# FST5020 — FST5050



Figure 1  
Typical Forward Characteristics — Per Leg

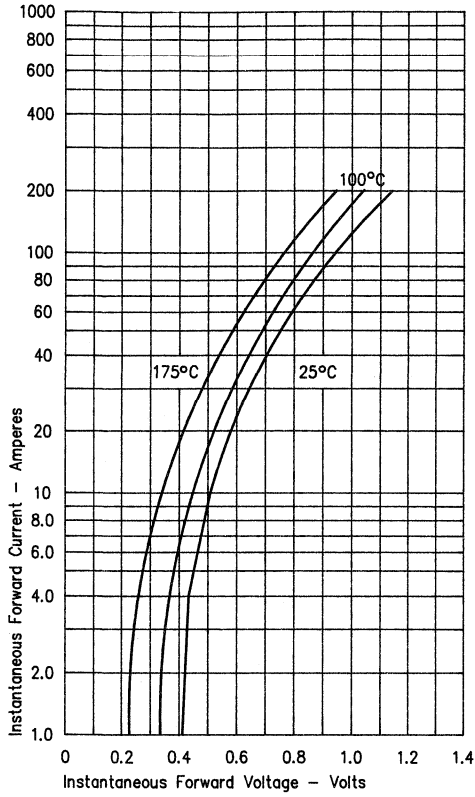


Figure 3  
Typical Junction Capacitance — Per Leg

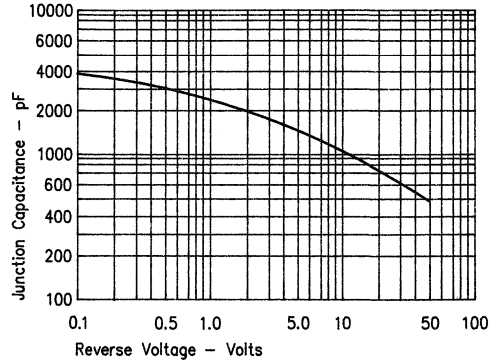


Figure 4  
Forward Current Derating — Per Leg

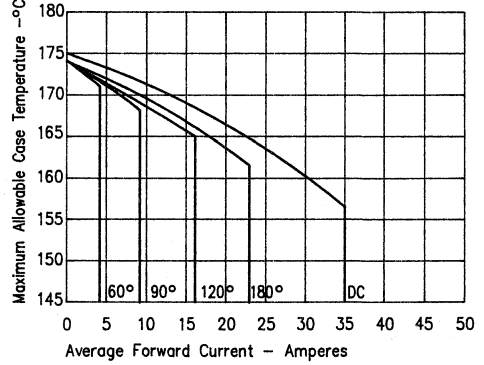


Figure 2  
Typical Reverse Characteristics — Per Leg

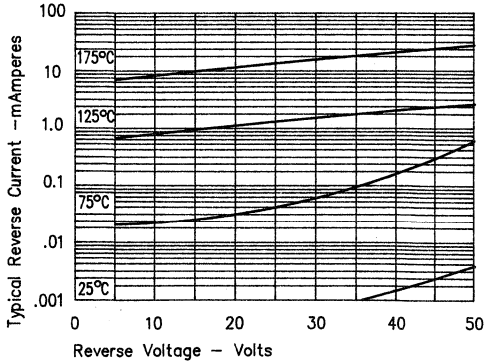
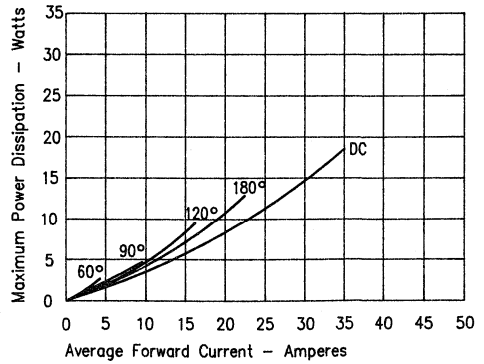
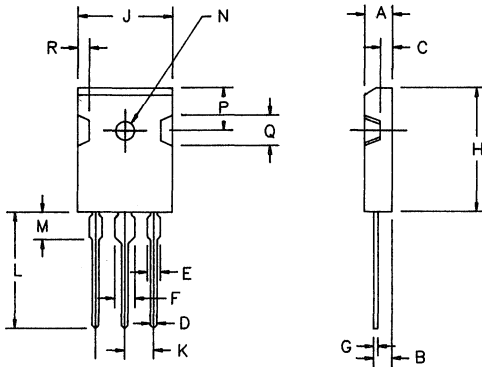


Figure 5  
Maximum Forward Power Dissipation — Per Leg



# 50Amp Schottky Barrier Rectifier FST5080, FST5090



PLASTIC T03P

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.185	.209	4.70	5.30	
B	.110	.125	2.79	3.18	
C	.059	.098	1.50	2.50	
D	.040	.055	1.00	1.40	
E	.079	.094	2.00	2.40	
F	.118	.133	3.00	3.40	
G	.016	.031	.400	.800	
H	.860	.883	21.8	22.4	
J	.627	.650	15.9	16.5	
K	.215	—	5.45	—	
L	.795	.810	20.2	20.6	
M	.157	.180	4.00	4.60	
N	.118	.133	3.00	3.40	Dia.
P	.268	.300	6.80	7.62	
Q	.175	.210	4.44	5.30	
R	.068	.080	1.72	2.03	

Microsemi Catalog Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
FST5080	80V	80V
FST5090	90V	90V

- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- 175°C Junction Temperature
- $V_{RRM}$  80 to 90 Volts

Electrical Characteristics		
Average Forward Current per pkg.	$I_F(AV)$ 50 Amps	$T_C = 134^\circ C$ , Square wave, $R_{\theta JC} = 1.0^\circ C/W$
Average Forward Current per leg	$I_F(AV)$ 25 Amps	$T_C = 134^\circ C$ , Square wave, $R_{\theta JC} = 2.0^\circ C/W$
Maximum Surge Current per leg	$I_{FSM}$ 700 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Max. Peak Forward Voltage per leg	$V_{FM}$ .62 Volts	$I_{FM} = 25A$ , $T_J = 175^\circ C^*$
Max. Peak Forward Voltage per leg	$V_{FM}$ .82 Volts	$I_{FM} = 25A$ , $T_J = 25^\circ C^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 15 mA	$V_{RRM}$ , $T_J = 125^\circ C^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 500 $\mu A$	$V_{RRM}$ , $T_J = 25^\circ C$
Typical Junction Capacitance	$C_J$ 920 pF	$V_R = 5.0V$ , $T_J = 25^\circ C$

\*Pulse test: Pulse width 300 usec. Duty Cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	TSTG	-40°C to +175°C
Operating junction temp range	$T_J$	-40°C to +175°C
Max thermal resistance per leg	$R_{\theta JC}$	2.0°C/W
Max thermal resistance per pkg.	$R_{\theta JC}$	1.0°C/W
Typical thermal resistance per leg	$R_{\theta JC}$	.95°C/W
Mounting Torque		10 inch pounds maximum (4-40 screws)
Typical Weight		.22 ounces (6.36 grams) typical



# FST5080, FST5090

Figure 1  
Typical Forward Characteristics - Per Leg

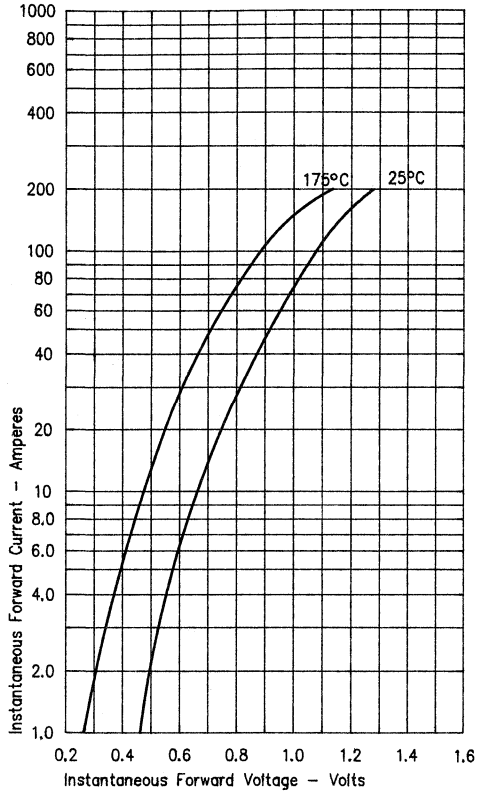


Figure 3  
Typical Junction Capacitance - Per Leg

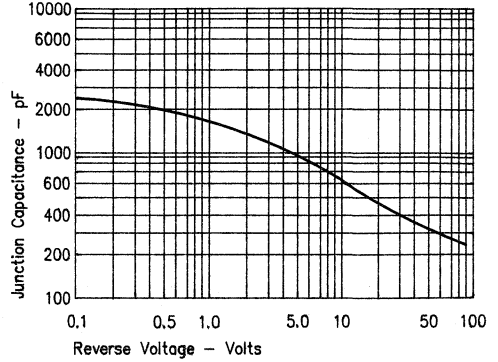


Figure 4  
Forward Current Derating - Per Leg

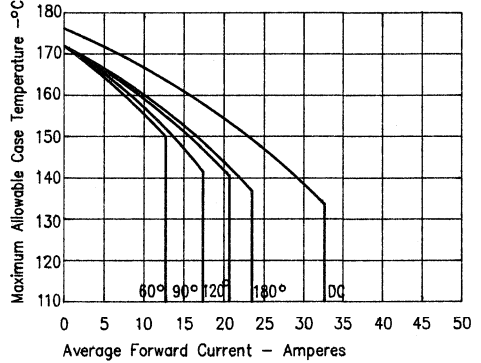


Figure 2  
Typical Reverse Characteristics - Per Leg

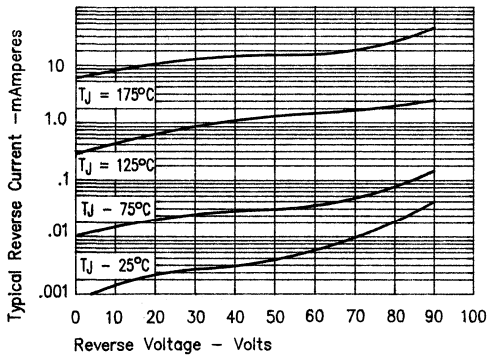
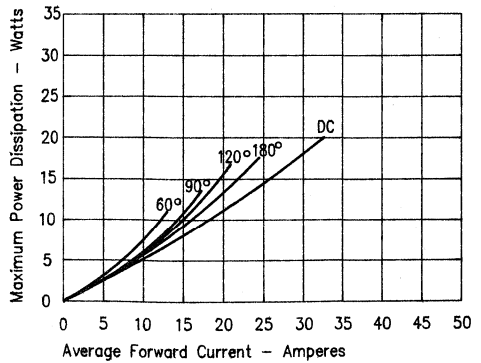
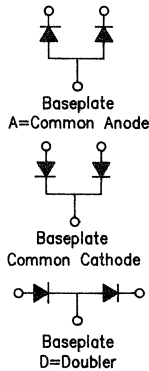
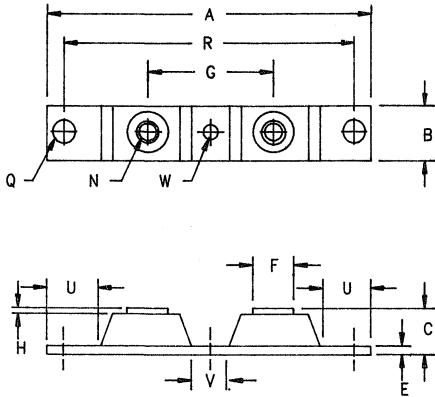


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Schottky PowerMod CPT 120



Notes:  
Baseplate: Nickel plated  
copper; common cathode

Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20	
B	0.700	0.800	17.78	20.32	
C	---	0.625	---	15.87	
E	0.120	0.130	3.05	3.30	
F	0.490	0.510	12.45	12.95	
G	1.375 BSC		34.92 BSC		
H	---	0.050	---	1.27	
N	---	---	---	---	1/4-28
Q	0.280	0.310	6.86	7.11	Dia.
R	3.150 BSC		80.01 BSC		
U	0.600	---	15.24	---	
V	0.330	0.350	8.38	8.89	
W	0.170	0.190	4.32	4.82	Dia.
Y	46.10 BSC		1.815 BSC		

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT12035*	35V	35V
CPT12040*	40V	40V
CPT12045*	45V	45V
CPT12050*	50V	50V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring for Reverse Protection
- $V_{RRM}$  35 to 50 Volts
- 175°C Junction Temperature
- Reverse Energy Tested

## Electrical Characteristics

Average forward current per pkg	I <sub>F(AV)</sub> 120 Amps	T <sub>C</sub> = 140°C, Square wave, R <sub>θJC</sub> = 0.425°C/W
Average forward current per leg	I <sub>F(AV)</sub> 60 Amps	T <sub>C</sub> = 140°C, Square wave, R <sub>θJC</sub> = 0.85°C/W
Maximum surge current per leg	I <sub>FSM</sub> 1000 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Maximum repetitive reverse current per leg	I <sub>R(OV)</sub> 2 Amps	f = 1 KHZ, 25°C, 1 μsec square wave
Max peak forward voltage per leg	V <sub>FM</sub> .63 Volts	I <sub>FM</sub> = 120A: T <sub>J</sub> = 175°C*
Max peak forward voltage per leg	V <sub>FM</sub> .80 Volts	I <sub>FM</sub> = 120A: T <sub>J</sub> = 25°C*
Max peak reverse current per leg	I <sub>RM</sub> 40 mA	V <sub>RRM</sub> , T <sub>J</sub> = 125°C*
Max peak reverse current per leg	I <sub>RM</sub> 3 mA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical reverse current per leg	I <sub>RM</sub> 25 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 2700 pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operation junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance per leg	R <sub>θJC</sub>	0.85°C/W Junction to case
Max thermal resistance per pkg	R <sub>θJC</sub>	0.425°C/W Junction to case
Typical thermal resistance per pkg	R <sub>θJC</sub>	0.8°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.08°C/W Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque (outside holes)		40 inch pounds maximum
Mounting Base Torque (center hole)		10 inch pounds maximum
Weight		2.8 ounces (75 grams) typical

**Microsemi Corp.**  
**Colorado**

# CPT 120



Figure 1  
Typical Forward Characteristics - Per Leg

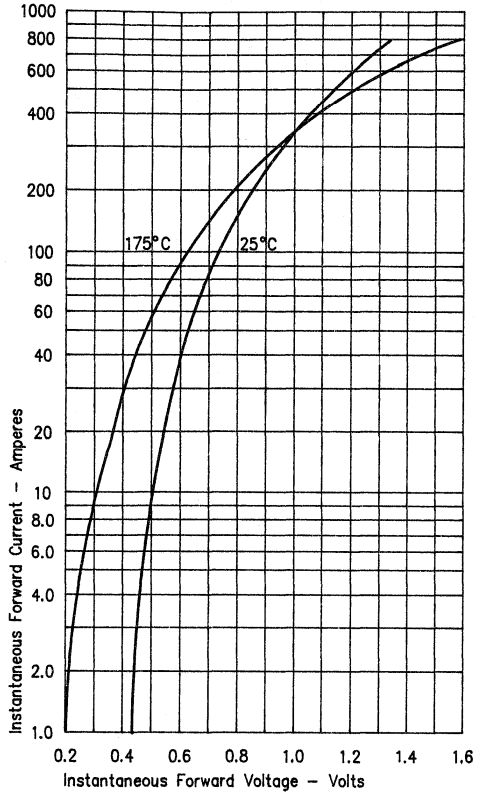


Figure 3  
Typical Junction Capacitance - Per Leg

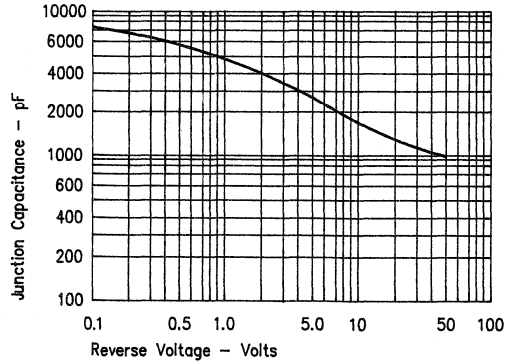


Figure 4  
Forward Current Derating - Per Leg

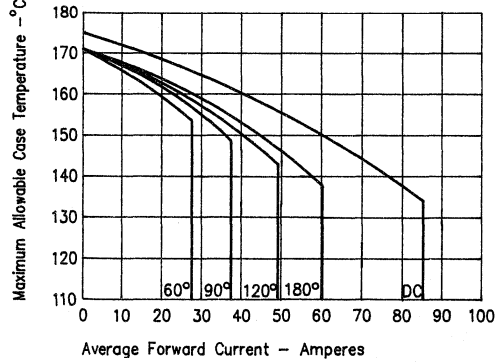


Figure 2  
Typical Reverse Characteristics - Per Leg

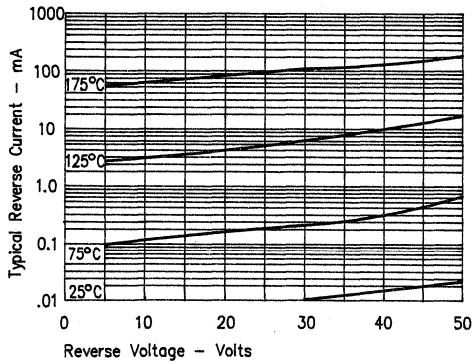
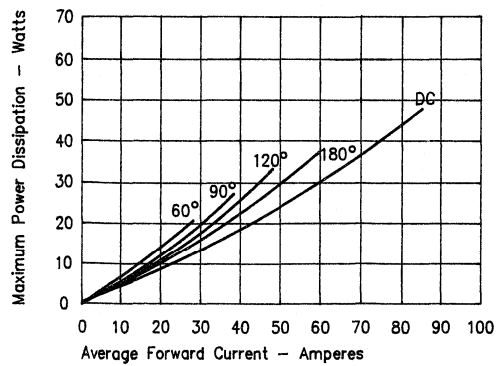
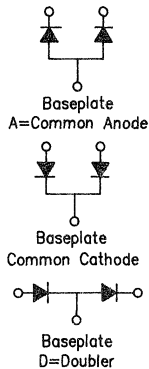
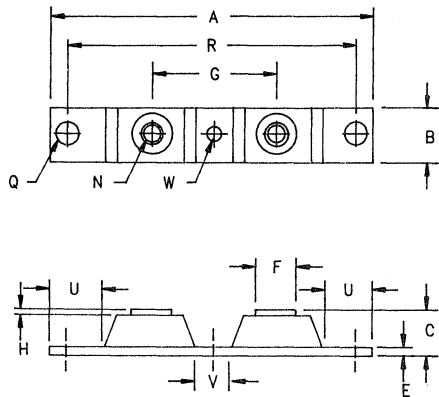


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Schottky OR'ing PowerMod CPT20010 & CPT20015



Notes:  
Baseplate: Nickel plated  
copper; common cathode

Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20	
B	0.700	0.800	17.78	20.32	
C	---	0.625	---	15.87	
E	0.120	0.130	3.05	3.30	
F	0.490	0.510	12.45	12.95	
G	1.375	BSC	34.92	BSC	
H	---	0.050	---	1.27	
N	---	---	---	---	1/4-28
Q	0.280	0.310	6.86	7.11	Dia.
R	3.150	BSC	80.01	BSC	
U	0.600	---	15.24	---	
V	0.330	0.350	8.38	8.89	
W	0.170	0.190	4.32	4.82	Dia.
Y	46.10	BSC	1.815	BSC	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT20010*	10V	10V
CPT20015*	15V	15V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Low Forward Voltage
- $V_{RRM}$  10 to 15 Volts
- 150°C Junction Temperature
- Reverse Energy Tested

Electrical Characteristics		
Average forward current per pkg	I <sub>F(AV)</sub> 200 Amps	T <sub>C</sub> = 125°C, Square wave, R <sub>θJC</sub> = 0.25°C/W
Average forward current per leg	I <sub>F(AV)</sub> 100 Amps	T <sub>C</sub> = 125°C, Square wave, R <sub>θJC</sub> = 0.5°C/W
Maximum surge current per leg	I <sub>FSM</sub> 2000 Amps	8.3ms, half sine, T <sub>J</sub> = 150°C
Maximum repetitive reverse current per leg	I <sub>R(OV)</sub> 2 Amps	f = 1 KHZ, 25°C, 1 μsec square wave
Max peak forward voltage per leg	V <sub>FM</sub> .55 Volts	I <sub>FM</sub> = 200A; T <sub>J</sub> = 25°C*
Max peak forward voltage per leg	V <sub>FM</sub> .40 Volts	I <sub>FM</sub> = 200A; T <sub>J</sub> = 150°C*
Max peak reverse current per leg	I <sub>RM</sub> 3.0 Amps	V <sub>RRM</sub> , T <sub>J</sub> = 125°C*
Max peak reverse current per leg	I <sub>RM</sub> 10 mA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical reverse current per leg	I <sub>RM</sub> 1.3 mA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 9200 pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	T <sub>STG</sub>	-40°C to 150°C
Operation junction temp range	T <sub>J</sub>	-40°C to 150°C
Max thermal resistance per leg	R <sub>θJC</sub>	0.5°C/W Junction to case
Max thermal resistance per pkg	R <sub>θJC</sub>	0.25°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.08°C/W Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque (outside holes)		40 inch pounds maximum
Mounting Base Torque (center hole) center bolt must be torqued first		10 inch pounds maximum
Weight		2.8 ounces (75 grams) typical

**Microsemi Corp.**  
**Colorado**

# CPT20010 & CPT20015



Figure 1  
Typical Forward Characteristics - Per Leg

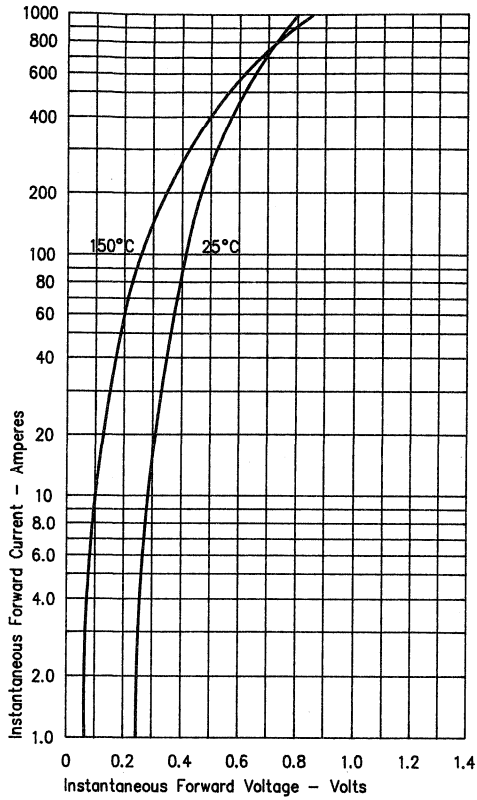


Figure 3  
Typical Junction Capacitance - Per Leg

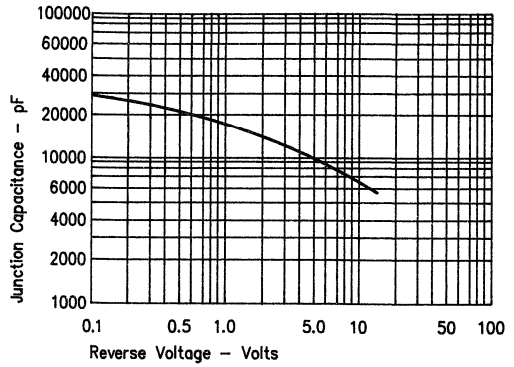


Figure 4  
Forward Current Derating - Per Leg

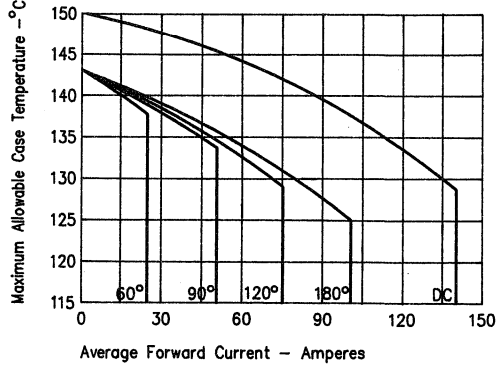


Figure 2  
Typical Reverse Characteristics - Per Leg

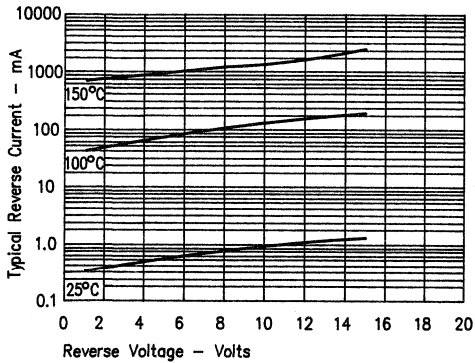
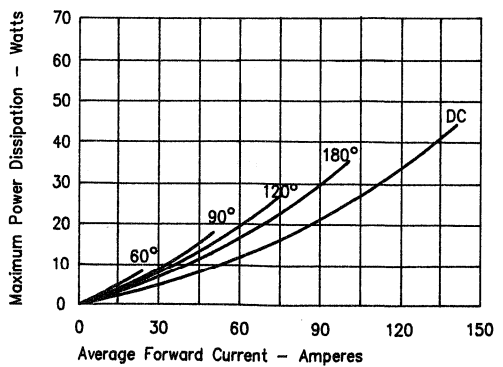
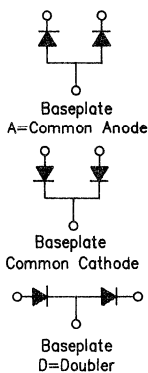
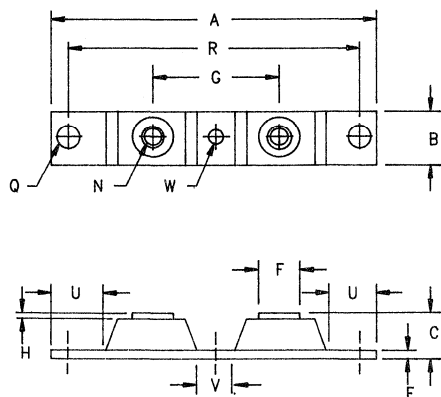


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Schottky PowerMod

## CPT20035 — CPT20050



Notes:  
Baseplate: Nickel plated  
copper; common cathode

Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20	
B	0.700	0.800	17.78	20.32	
C	---	0.630	---	16.00	
E	0.120	0.130	3.05	3.30	
F	0.490	0.510	12.45	12.95	
G	1.375 BSC		34.92 BSC		
H	0.010	---	0.25	---	
N	---	---	---	---	1/4-20 Dia.
Q	0.275	0.290	6.99	7.37	
R	3.150 BSC		80.01 BSC		
U	0.600	---	15.24	---	
V	0.312	0.340	7.92	8.64	
W	0.180	0.195	4.57	4.95	Dia.

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT20035*	35V	35V
CPT20040*	40V	40V
CPT20045*	45V	45V
CPT20050*	50V	50V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- Common Cathode Center Tap
- 200 Amperes/35 to 50 Volts
- 175°C Junction Temperature
- Reverse Energy Tested

Electrical Characteristics		
Average forward current per pkg	I <sub>F(AV)</sub> 200 Amps	T <sub>C</sub> = 143°C Square wave, R <sub>θJC</sub> = 0.25°C/W
Average forward current per leg	I <sub>F(AV)</sub> 100 Amps	T <sub>C</sub> = 143°C, Square wave, R <sub>θJC</sub> = 0.5°C/W
Maximum surge current per leg	I <sub>FSM</sub> 2000 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Maximum repetitive reverse current per leg	I <sub>R(OV)</sub> 2 Amps	f = 1 KHZ, 25°C, 1 usec square wave
Max peak forward voltage per leg	V <sub>FM</sub> 0.80 Volts	I <sub>FM</sub> = 200A; T <sub>J</sub> = 25°C*
Max peak forward voltage per leg	V <sub>FM</sub> 0.60 Volts	I <sub>FM</sub> = 200A; T <sub>J</sub> = 175°C*
Max peak reverse current per leg	I <sub>RM</sub> 75mA	V <sub>RRM, T<sub>J</sub></sub> = 125°C*
Max peak reverse current per leg	I <sub>RM</sub> 4.0mA	V <sub>RRM, T<sub>J</sub></sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 4600pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operation junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance per leg	R <sub>θJC</sub>	0.5°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.08°C/W Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque (outside holes)		40 inch pounds maximum
Mounting Base Torque (center hole)		10 inch pounds maximum
Weight		2.8 ounces (75 grams) typical

**Microsemi Corp.**  
**Colorado**



# CPT20035 — CPT20050



Figure 1  
Typical Forward Characteristics — Per Leg

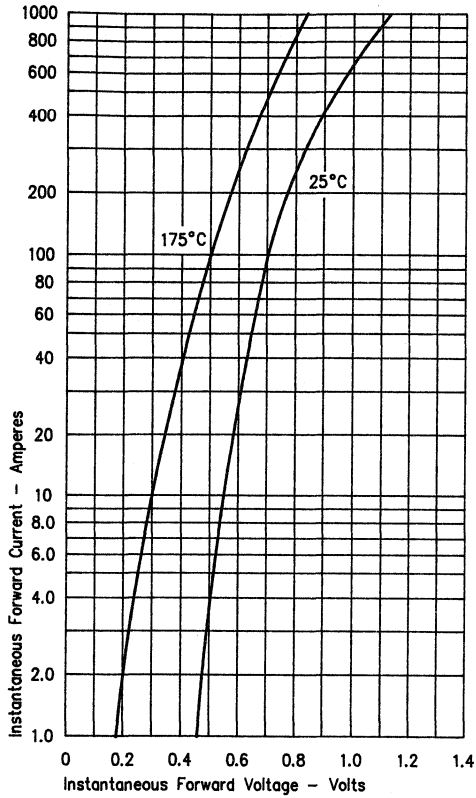


Figure 3  
Typical Junction Capacitance — Per Leg

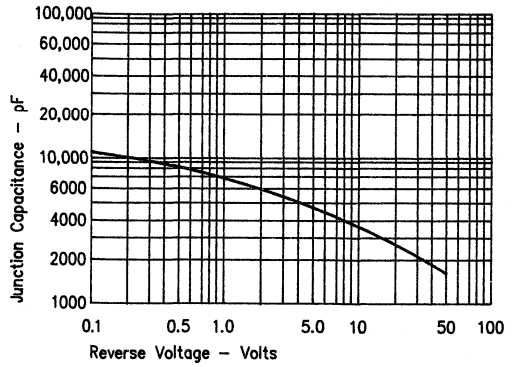


Figure 4  
Forward Current Derating — Per Leg

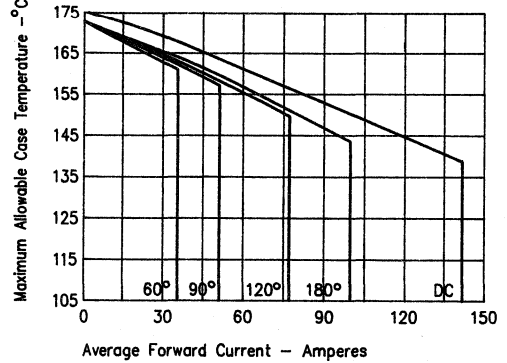


Figure 2  
Typical Reverse Characteristics — Per Leg

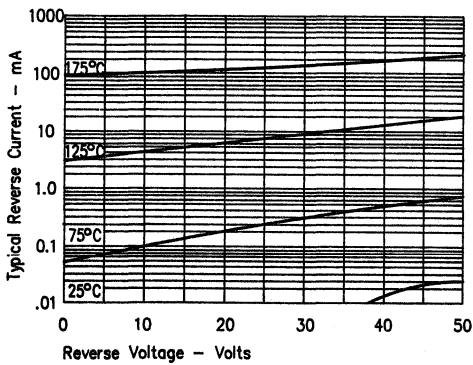
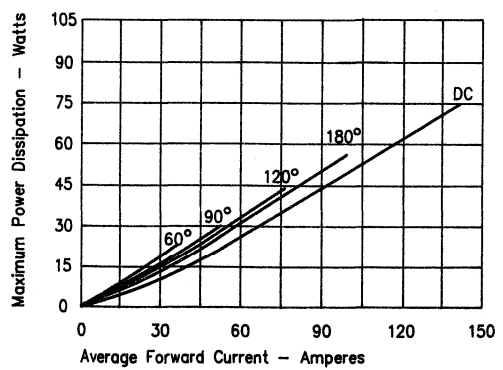
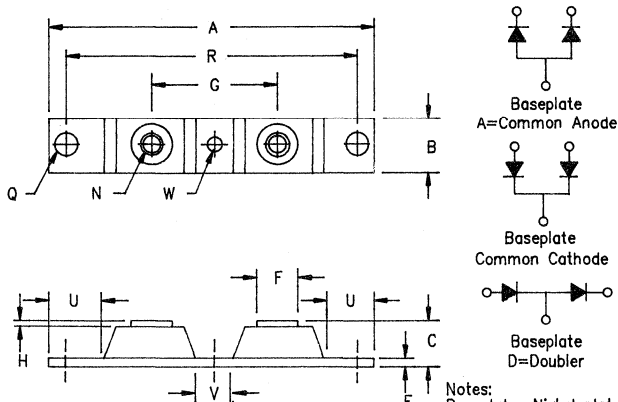


Figure 5  
Maximum Forward Power Dissipation — Per Leg



# Schottky PowerMod

## CPT20120 — CPT20140



Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	----	3.630	----	92.20	
B	0.700	0.800	17.78	20.32	
C	----	0.625	----	15.87	
E	0.120	0.130	3.05	3.30	
F	0.490	0.510	12.45	12.95	
G	1.375 BSC		34.92 BSC		
H	----	0.050	----	1.27	
N	----	----	----	----	1/4-28
Q	0.280	0.310	6.86	7.11	Dia.
R	3.150 BSC		80.01 BSC		
U	0.600	----	15.24	----	
V	0.330	0.350	8.38	8.89	
W	0.170	0.190	4.32	4.82	Dia.
Y	46.10 BSC		1.815 BSC		

Notes:  
Baseplate: Nickel plated copper; common cathode

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT20120*	20V	45V
CPT20125*	25V	50V
CPT20130*	30V	30V
CPT20135*	35V	35V
CPT20140*	40V	40V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- Common Cathode Center Tap
- 200 Amperes/40 Volts
- 125°C Junction Temperature
- Reverse Energy Tested
- VRRM 20 — 40 Volts

### Electrical Characteristics

Average forward current per pkg	I <sub>F(AV)</sub> 200 Amps	T <sub>C</sub> = 96°C, Square wave, R <sub>θJC</sub> = .20°C/W
Average forward current per leg	I <sub>F(AV)</sub> 100 Amps	T <sub>C</sub> = 96°C, Square wave, R <sub>θJC</sub> = .40°C/W
Maximum surge current per leg	I <sub>FSM</sub> 2000 Amps	8.3ms, half sine, T <sub>J</sub> = 125°C
Maximum repetitive reverse current per leg	I <sub>R(OV)</sub> 2 Amps	f = 1 KHZ, 25°C
Max peak forward voltage per leg	V <sub>FM</sub> 0.68 Volts	I <sub>FM</sub> = 200A: T <sub>J</sub> = 25°C*
Max peak forward voltage per leg	V <sub>FM</sub> 0.64 Volts	I <sub>FM</sub> = 200A: T <sub>J</sub> = 125°C*
Max peak reverse current per leg	I <sub>RM</sub> 550mA	V <sub>RRM</sub> , T <sub>J</sub> = 125°C*
Max peak reverse current per leg	I <sub>RM</sub> 4.0mA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 5500pF	V <sub>R</sub> = 5.0V, T <sub>C</sub> = 25°C

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-40°C to 150°C
Operating junction temp range	T <sub>J</sub>	-40°C to 125°C
Max thermal resistance per leg	R <sub>θJC</sub>	0.40°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.08°C/W Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque (outside holes)		40 inch pounds maximum
Mounting Base Torque (center hole)		10 inch pounds maximum
center hole must be torqued first		
Weight		2.8 ounces (75 grams) typical

**Microsemi Corp.**  
**Colorado**

# CPT20120 — CPT20140



Figure 1  
Maximum Forward Characteristics — Per Leg

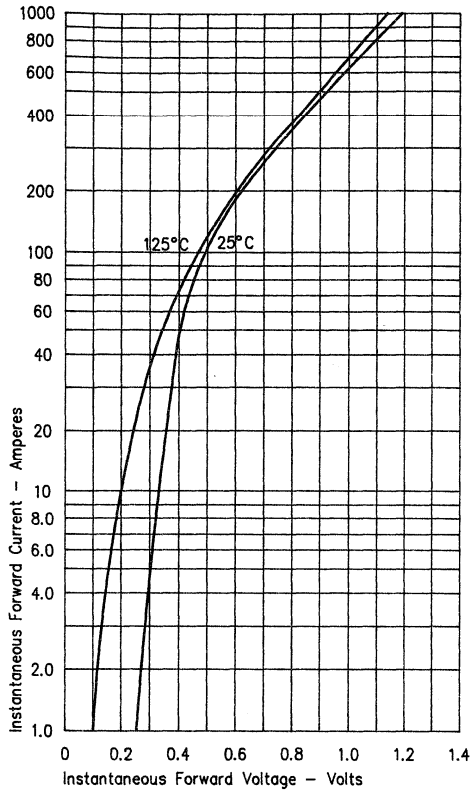


Figure 3  
Forward Current Derating — Per Leg

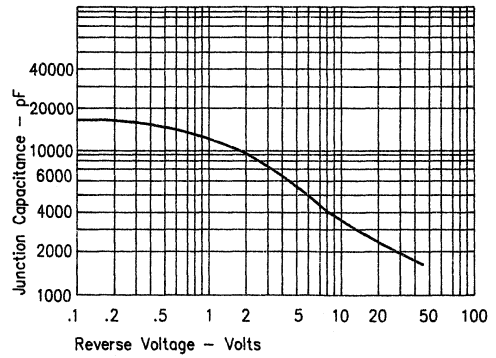


Figure 4  
Typical Junction Capacitance — Per Leg

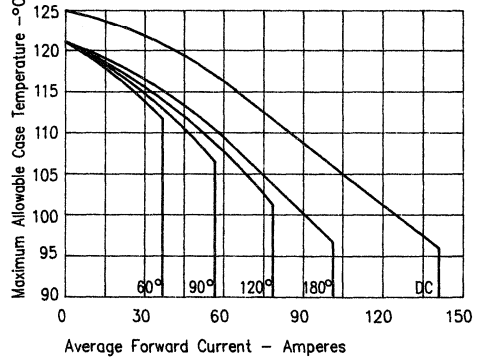


Figure 2  
Typical Reverse Characteristics — Per Leg

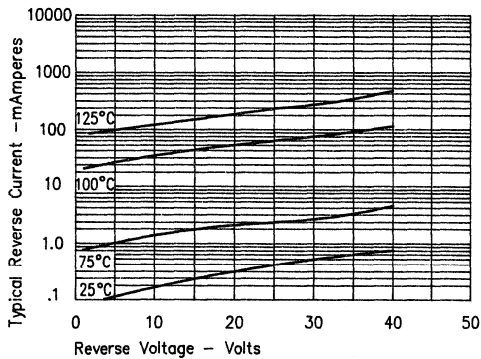
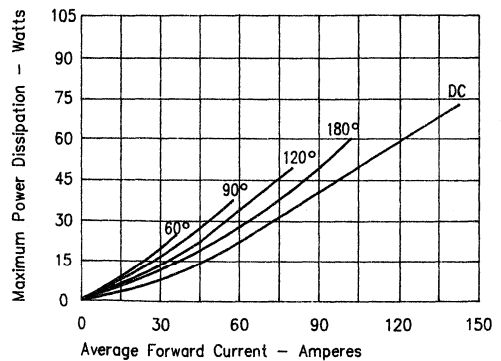
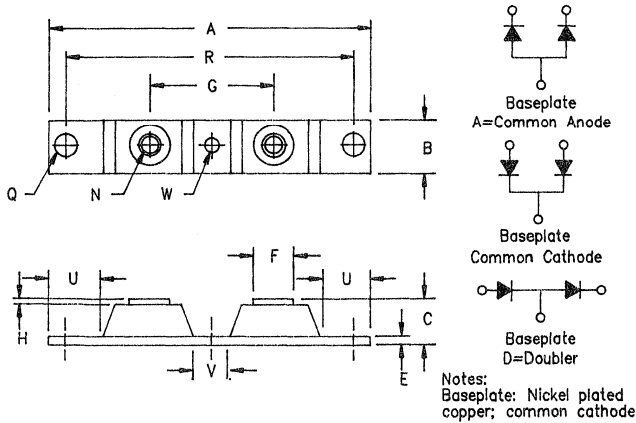


Figure 5  
Maximum Forward Power Dissipation — Per Leg



# Schottky PowerMod

## CPT30035 — CPT30050



Dim. Inches		Millimeters		Notes
Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20
B	0.700	0.800	17.78	20.32
C	---	0.630	---	16.00
E	0.120	0.130	3.05	3.30
F	0.490	0.510	12.45	12.95
G	1.375 BSC		34.92 BSC	
H	0.010	---	0.25	---
N	---	---	---	1/4-20
Q	0.275	0.290	6.99	7.37 Dia.
R	3.150 BSC		80.01 BSC	
U	0.600	---	15.24	---
V	0.312	0.340	7.92	8.64
W	0.180	0.195	4.57	4.95 Dia.

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT30035*	35V	35V
CPT30040*	40V	40V
CPT30045*	45V	45V
CPT30050*	50V	50V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- Common Cathode Center Tap
- 300 Amperes/35 to 50 Volts
- 175°C Junction Temperature
- Reverse Energy Tested

Electrical Characteristics		
Average forward current per pkg	$I_F(AV)$ 300 Amps	$T_C = 136^\circ C$ , Square wave, $R_{\theta JC} = 0.20^\circ C/W$
Average forward current per leg	$I_F(AV)$ 150 Amps	$T_C = 136^\circ C$ , Square wave, $R_{\theta JC} = 0.40^\circ C/W$
Maximum surge current per leg	$I_{FSM}$ 2000 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Maximum repetitive reverse current per leg	$I_R(OV)$ 2 Amps	$f = 1$ KHZ, $25^\circ C$
Max peak forward voltage per leg	$V_{FM}$ 0.70 Volts	$I_{FM} = 200A: T_J = 125^\circ C^*$
Max peak forward voltage per leg	$V_{FM}$ 0.76 Volts	$I_{FM} = 200A: T_J = 25^\circ C^*$
Max peak reverse current per leg	$I_{RM}$ 75 mA	$V_{RRM}, T_J = 125^\circ C^*$
Max peak reverse current per leg	$I_{RM}$ 4.0 mA	$V_{RRM}, T_J = 25^\circ C$
Typical junction capacitance	$C_J$ 4600 pF	$V_R = 5.0V, T_C = 25^\circ C$

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	$T_{STG}$	-40°C to 175°C
Operating junction temp range	$T_J$	-40°C to 175°C
Max thermal resistance per leg	$R_{\theta JC}$	0.40°C/W Junction to case
Typical thermal resistance	$R_{\theta CS}$	0.08°C/W Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque (outside holes)		40 inch pounds maximum
Mounting Base Torque (center hole)		10 inch pounds maximum
Weight		2.8 ounces (75 grams) typical



# CPT30035 — CPT30050



Figure 1  
Typical Forward Characteristics — Per Leg

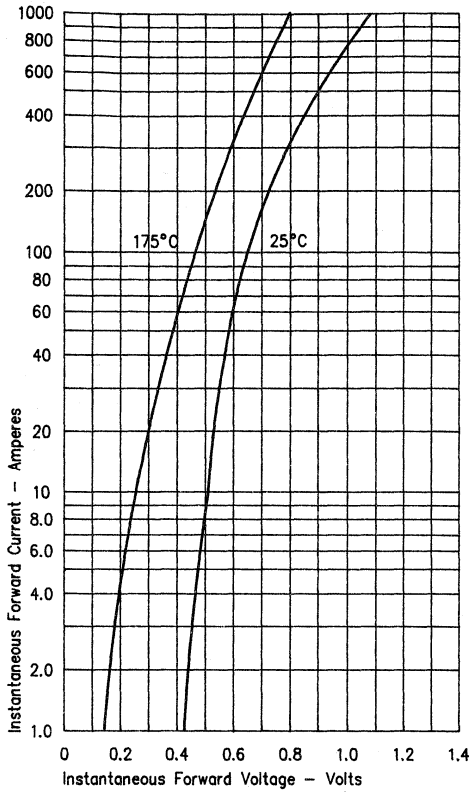


Figure 2  
Typical Reverse Characteristics — Per Leg

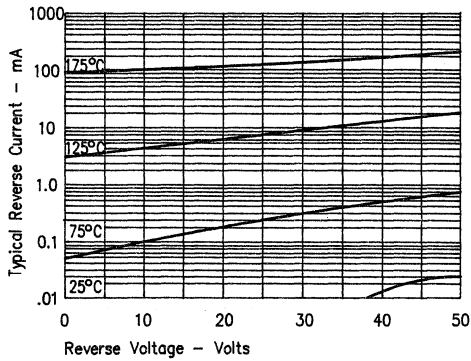


Figure 3  
Typical Junction Capacitance — Per Leg

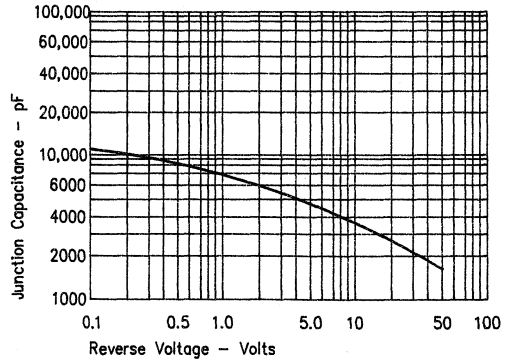


Figure 4  
Forward Current Derating — Per Leg

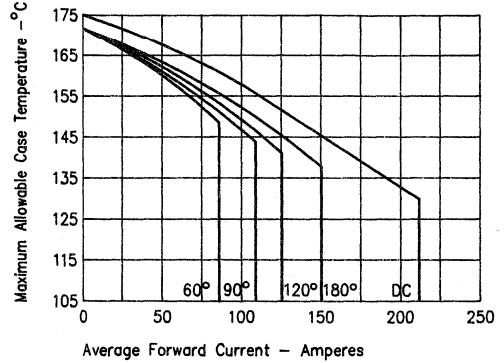
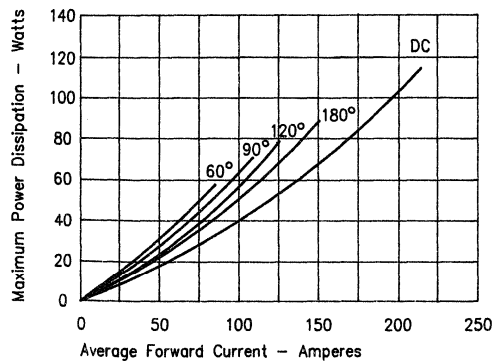
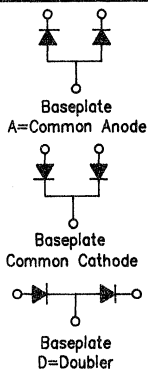
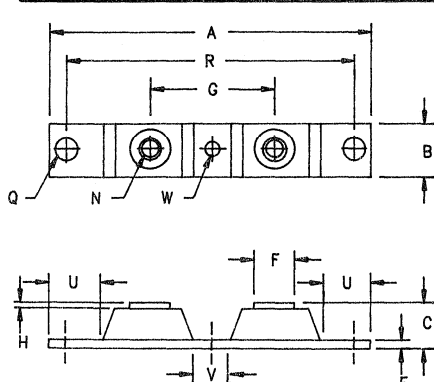


Figure 5  
Maximum Forward Power Dissipation — Per Leg



# Schottky PowerMod CPT30060



Notes:  
Baseplate: Nickel plated  
copper; common cathode

Dim. Inches		Millimeters		Notes
Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20
B	0.700	0.800	17.78	20.32
C	---	0.630	---	16.00
E	0.120	0.130	3.05	3.30
F	0.490	0.510	12.45	12.95
G	1.375 BSC		34.92 BSC	
H	0.010	---	0.25	---
N	---	---	---	1/4-20 Dia.
Q	0.275	0.290	6.99	7.37
R	3.150 BSC		80.01 BSC	
U	0.600	---	15.24	---
V	0.312	0.340	7.92	8.64
W	0.180	0.195	4.57	4.95 Dia.

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT30060*	60V	60V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- VRRM 60 Volts
- 175°C Junction Temperature
- Reverse Energy Tested

## Electrical Characteristics

Average forward current per pkg	I <sub>F(AV)</sub> 300 Amps	T <sub>C</sub> = 127°C, Square wave, R <sub>θJC</sub> = 0.20°C/W
Average forward current per leg	I <sub>F(AV)</sub> 150 Amps	T <sub>C</sub> = 127°C, Square wave, R <sub>θJC</sub> = 0.40°C/W
Maximum surge current per leg	I <sub>FSM</sub> 2000 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Maximum repetitive reverse current per leg	I <sub>R(OV)</sub> 2 Amps	f = 1 KHZ, 25°C, 1 μsec square wave
Max peak forward voltage per leg	V <sub>FM</sub> .82 Volts	I <sub>FM</sub> = 200A; T <sub>J</sub> = 25°C*
Max peak forward voltage per leg	V <sub>FM</sub> .68 Volts	I <sub>FM</sub> = 200A; T <sub>J</sub> = 175°C*
Max peak reverse current per leg	I <sub>RM</sub> 75 mA	V <sub>RRM</sub> , T <sub>J</sub> = 125°C*
Max peak reverse current per leg	I <sub>RM</sub> 4.0 mA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 4300 pF	V <sub>R</sub> = 5.0V, T <sub>C</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance per leg	R <sub>θJC</sub>	0.40°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.08°C/W Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque (outside holes)		40 inch pounds maximum
Mounting Base Torque (center hole) center hole must be torqued first		10 inch pounds maximum
Weight		2.8 ounces (78.3 grams) typical

**Microsemi Corp.**  
**Colorado**

# CPT30060



Figure 1  
Typical Forward Characteristics - Per Leg

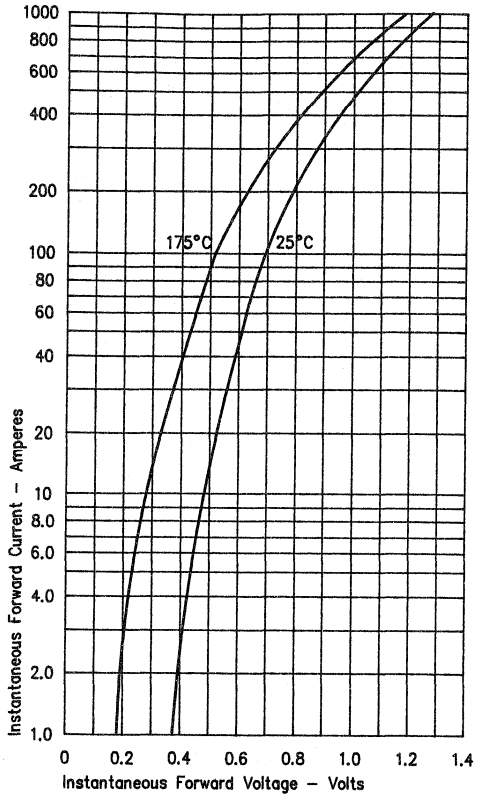


Figure 3  
Typical Junction Capacitance - Per Leg

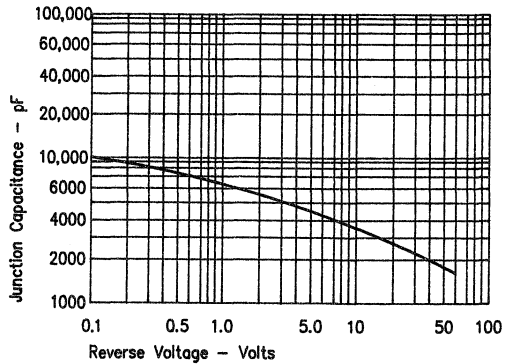


Figure 4  
Forward Current Derating - Per Leg

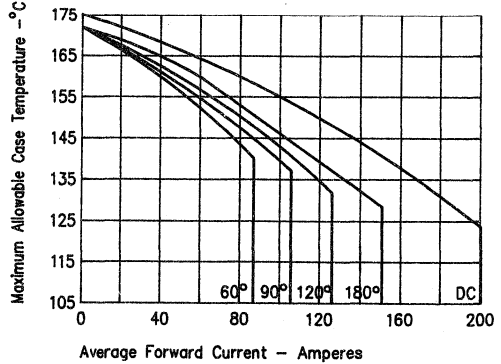


Figure 2  
Typical Reverse Characteristics - Per Leg

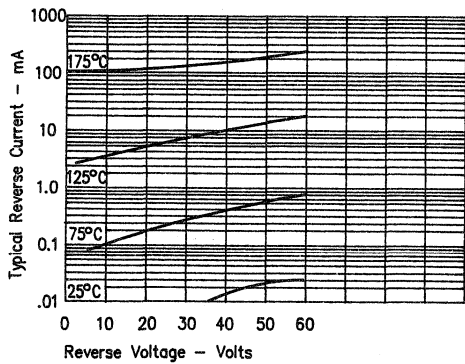
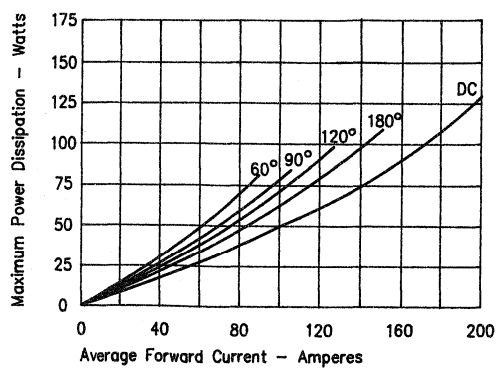
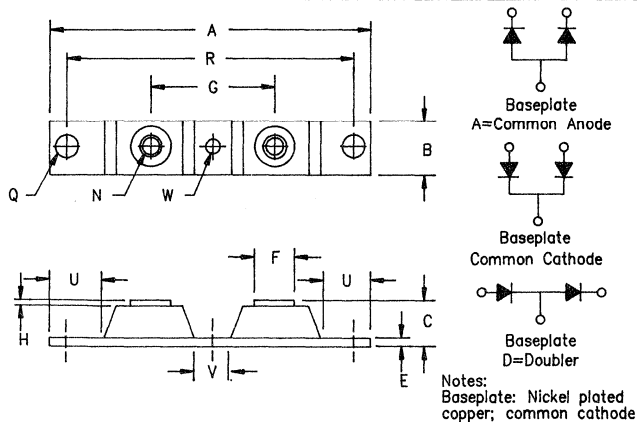


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Schottky PowerMod

## CPT30080, CPT30090



Dim. Inches		Millimeters		Notes
Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20
B	0.700	0.800	17.78	20.32
C	---	0.630	---	16.00
E	0.120	0.130	3.05	3.30
F	0.490	0.510	12.45	12.95
G	1.375 BSC		34.92 BSC	
H	0.010	---	0.25	---
N	---	---	---	1/4-20 Dia.
Q	0.275	0.290	6.99	7.37
R	3.150 BSC		80.01 BSC	
U	0.600	---	15.24	---
V	0.312	0.340	7.92	8.64
W	0.180	0.195	4.57	4.95

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT30080*	80V	80V
CPT30090*	90V	90V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- VRRM 90 Volts
- 175°C Junction Temperature
- Reverse Energy Tested

Electrical Characteristics		
Average forward current per pkg	I <sub>F(AV)</sub> 300 Amps	T <sub>C</sub> = 112°C, Square wave, R <sub>θJC</sub> = 0.20°C/W
Average forward current per leg	I <sub>F(AV)</sub> 150 Amps	T <sub>C</sub> = 112°C, Square wave, R <sub>θJC</sub> = 0.40°C/W
Maximum surge current per leg	I <sub>FSM</sub> 2000 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Maximum repetitive reverse current per leg	I <sub>R(OV)</sub> 2 Amps	f = 1 KHZ, 25°C, 1 μsec square wave
Max peak forward voltage per leg	V <sub>FM</sub> 0.98 Volts	I <sub>FM</sub> = 200A; T <sub>J</sub> = 25°C
Max peak forward voltage per leg	V <sub>FM</sub> 0.86 Volts	I <sub>FM</sub> = 200A; T <sub>J</sub> = 175°C
Max peak reverse current per leg	I <sub>RM</sub> 75 mA	V <sub>RRM, T<sub>J</sub></sub> = 125°C*
Max peak reverse current per leg	I <sub>RM</sub> 4.0 mA	V <sub>RRM, T<sub>J</sub></sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 3000 pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance per leg	R <sub>θJC</sub>	0.40°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.08°C/W Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque (outside holes)		40 inch pounds maximum
Mounting Base Torque (center hole)		10 inch pounds maximum
Weight		2.8 ounces (78.3 grams) typical

**Microsemi Corp.**  
**Colorado**



# CPT30080, CPT30090



Figure 1  
Typical Forward Characteristics - Per Leg

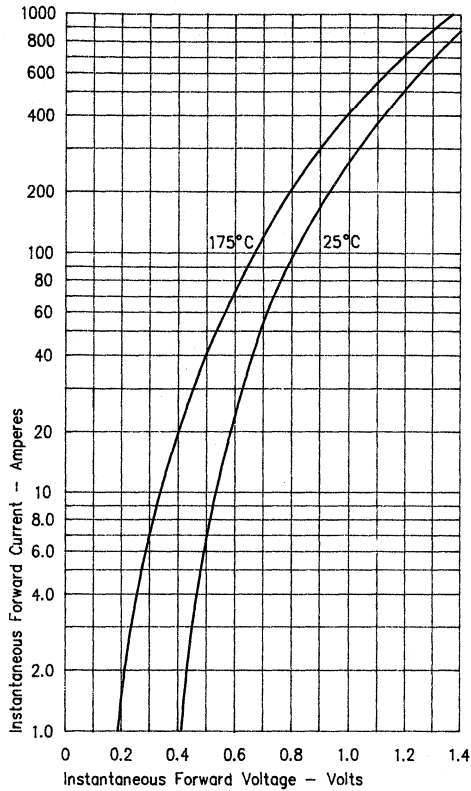


Figure 3  
Typical Junction Capacitance - Per Leg

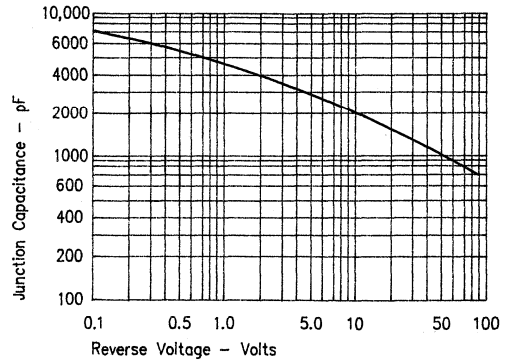


Figure 4  
Forward Current Derating - Per Leg

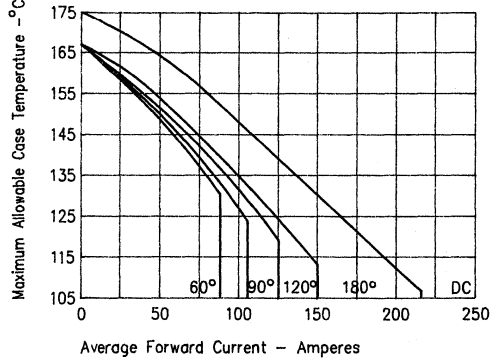


Figure 2  
Typical Reverse Characteristics - Per Leg

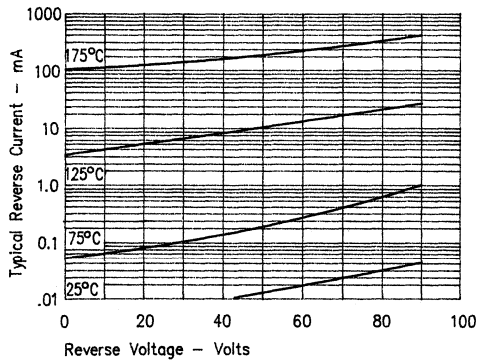
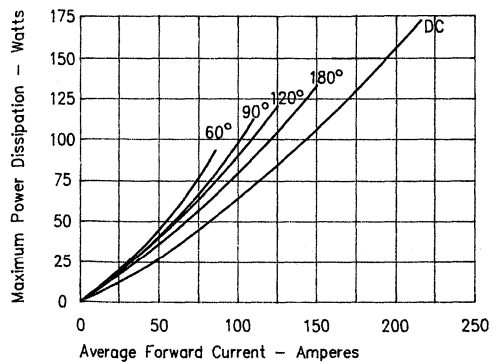
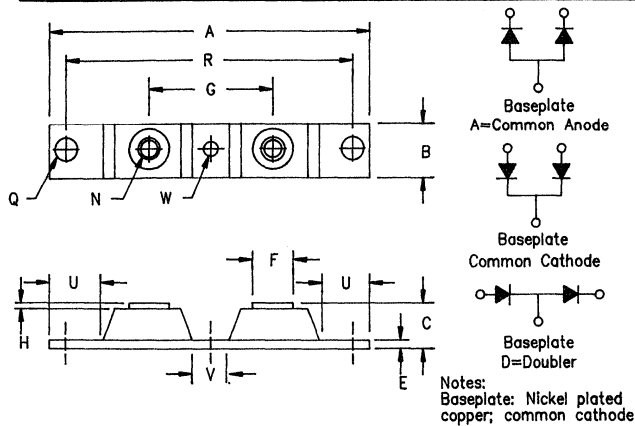


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Schottky PowerMod

## CPT40035 — CPT40050



Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20	
B	0.700	0.800	17.78	20.32	
C	---	0.630	---	16.00	
E	0.120	0.130	3.05	3.30	
F	0.490	0.510	12.45	12.95	
G	1.375 BSC	---	34.92 BSC	---	
H	0.010	---	0.25	---	
N	---	---	---	---	1/4-20
Q	0.275	0.290	6.99	7.37	Dia.
R	3.150 BSC	---	80.01 BSC	---	
U	0.600	---	15.24	---	
V	0.312	0.340	7.92	8.64	
W	0.180	0.195	4.57	4.95	Dia.

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT40035*	35V	35V
CPT40040*	40V	40V
CPT40045*	45V	45V
CPT40050*	50V	50V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- VRRM 35 to 50 Volts
- 175°C Junction Temperature
- Reverse Energy Tested

### Electrical Characteristics

Average forward current per pkg	I <sub>F(AV)</sub> 400 Amps	T <sub>C</sub> = 127°C, Square wave, R <sub>θJC</sub> = 0.16°C/W
Average forward current per leg	I <sub>F(AV)</sub> 200 Amps	T <sub>C</sub> = 127°C, Square wave, R <sub>θJC</sub> = 0.32°C/W
Maximum surge current per leg	I <sub>FSM</sub> 3000 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Maximum repetitive reverse current per leg	I <sub>R(OV)</sub> 2 Amps	f = 1 KHZ, 25°C, 1 usec square wave
Max peak forward voltage per leg	V <sub>FM</sub> 0.78 Volts	I <sub>FM</sub> = 200A; T <sub>J</sub> = 25°C*
Max peak forward voltage per leg	V <sub>FM</sub> 0.62 Volts	I <sub>FM</sub> = 200A; T <sub>J</sub> = 175°C*
Max peak reverse current per leg	I <sub>RM</sub> 100 mA	VRRM, T <sub>J</sub> = 125°C*
Max peak reverse current per leg	I <sub>RM</sub> 5.0 mA	VRRM, T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 7200 pF	V <sub>R</sub> = 5.0V, T <sub>C</sub> = 25°C

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance	R <sub>θJC</sub>	0.32°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.08°C/W Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque (outside holes)		40 inch pounds maximum
Mounting Base Torque (center hole)		10 inch pounds maximum
center hole must be torqued first		
Weight		2.8 ounces (78.3 grams) typical

# CPT40035 — CPT40050



Figure 1  
Typical Forward Characteristics — Per Leg

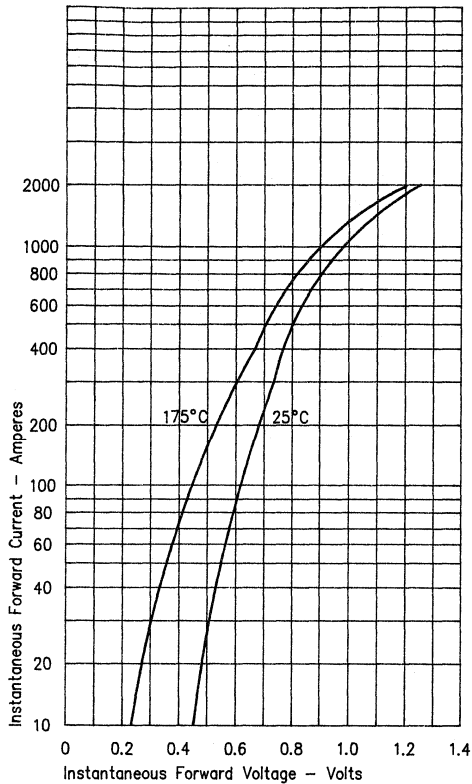


Figure 3  
Typical Junction Capacitance — Per Leg

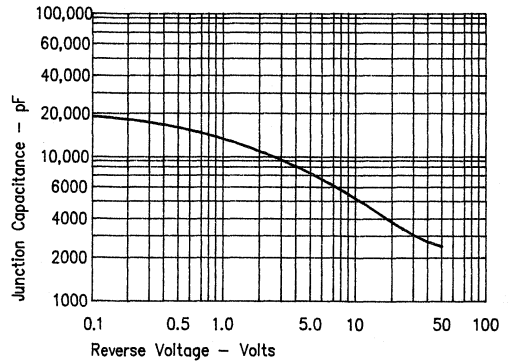


Figure 4  
Forward Current Derating — Per Leg

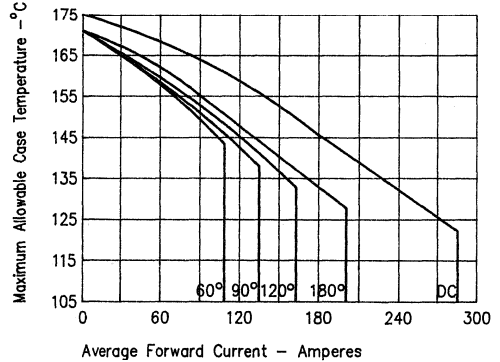


Figure 2  
Typical Reverse Characteristics — Per Leg

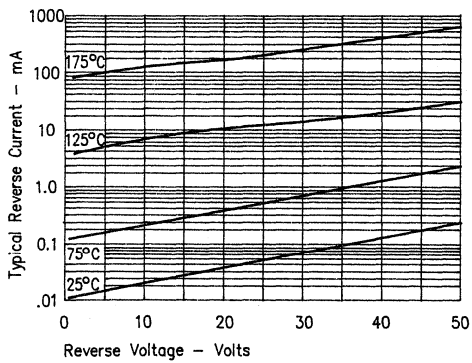
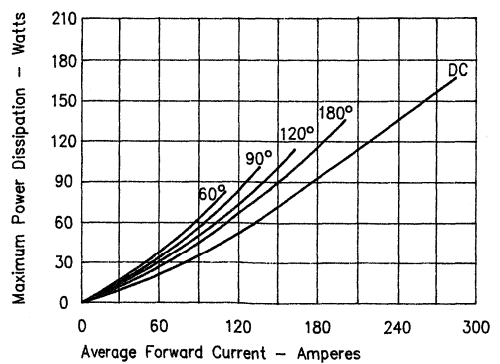
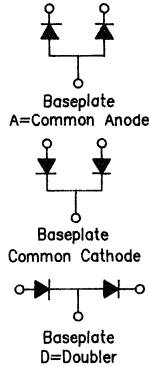
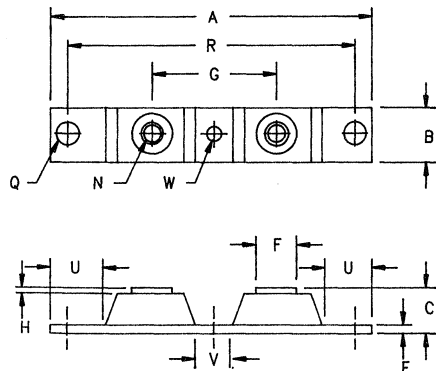


Figure 5  
Maximum Forward Power Dissipation — Per Leg



# Schottky PowerMod CPT40060



Notes:  
Baseplate: Nickel plated  
copper; common cathode

Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20	
B	0.700	0.800	17.78	20.32	
C	---	0.630	---	16.00	
E	0.120	0.130	3.05	3.30	
F	0.490	0.510	12.45	12.95	
G	1.375 BSC		34.92 BSC		
H	0.010	---	0.25	---	
N	---	---	---	---	1/4-20
Q	0.275	0.290	6.99	7.37	Dia.
R	3.150 BSC		80.01 BSC		
U	0.600	---	15.24	---	
V	0.312	0.340	7.92	8.64	
W	0.180	0.195	4.57	4.95	Dia.

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT40060*	60V	60V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- VRRM 60 Volts
- 175°C Junction Temperature
- Reverse Energy Tested

## Electrical Characteristics

Average forward current per pkg	$I_F(AV)$ 400 Amps	$T_C = 125^\circ C$ , Square wave, $R_{\theta JC} = 0.16^\circ C/W$
Average forward current per leg	$I_F(AV)$ 200 Amps	$T_C = 125^\circ C$ , Square wave, $R_{\theta JC} = 0.32^\circ C/W$
Maximum surge current per leg	$I_{FSM}$ 3000 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Maximum repetitive reverse current per leg	$I_R(OV)$ 2 Amps	$f = 1$ KHZ, $25^\circ C$ , 1 usec square wave
Max peak forward voltage per leg	$V_{FM}$ .80 Volts	$I_{FM} = 200A; T_J = 25^\circ C^*$
Max peak forward voltage per leg	$V_{FM}$ .65 Volts	$I_{FM} = 200A; T_J = 175^\circ C^*$
Max peak reverse current per leg	$I_{RM}$ 100 mA	$V_{RRM}, T_J = 125^\circ C^*$
Max peak reverse current per leg	$I_{RM}$ 5.0 mA	$V_{RRM}, T_J = 25^\circ C$
Typical junction capacitance	$C_J$ 6500 pF	$V_R = 5.0V, T_C = 25^\circ C$

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	-40°C to 175°C
Operating junction temp range	$T_J$	-40°C to 175°C
Max thermal resistance	$R_{\theta JC}$	0.32°C/W Junction to case
Typical thermal resistance	$R_{\theta CS}$	0.08°C/W Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque (outside holes)		40 inch pounds maximum
Mounting Base Torque (center hole)		10 inch pounds maximum
center hole must be torqued first		
Weight		2.8 ounces (78.3 grams) typical

**Microsemi Corp.**  
**Colorado**

# CPT40060



Figure 1  
Typical Forward Characteristics - Per Leg

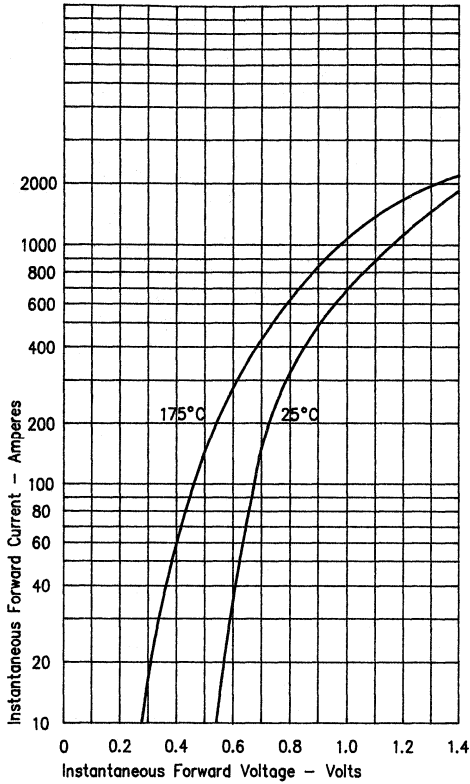


Figure 3  
Typical Junction Capacitance - Per Leg

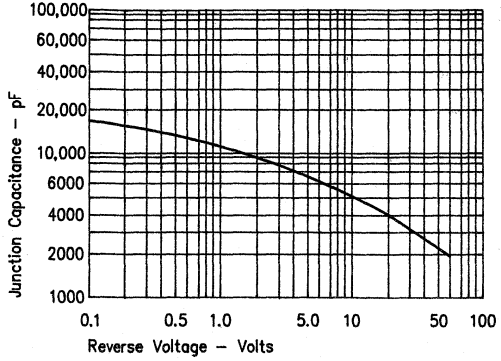


Figure 4  
Forward Current Derating - Per Leg

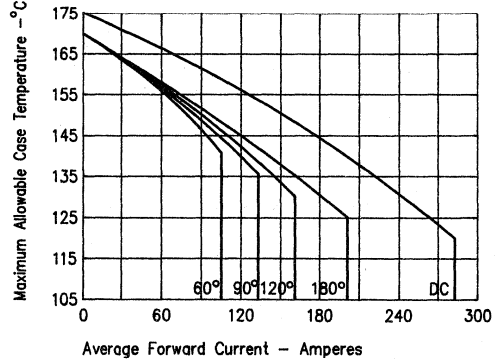


Figure 2  
Typical Reverse Characteristics - Per Leg

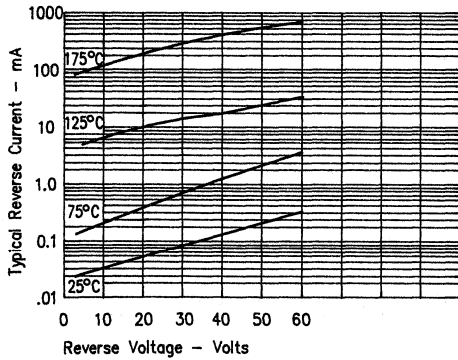
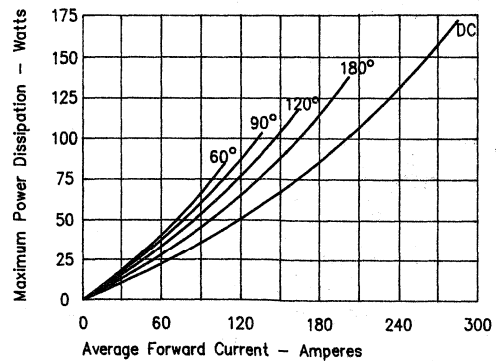
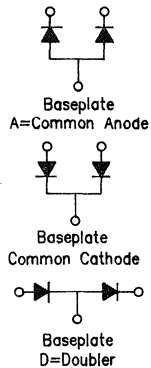
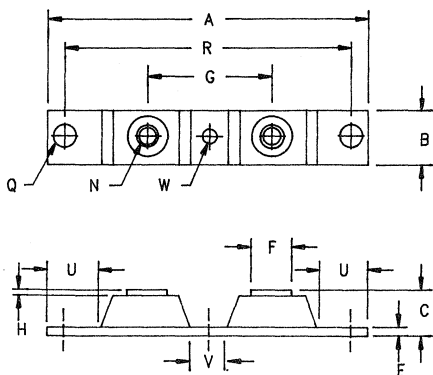


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Schottky PowerMod

## CPT40080, CPT40090



Notes:  
Baseplate: Nickel plated copper; common cathode

Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20	
B	0.700	0.800	17.78	20.32	
C	---	0.630	---	16.00	
E	0.120	0.130	3.05	3.30	
F	0.490	0.510	12.45	12.95	
G	1.375	BSC	34.92	BSC	
H	0.010	---	0.25	---	
N	---	---	---	---	1/4-20 Dia.
Q	0.275	0.290	6.99	7.37	
R	3.150	BSC	80.01	BSC	
U	0.600	---	15.24	---	
V	0.312	0.340	7.92	8.64	
W	0.180	0.195	4.57	4.95	Dia.

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT40080*	80V	80V
CPT40090*	90V	90V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- VRRM 90 Volts
- 175°C Junction Temperature
- Reverse Energy Tested

Electrical Characteristics		
Average forward current per pkg	$I_F(AV)$ 400 Amps	$T_C = 108^\circ C$ , Square wave, $R_{\theta JC} = 0.16^\circ C/W$
Average forward current per leg	$I_F(AV)$ 200 Amps	$T_C = 108^\circ C$ , Square wave, $R_{\theta JC} = 0.32^\circ C/W$
Maximum surge current per leg	$I_{FSM}$ 3000 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Maximum repetitive reverse current per leg	$I_R(OV)$ 2 Amps	$f = 1$ KHZ, $25^\circ C$ , 1 usec square wave
Max peak forward voltage per leg	$V_{FM}$ .91 Volts	$I_{FM} = 200A; T_J = 25^\circ C^*$
Max peak forward voltage per leg	$V_{FM}$ .72 Volts	$I_{FM} = 200A; T_J = 175^\circ C^*$
Max peak reverse current per leg	$I_{RM}$ 100 mA	$V_{RRM}, T_J = 125^\circ C^*$
Max peak reverse current per leg	$I_{RM}$ 5.0 mA	$V_{RRM}, T_J = 25^\circ C$
Typical junction capacitance	$C_J$ 4800 pF	$V_R = 5.0V, T_C = 25^\circ C$

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	$T_{STG}$	$-40^\circ C$ to $175^\circ C$
Operating junction temp range	$T_J$	$-40^\circ C$ to $175^\circ C$
Max thermal resistance	$R_{\theta JC}$	$0.32^\circ C/W$ Junction to case
Typical thermal resistance	$R_{\theta CS}$	$0.08^\circ C/W$ Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque (outside holes)		40 inch pounds maximum
Mounting Base Torque (center hole)		10 inch pounds maximum
center hole must be torqued first		
Weight		2.8 ounces (78.3 grams) typical



# CPT40080, CPT40090



Figure 1  
Typical Forward Characteristics – Per Leg

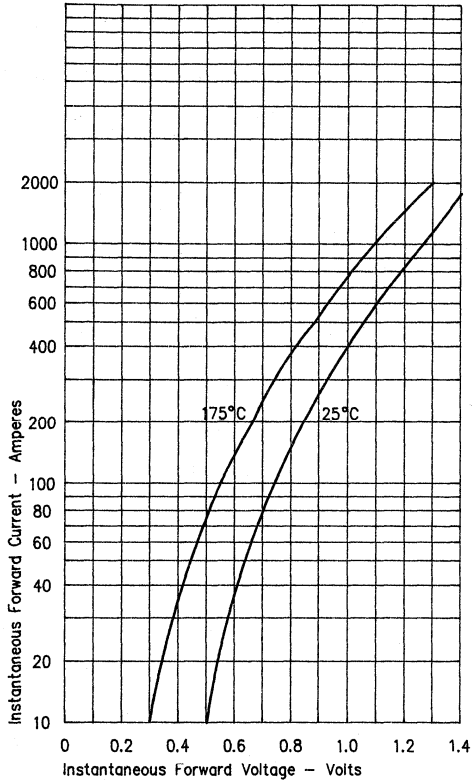


Figure 3  
Typical Junction Capacitance – Per Leg

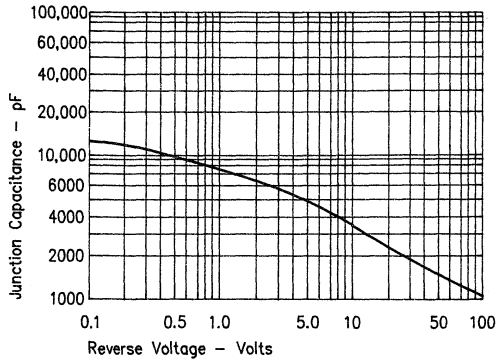


Figure 4  
Forward Current Derating – Per Leg

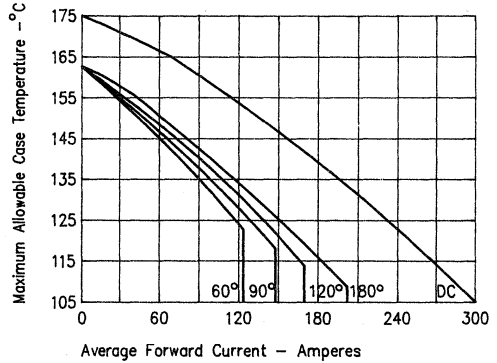


Figure 2  
Typical Reverse Characteristics – Per Leg

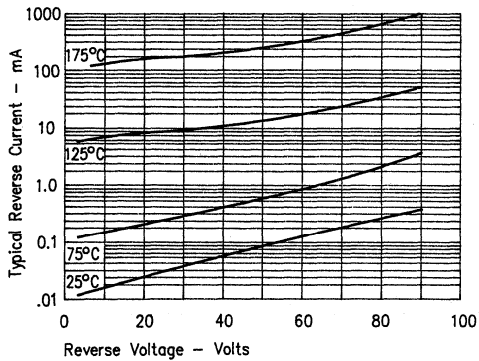
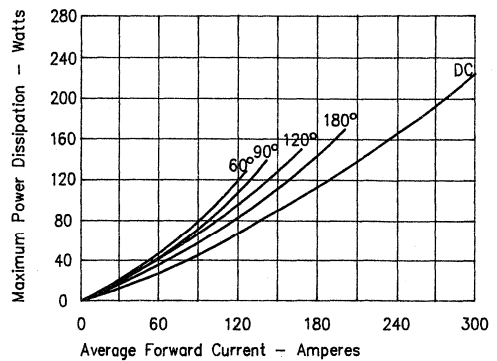
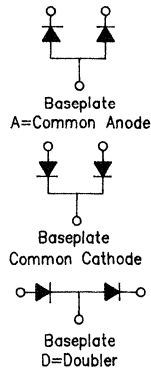
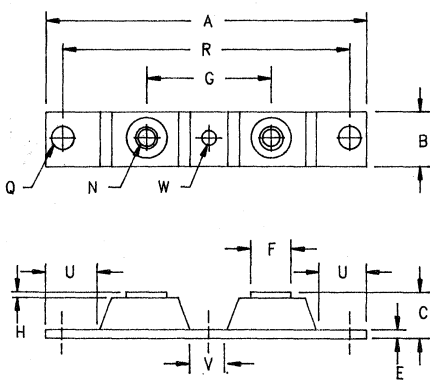


Figure 5  
Maximum Forward Power Dissipation – Per Leg



# Schottky PowerMod

## CPT40120 — CPT40140



Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20	
B	0.700	0.800	17.78	20.32	
C	---	0.630	---	16.00	
E	0.120	0.130	3.05	3.30	
F	0.490	0.510	12.45	12.95	
G	1.375	BSC	34.92	BSC	
H	0.010	---	0.25	---	
N	---	---	---	---	1/4-20
Q	0.275	0.290	6.99	7.37	Dia.
R	3.150	BSC	80.01	BSC	
U	0.600	---	15.24	---	
V	0.312	0.340	7.92	8.64	
W	0.180	0.195	4.57	4.95	Dia.

Notes:  
Baseplate: Nickel plated copper; common cathode

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT40120*	20V	20V
CPT40125*	25V	25V
CPT40130*	30V	30V
CPT40135*	35V	35V
CPT40140*	40V	40V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- VRRM 20 to 40 Volts
- 150°C Junction Temperature
- Reverse Energy Tested

Electrical Characteristics		
Average forward current per pkg	I <sub>F(AV)</sub> 400 Amps	T <sub>C</sub> = 79°C, Square wave, R <sub>θJC</sub> = 0.16°C/W
Average forward current per leg	I <sub>F(AV)</sub> 200 Amps	T <sub>C</sub> = 79°C, Square wave, R <sub>θJC</sub> = 0.32°C/W
Maximum surge current per leg	I <sub>FSM</sub> 3000 Amps	8.3ms, half sine, T <sub>J</sub> = 150°C
Maximum repetitive reverse current per leg	I <sub>R(OV)</sub> 2 Amps	f = 1 KHZ, 25°C, 1 usec square wave
Max peak forward voltage per leg	V <sub>FM</sub> 0.55 Volts	I <sub>FM</sub> = 200A; T <sub>J</sub> = 25°C*
Max peak forward voltage per leg	V <sub>FM</sub> 0.49 Volts	I <sub>FM</sub> = 200A; T <sub>J</sub> = 150°C*
Max peak reverse current per leg	I <sub>RM</sub> 3.5 A	VRRM, T <sub>J</sub> = 125°C*
Max peak reverse current per leg	I <sub>RM</sub> 10 mA	VRRM, T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 7000 pF	V <sub>R</sub> = 5.0V, T <sub>C</sub> = 25°C

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	T <sub>STG</sub>	-40°C to 150°C
Operating junction temp range	T <sub>J</sub>	-40°C to 150°C
Max thermal resistance	R <sub>θJC</sub>	0.32°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.08°C/W Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque (outside holes)		40 inch pounds maximum
Mounting Base Torque (center hole)		10 inch pounds maximum
center hole must be torqued first		
Weight		2.8 ounces (78.3 grams) typical





# CPT40120 — CPT40140



Figure 1  
Typical Forward Characteristics — Per Leg

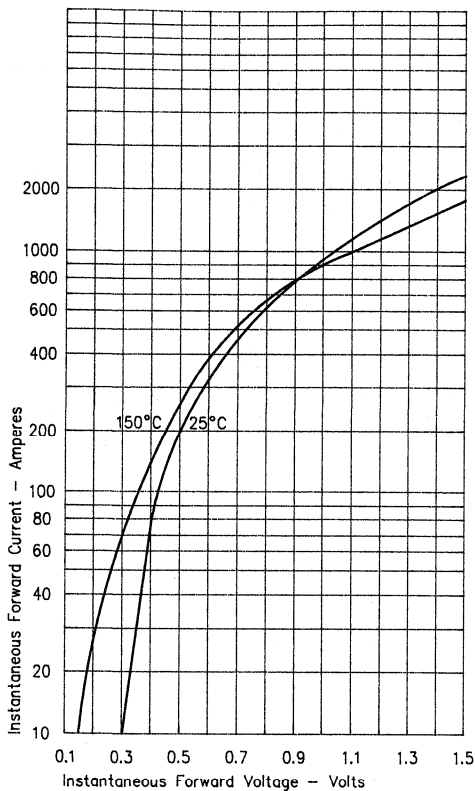


Figure 3  
Typical Junction Capacitance — Per Leg

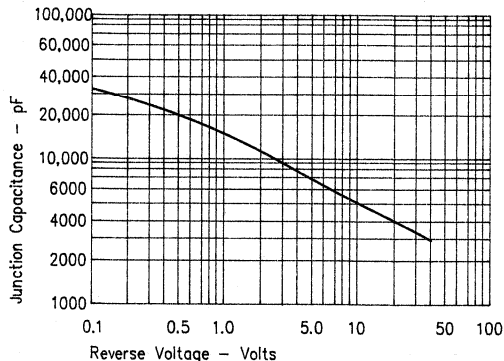


Figure 4  
Forward Current Derating — Per Leg

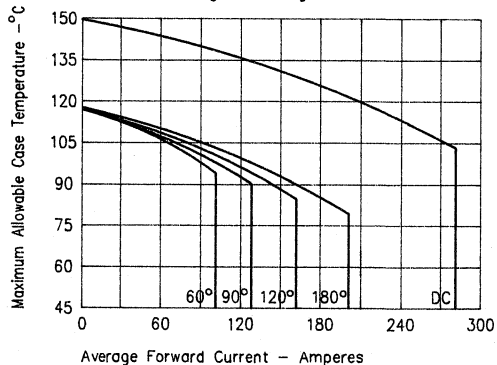


Figure 2  
Typical Reverse Characteristics — Per Leg

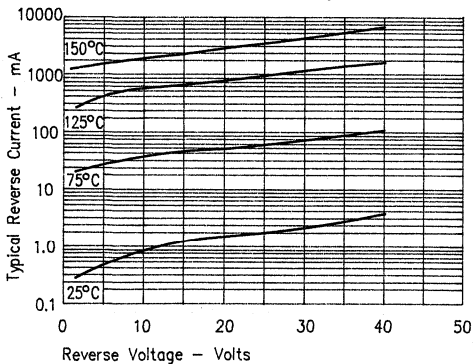
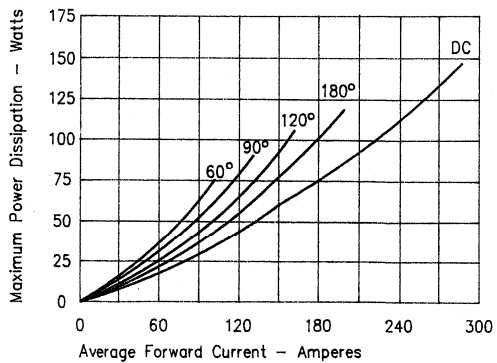
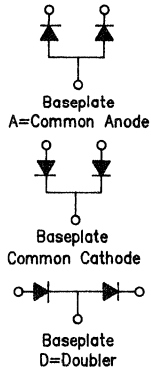
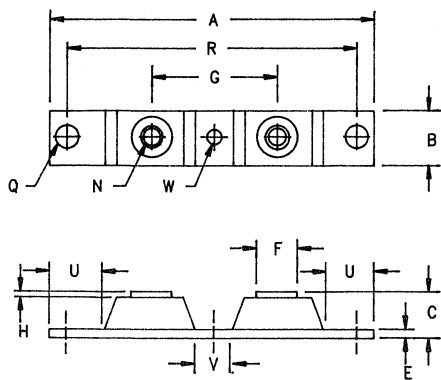


Figure 5  
Maximum Forward Power Dissipation — Per Leg



# Schottky PowerMod

## CPT50035 — CPT50050



Dim. Inches		Millimeters		Notes
Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20
B	0.700	0.800	17.78	20.32
C	---	0.630	---	16.00
E	0.120	0.130	3.05	3.30
F	0.490	0.510	12.45	12.95
G	1.375 BSC	---	34.92 BSC	---
H	0.010	---	0.25	---
N	---	---	---	1/4-20
Q	0.275	0.290	6.99	7.37 Dia.
R	3.150 BSC	---	80.01 BSC	---
U	0.600	---	15.24	---
V	0.312	0.340	7.92	8.64
W	0.180	0.195	4.57	4.95 Dia.

Notes:  
Baseplate: Nickel plated copper; common cathode

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT50035*	35V	35V
CPT50040*	40V	40V
CPT50045*	45V	45V
CPT50050*	50V	50V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- VRRM 35 to 50 Volts
- 175°C Junction Temperature
- Reverse Energy Tested

Electrical Characteristics		
Average forward current per pkg	I <sub>F(AV)</sub> 500 Amps	T <sub>C</sub> = 134°C, Square wave, R <sub>θJC</sub> = 0.12°C/W
Average forward current per leg	I <sub>F(AV)</sub> 250 Amps	T <sub>C</sub> = 134°C, Square wave, R <sub>θJC</sub> = 0.24°C/W
Maximum surge current per leg	I <sub>FSM</sub> 5000 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Maximum repetitive reverse current per leg	I <sub>R(OV)</sub> 2 Amps	f = 1 KHZ, 25°C, 1 μsec square wave
Max peak forward voltage per leg	V <sub>FM</sub> 0.70 Volts	I <sub>FM</sub> = 250A; T <sub>J</sub> = 25°C
Max peak forward voltage per leg	V <sub>FM</sub> 0.55 Volts	I <sub>FM</sub> = 250A; T <sub>J</sub> = 175°C
Max peak reverse current per leg	I <sub>RM</sub> 200 mA	V <sub>RRM, T<sub>J</sub></sub> = 125°C*
Max peak reverse current per leg	I <sub>RM</sub> 8.0 mA	V <sub>RRM, T<sub>J</sub></sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 9800 pF	V <sub>R</sub> = 5.0V, T <sub>C</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance	R <sub>θJC</sub>	0.24°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.08°C/W Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque (outside holes)		40 inch pounds maximum
Mounting Base Torque (center hole)		10 inch pounds maximum
center hole must be torqued first		
Weight		2.8 ounces (78.3 grams) typical



# CPT50035 — CPT50050



Figure 1  
Typical Forward Characteristics — Per Leg

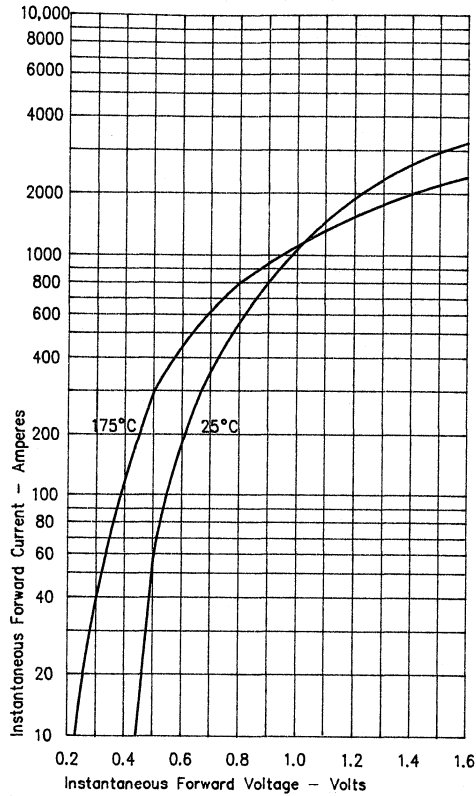


Figure 3  
Typical Junction Capacitance — Per Leg

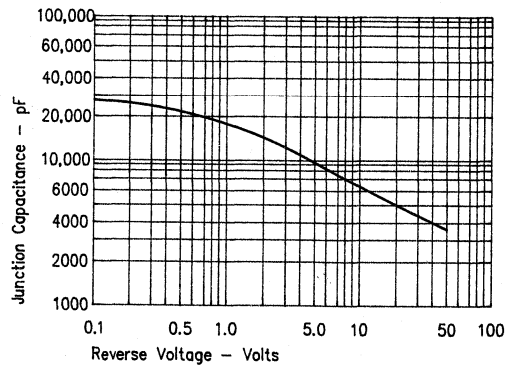


Figure 4  
Forward Current Derating — Per Leg

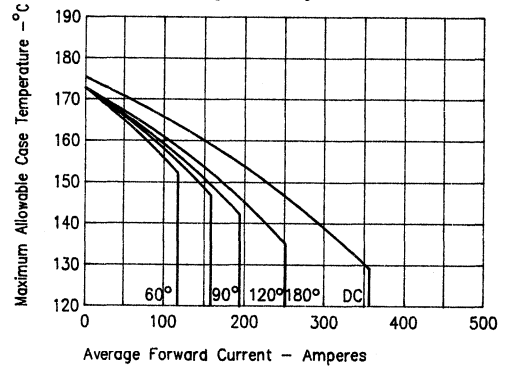


Figure 2  
Typical Reverse Characteristics — Per Leg

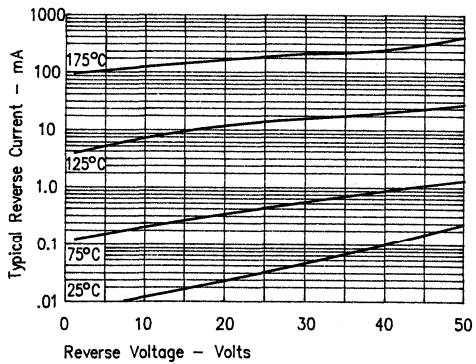
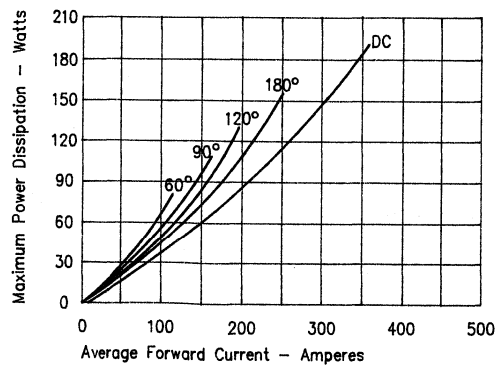
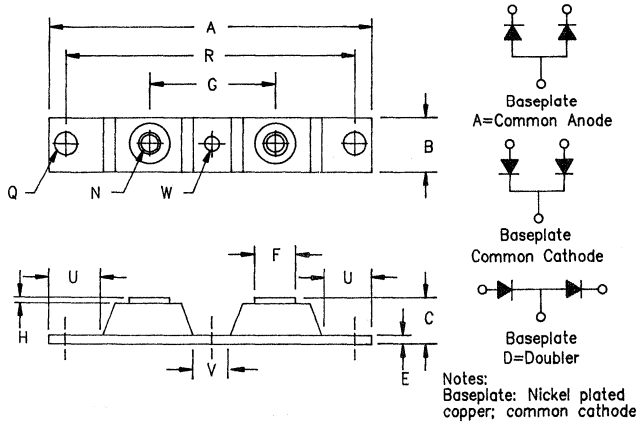


Figure 5  
Maximum Forward Power Dissipation — Per Leg



# Schottky PowerMod CPT50060



Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20	
B	0.700	0.800	17.78	20.32	
C	---	0.630	---	16.00	
E	0.120	0.130	3.05	3.30	
F	0.490	0.510	12.45	12.95	
G	1.375 BSC	---	34.92 BSC	---	
H	0.010	---	0.25	---	
N	---	---	---	---	1/4-20
Q	0.275	0.290	6.99	7.37	Dia.
R	3.150 BSC	---	80.01 BSC	---	
U	0.600	---	15.24	---	
V	0.312	0.340	7.92	8.64	
W	0.180	0.195	4.57	4.95	Dia.

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT50060*	60V	60V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- VRRM 60 Volts
- 175°C Junction Temperature
- Reverse Energy Tested

## Electrical Characteristics

Average forward current per pkg	$I_{F(AV)}$ 500 Amps	$T_C = 132^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.12^\circ\text{C/W}$
Average forward current per leg	$I_{F(AV)}$ 250 Amps	$T_C = 132^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.24^\circ\text{C/W}$
Maximum surge current per leg	$I_{FSM}$ 5000 Amps	8.3ms, half sine, $T_J = 175^\circ\text{C}$
Maximum repetitive reverse current per leg	$I_{R(OV)}$ 2 Amps	$f = 1 \text{ KHZ}$ , $25^\circ\text{C}$ , 1 $\mu\text{sec}$ square wave
Max peak forward voltage per leg	$V_{FM}$ 0.73 Volts	$I_{FM} = 250\text{A}$ ; $T_J = 25^\circ\text{C}$
Max peak forward voltage per leg	$V_{FM}$ 0.58 Volts	$I_{FM} = 250\text{A}$ ; $T_J = 175^\circ\text{C}$
Max peak reverse current per leg	$I_{RM}$ 200 mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}$ *
Max peak reverse current per leg	$I_{RM}$ 8.0 mA	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical junction capacitance	$C_J$ 8800 pF	$V_R = 5.0\text{V}$ , $T_C = 25^\circ\text{C}$

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-40^\circ\text{C}$ to $175^\circ\text{C}$
Operating junction temp range	$T_J$	$-40^\circ\text{C}$ to $175^\circ\text{C}$
Max thermal resistance	$R_{\theta JC}$	$0.24^\circ\text{C/W}$ Junction to case
Typical thermal resistance	$R_{\theta CS}$	$0.08^\circ\text{C/W}$ Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque (outside holes)		40 inch pounds maximum
Mounting Base Torque (center hole)		10 inch pounds maximum
center hole must be torqued first		
Weight		2.8 ounces (78.3 grams) typical

**Microsemi Corp.**  
**Colorado**

# CPT50060



Figure 1  
Typical Forward Characteristics - Per Leg

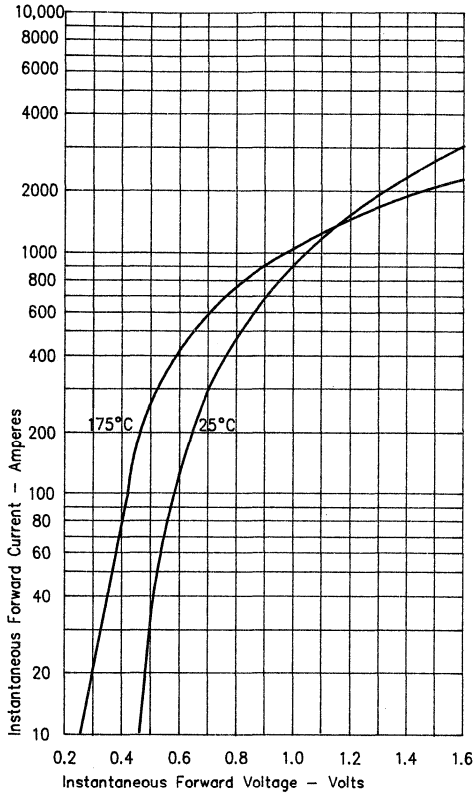


Figure 3  
Typical Junction Capacitance - Per Leg

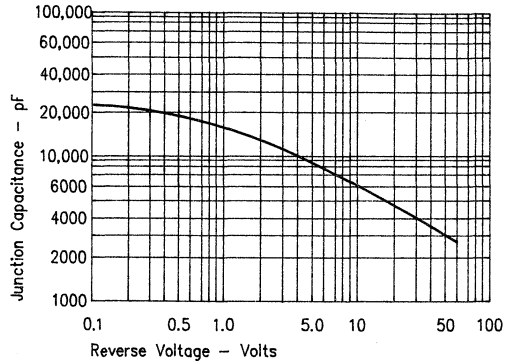


Figure 4  
Forward Current Derating - Per Leg

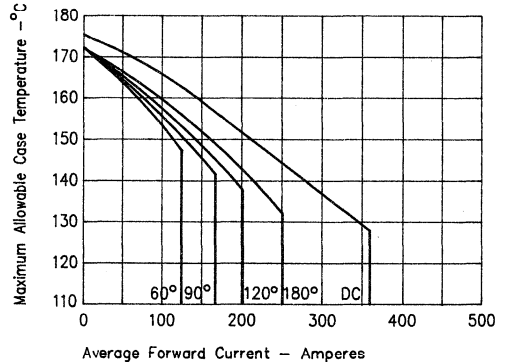


Figure 2  
Typical Reverse Characteristics - Per Leg

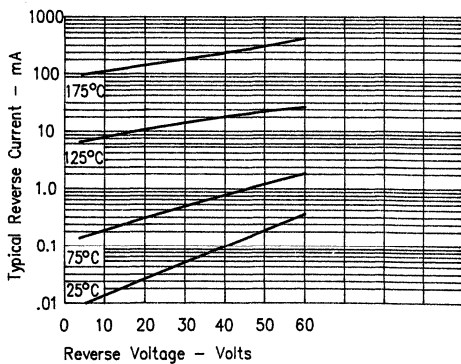
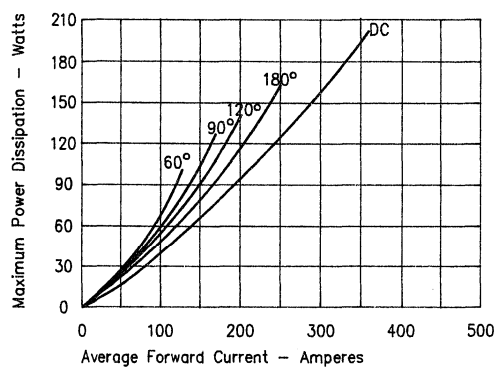
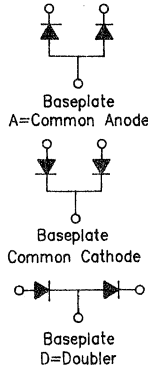
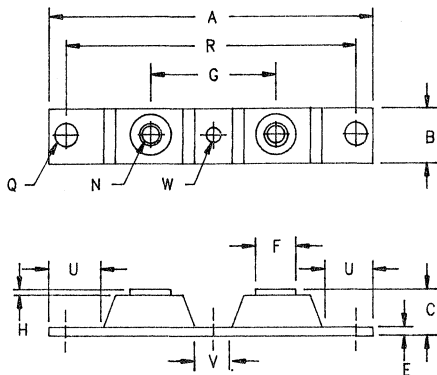


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Schottky PowerMod

## CPT50080, CPT50090



Notes:  
Baseplate: Nickel plated copper; common cathode

Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20	
B	0.700	0.800	17.78	20.32	
C	---	0.630	---	16.00	
E	0.120	0.130	3.05	3.30	
F	0.490	0.510	12.45	12.95	
G	1.375 BSC		34.92 BSC		
H	0.010	---	0.25	---	
N	---	---	---	---	1/4-20 Dia.
Q	0.275	0.290	6.99	7.37	
R	3.150 BSC		80.01 BSC		
U	0.600	---	15.24	---	
V	0.312	0.340	7.92	8.64	
W	0.180	0.195	4.57	4.95	Dia.

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT50080*	80V	80V
CPT50090*	90V	90V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- VRRM 80 to 90 Volts
- 175°C Junction Temperature
- Reverse Energy Tested

Electrical Characteristics		
Average forward current per pkg	I <sub>F(AV)</sub> 500 Amps	T <sub>C</sub> = 120°C, Square wave, R <sub>θJC</sub> = 0.12°C/W
Average forward current per leg	I <sub>F(AV)</sub> 250 Amps	T <sub>C</sub> = 120°C, Square wave, R <sub>θJC</sub> = 0.24°C/W
Maximum surge current per leg	I <sub>FSM</sub> 5000 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Maximum repetitive reverse current per leg	I <sub>R(OV)</sub> 2 Amps	f = 1 KHZ, 25°C, 1 μsec square wave
Max peak forward voltage per leg	V <sub>FM</sub> 0.85 Volts	I <sub>FM</sub> = 250A: T <sub>J</sub> = 25°C
Max peak forward voltage per leg	V <sub>FM</sub> 0.67 Volts	I <sub>FM</sub> = 250A: T <sub>J</sub> = 175°C
Max peak reverse current per leg	I <sub>RM</sub> 200 mA	V <sub>RRM</sub> , T <sub>J</sub> = 125°C*
Max peak reverse current per leg	I <sub>RM</sub> 8.0 mA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 6400 pF	V <sub>R</sub> = 5.0V, T <sub>C</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance	R <sub>θJC</sub>	0.24°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.08°C/W Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque (outside holes)		40 inch pounds maximum
Mounting Base Torque (center hole)		10 inch pounds maximum
center hole must be torqued first		
Weight		2.8 ounces (78.3 grams) typical

**Microsemi Corp.**  
**Colorado**

# CPT50080, CPT50090



Figure 1  
Typical Forward Characteristics - Per Leg

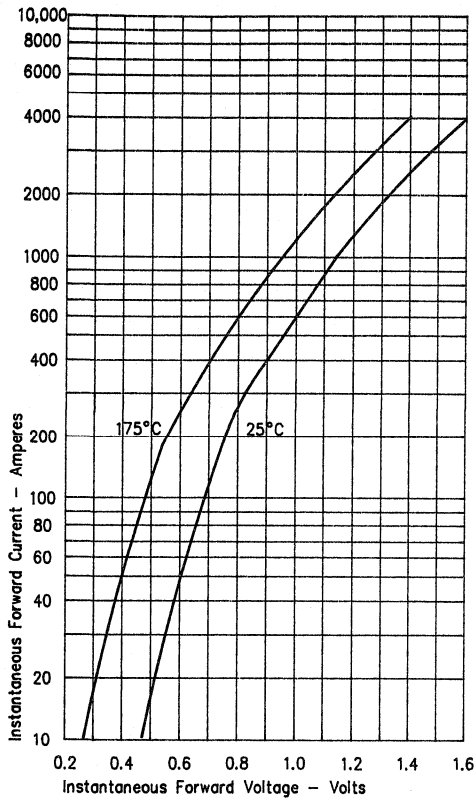


Figure 3  
Typical Junction Capacitance - Per Leg

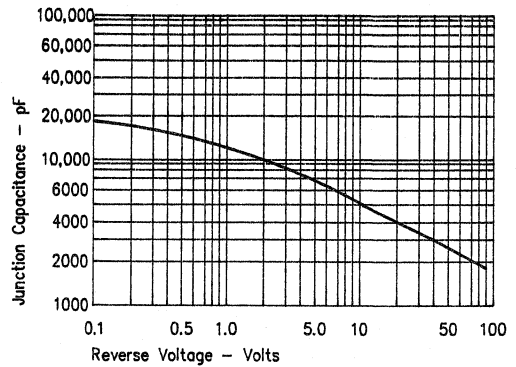


Figure 4  
Forward Current Derating - Per Leg

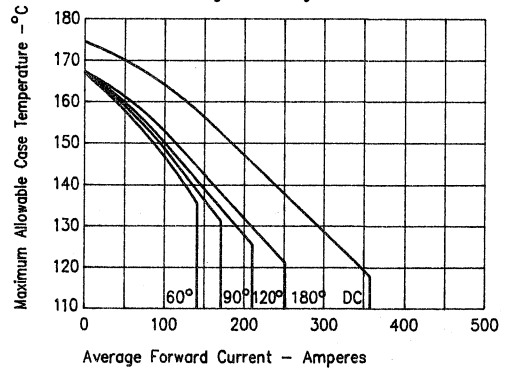


Figure 2  
Typical Reverse Characteristics - Per Leg

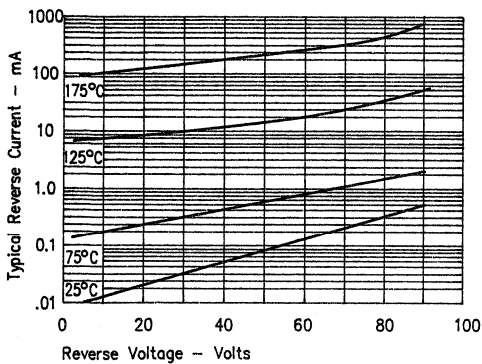
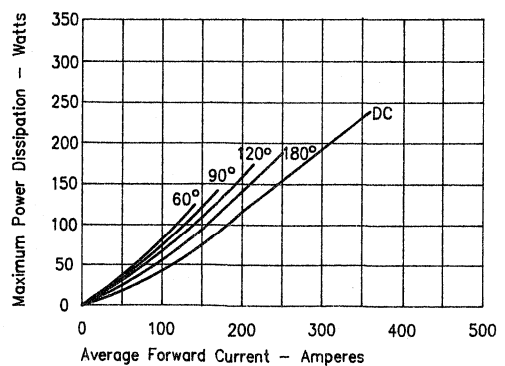
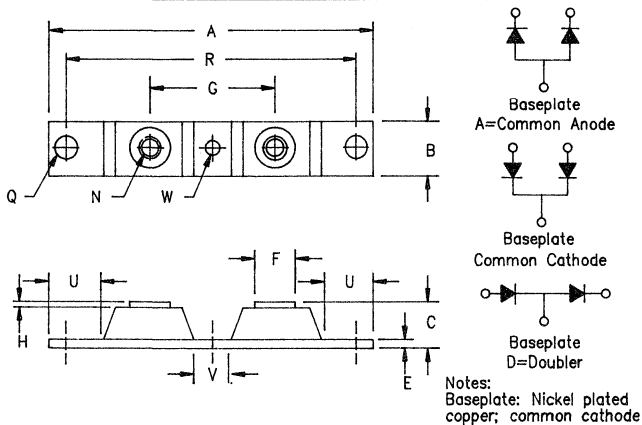


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Schottky PowerMod

## CPT50120 — CPT50140



Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20	
B	0.700	0.800	17.78	20.32	
C	---	0.630	---	16.00	
E	0.120	0.130	3.05	3.30	
F	0.490	0.510	12.45	12.95	
G	1.375 BSC		34.92 BSC		
H	0.010	---	0.25	---	
N	---	---	---	---	1/4-20
Q	0.275	0.290	6.99	7.37	Dia.
R	3.150 BSC		80.01 BSC		
U	0.600	---	15.24	---	
V	0.312	0.340	7.92	8.64	
W	0.180	0.195	4.57	4.95	Dia.

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT50120*	20V	20V
CPT50125*	25V	25V
CPT50130*	30V	30V
CPT50135*	35V	35V
CPT50140*	40V	40V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- VRRM 20 to 40 Volts
- 150°C Junction Temperature
- Reverse Energy Tested

Electrical Characteristics		
Average forward current per pkg	$I_F(AV)$ 500 Amps	$T_C = 79^\circ C$ , Square wave, $R_{\theta JC} = 0.12^\circ C/W$
Average forward current per leg	$I_F(AV)$ 250 Amps	$T_C = 79^\circ C$ , Square wave, $R_{\theta JC} = 0.24^\circ C/W$
Maximum surge current per leg	$I_{FSM}$ 5000 Amps	8.3ms, half sine, $T_J = 150^\circ C$
Maximum repetitive reverse current per leg	$I_R(OV)$ 2 Amps	$f = 1$ KHZ, $25^\circ C$ , 1 usec square wave
Max peak forward voltage per leg	$V_{FM}$ 0.55 Volts	$I_{FM} = 250A; T_J = 25^\circ C$
Max peak forward voltage per leg	$V_{FM}$ 0.49 Volts	$I_{FM} = 250A; T_J = 175^\circ C$
Max peak reverse current per leg	$I_{RM}$ 4.0 A	$V_{RRM}, T_J = 125^\circ C^*$
Max peak reverse current per leg	$I_{RM}$ 12.0 mA	$V_{RRM}, T_J = 25^\circ C$
Typical junction capacitance	$C_J$ 10500 pF	$V_R = 5.0V, T_C = 25^\circ C$

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	$T_{STG}$	-40°C to 150°C
Operating junction temp range	$T_J$	-40°C to 150°C
Max thermal resistance	$R_{\theta JC}$	0.24°C/W Junction to case
Typical thermal resistance	$R_{\theta CS}$	0.08°C/W Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque (outside holes)		40 inch pounds maximum
Mounting Base Torque (center hole)		10 inch pounds maximum
Weight		2.8 ounces (78.3 grams) typical



# CPT50120 — CPT50140



Figure 1  
Typical Forward Characteristics — Per Leg

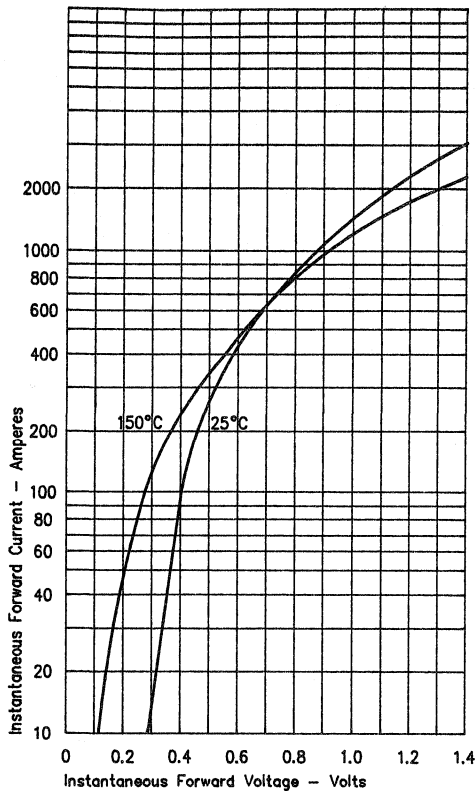


Figure 3  
Typical Junction Capacitance — Per Leg

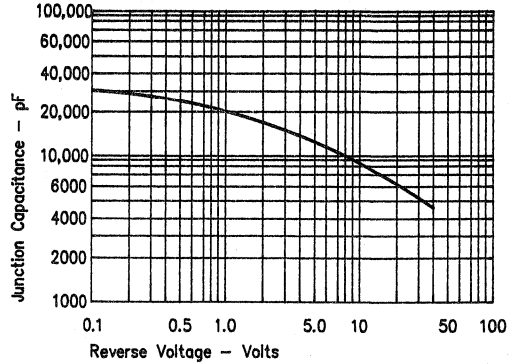


Figure 4  
Forward Current Derating — Per Leg

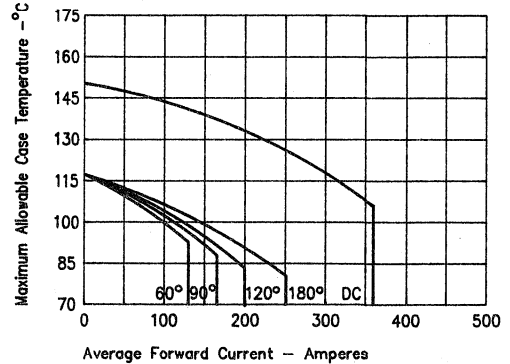


Figure 2  
Typical Reverse Characteristics — Per Leg

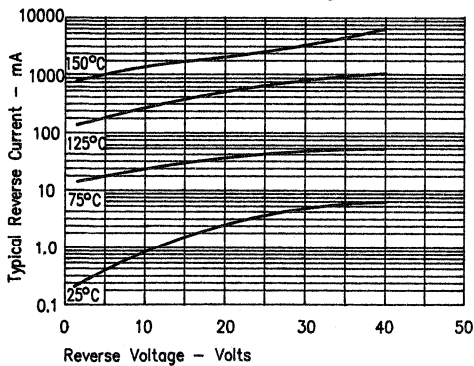
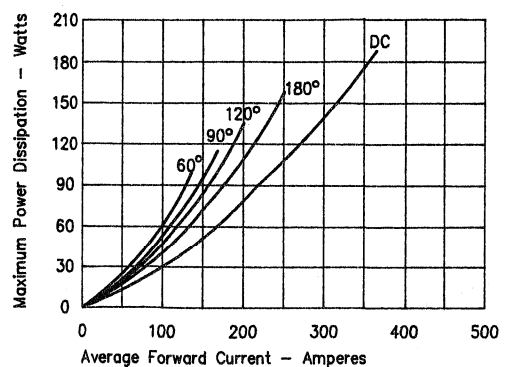
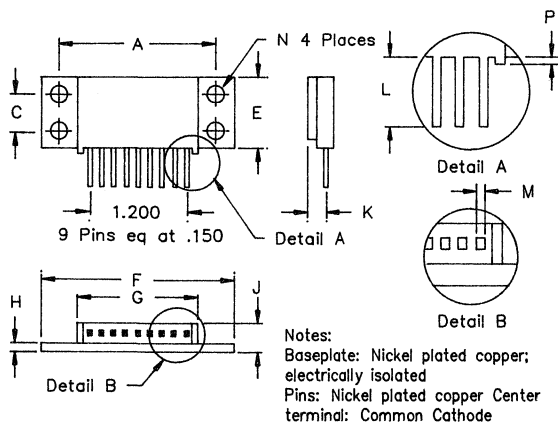


Figure 5  
Maximum Forward Power Dissipation — Per Leg



# Schottky Powermod FST 60



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	1.995	2.005	50.67	50.93	
C	0.495	0.506	12.57	12.83	
E	0.990	1.010	25.15	25.65	
F	2.390	2.410	60.71	61.21	
G	1.490	1.510	37.85	38.35	
H	0.120	0.130	3.05	3.30	
J	---	0.400	---	10.16	
K	0.240	0.260	6.10	6.60	to Lead CL
L	0.490	0.510	12.45	12.95	
M	.035	.045	0.89	1.14	Square Dia
N	0.175	0.195	4.45	4.95	
P	0.032	0.052	0.81	1.32	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST6035*	35V	35V
FST6040*	40V	40V
FST6045*	45V	45V
FST6050*	50V	50V

\*Add the Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring for Reverse Protection
- VRRM - 35 to 50 Volts
- High Surge Capacity
- Reverse Energy Tested

## Electrical Characteristics

Average forward current per pkg	I <sub>F(AV)</sub> 120 Amps	T <sub>C</sub> = 135°C, Square wave, R <sub>θJC</sub> = 0.6°C/W
Average forward current per leg	I <sub>F(AV)</sub> 60 Amps	T <sub>C</sub> = 135°C, Square wave, R <sub>θJC</sub> = 1.0°C/W
Maximum surge current per leg	I <sub>FSM</sub> 1200 Amps	8.3 ms, half sine T <sub>J</sub> = 175°C
Max repetitive peak reverse current per leg	I <sub>R(OV)</sub> 2 Amps	f = 1 KHz, 25°C, 1 μsec Square wave
Max peak forward voltage per leg	V <sub>FM</sub> .56 Volts	I <sub>FM</sub> = 60A; T <sub>J</sub> = 175°C*
Max peak forward voltage per leg	V <sub>FM</sub> .70 Volts	I <sub>FM</sub> = 60A; T <sub>J</sub> = 25°C*
Max peak reverse current per leg	I <sub>RM</sub> 30 mA	V <sub>RRM</sub> , T <sub>J</sub> = 125°C*
Max peak reverse current per leg	I <sub>RM</sub> 2 mA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical reverse current per leg	I <sub>RM</sub> 20 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 2300 pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Maximum thermal resistance per leg	R <sub>θJC</sub>	1.0°C/W Junction to case
per package	R <sub>θJC</sub>	0.6°C/W Junction to case
Typical thermal resistance per leg	R <sub>θJC</sub>	0.9°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.1°C/W Case to sink
Mounting torque		15 - 20 inch pounds maximum
Weight		2.5 ounces (71 grams) typical

**Microsemi Corp.**  
**Colorado**

# FST 60



Figure 1  
Typical Forward Characteristics - Per Leg

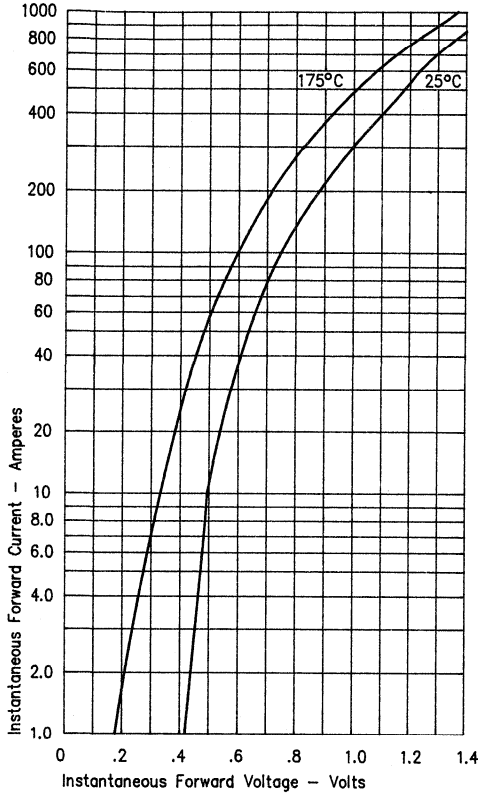


Figure 3  
Typical Junction Capacitance - Per Leg

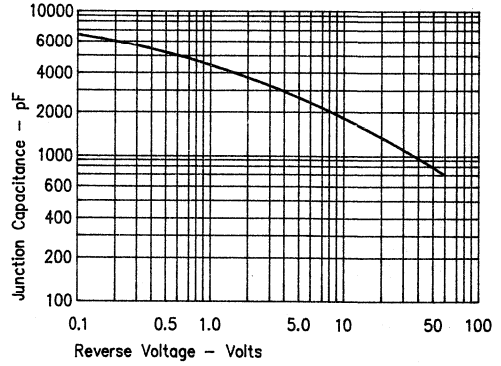


Figure 4  
Forward Current Derating - Per Leg

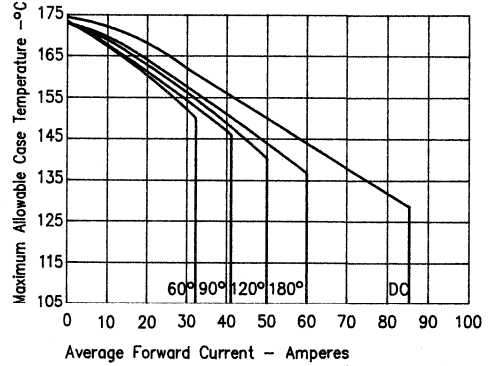


Figure 2  
Typical Reverse Characteristics - Per Leg

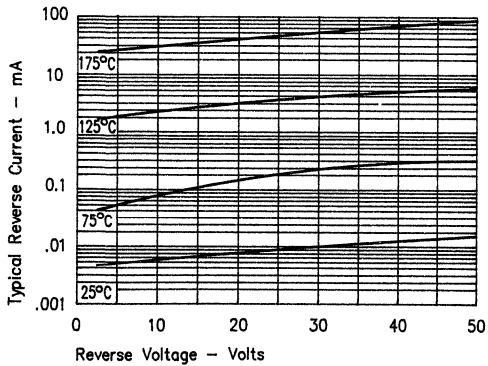
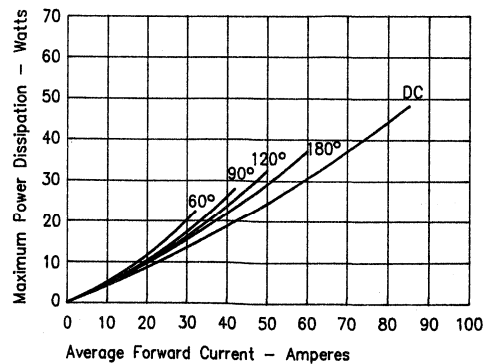
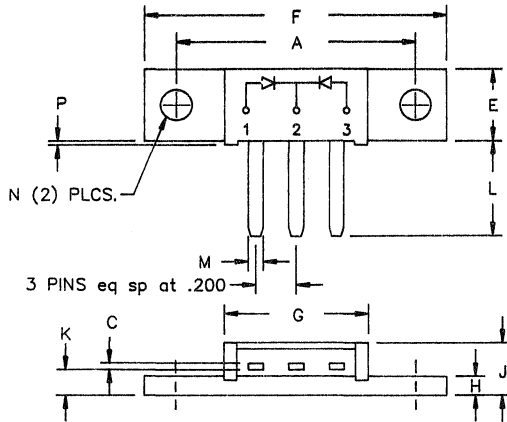


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Schottky Or'ing Diode FST 62



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	1.180	1.195	29.97	30.35	
C	.027	.037	0.69	0.94	
E	.350	.370	8.89	9.40	
F	1.490	1.510	37.85	38.35	
G	.695	.715	17.65	18.16	
H	.088	.098	2.24	2.49	
J	.240	.260	6.10	6.60	
K	.115	.135	2.92	3.43	
L	.460	.480	11.68	12.19	
M	.065	.085	1.65	2.16	
N	.151	.161	3.84	4.09	Dia
P	.015	.025	0.38	0.64	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST6210	10V	10V
FST6215	15V	15V
FST6220	20V	20V

- Schottky Barrier Rectifier
- Guard Ring Protection
- Common Cathode Center Tap
- Low Forward Voltage
- 2X30 Amperes avg.
- 150°C Junction Temperature
- Reverse Energy Tested

## Electrical Characteristics

Average forward current per pkg	$I_{F(AV)}$ 60 Amps	$T_C = 105^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.6^\circ\text{C/W}$
Average forward current per leg	$I_{F(AV)}$ 30 Amps	$T_C = 105^\circ\text{C}$ , Square wave, $R_{\theta JC} = 1.2^\circ\text{C/W}$
Maximum surge current per leg	$I_{FSM}$ 600 Amps	8.3 ms, half sine, $T_J = 150^\circ\text{C}$
Max repetitive peak reverse current per leg	$I_{R(OV)}$ 2 Amps	$f = 1 \text{ KHz}$ , $25^\circ\text{C}$ , 1 $\mu\text{sec}$ Square wave
Max peak forward voltage per leg	$V_{FM}$ .31 Volts	$I_{FM} = 30A$ ; $T_J = 125^\circ\text{C}^*$
Max peak forward voltage per leg	$V_{FM}$ .43 Volts	$I_{FM} = 30A$ ; $T_J = 25^\circ\text{C}^*$
Max peak reverse current per leg	$I_{RM}$ 500 mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}^*$
Typical reverse current per leg	$I_{RM}$ 3 mA	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical junction capacitance	$C_J$ 6000 pF	$V_R = 5.0V$ , $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-40^\circ\text{C}$ to $125^\circ\text{C}$
Operating junction temp range	$T_J$	$-40^\circ\text{C}$ to $125^\circ\text{C}$
Max thermal resistance per leg per package	$R_{\theta JC}$	1.2 $^\circ\text{C/W}$ Junction to case 0.6 $^\circ\text{C/W}$ Junction to case
Typical thermal resistance	$R_{\theta CS}$	0.3 $^\circ\text{C/W}$ Case to sink
Mounting Base Torque		10 inch pounds (maximum)
Weight		0.3 ounce (8.4 grams) typical

**Microsemi Corp.**  
**Colorado**

# FST 62

Figure 1  
Typical Forward Characteristics - Per Leg

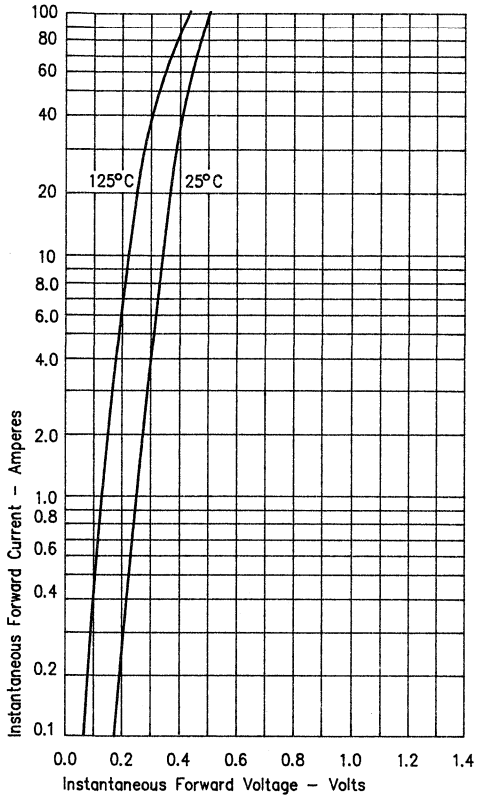


Figure 2  
Typical Reverse Characteristics - Per Leg

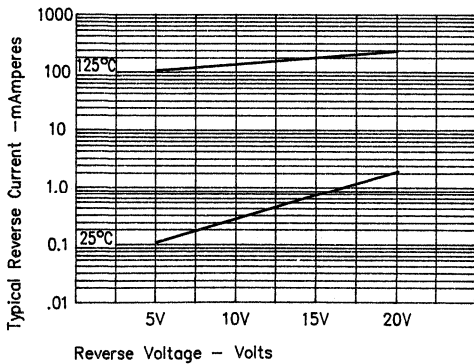


Figure 3  
Typical Junction Capacitance - Per Leg

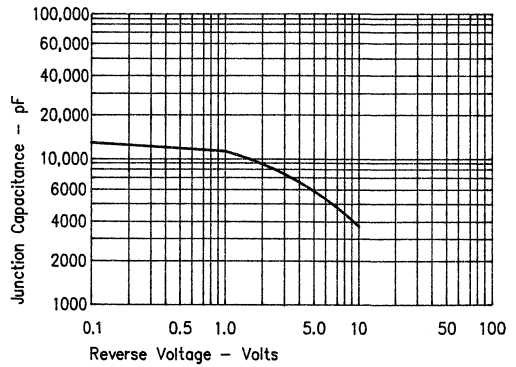


Figure 4  
Forward Current Derating - Per Leg

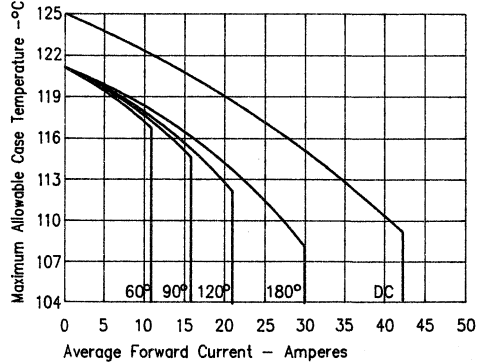
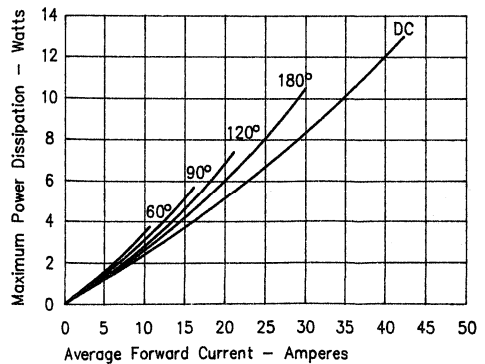
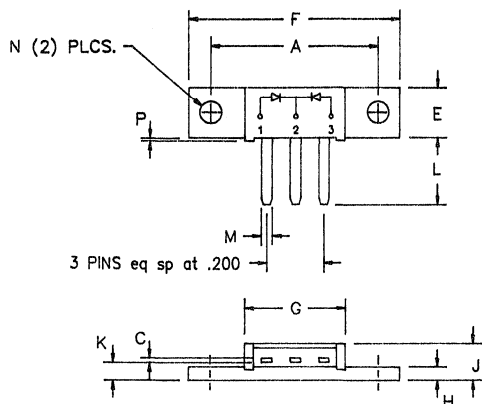


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Schottky MiniMod FST 80



Dim. Inches	Millimeter			Notes	
	Minimum	Maximum	Minimum		Maximum
A	1.180	1.195	29.97	30.35	
C	.027	.037	0.69	0.94	
E	.350	.370	8.89	9.40	
F	1.490	1.510	37.85	38.35	
G	.695	.715	17.65	18.16	
H	.088	.098	2.24	2.49	
J	.240	.260	6.10	6.60	
K	.115	.135	2.92	3.43	
L	.460	.480	11.68	12.19	
M	.065	.085	1.65	2.16	
N	.151	.161	3.84	4.09	Dia.
P	.015	.025	0.38	0.64	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST8035*	35V	35V
FST8040*	40V	40V
FST8045*	45V	45V
FST8050*	50V	50V

\*Add the Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- Common Cathode Center Tap
- 2X40 Amperes avg.
- 175°C Junction Temperature
- Reverse Energy Tested
- $V_{RRM}$  - 35 to 50 Volts

Electrical Characteristics		
Average forward current per pkg	$I_{F(AV)}$ 80 Amps	$T_C = 145^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.5^\circ\text{C/W}$
Average forward current per leg	$I_{F(AV)}$ 40 Amps	$T_C = 145^\circ\text{C}$ , Square wave, $R_{\theta JC} = 1.0^\circ\text{C/W}$
Maximum surge current per leg	$I_{FSM}$ 800 Amps	8.3 ms, half sine, $T_J = 175^\circ\text{C}$
Max repetitive peak reverse current per leg	$I_{R(OV)}$ 2 Amps	$f = 1 \text{ KHZ}$ , $25^\circ\text{C}$ , 1 usec square wave
Max peak forward voltage per leg	$V_{FM}$ 0.49 Volts	$I_{FM} = 40\text{A}$ ; $T_J = 175^\circ\text{C}^*$
Max peak forward voltage per leg	$V_{FM}$ 0.68 Volts	$I_{FM} = 40\text{A}$ ; $T_J = 25^\circ\text{C}^*$
Max peak reverse current per leg	$I_{RM}$ 50 mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}^*$
Typical reverse current per leg	$I_{RM}$ 4 $\mu\text{A}$	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical junction capacitance	$C_J$ 1900 pF	$V_R = 5.0\text{V}$ , $T_C = 25^\circ\text{C}$

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	$T_{STG}$	$-40^\circ\text{C}$ to $175^\circ\text{C}$
Operating junction temp range	$T_J$	$-40^\circ\text{C}$ to $175^\circ\text{C}$
Max thermal resistance per leg	$R_{\theta JC}$	$1.0^\circ\text{C/W}$ Junction to case
per package	$R_{\theta JC}$	$0.5^\circ\text{C/W}$ Junction to case
Typical thermal resistance	$R_{\theta CS}$	$0.3^\circ\text{C/W}$ Case to sink
Mounting Base Torque		10 inch pounds maximum
Weight		0.3 ounce (8.4 grams) typical

# FST 80



Figure 1  
Maximum Forward Characteristics - Per Leg

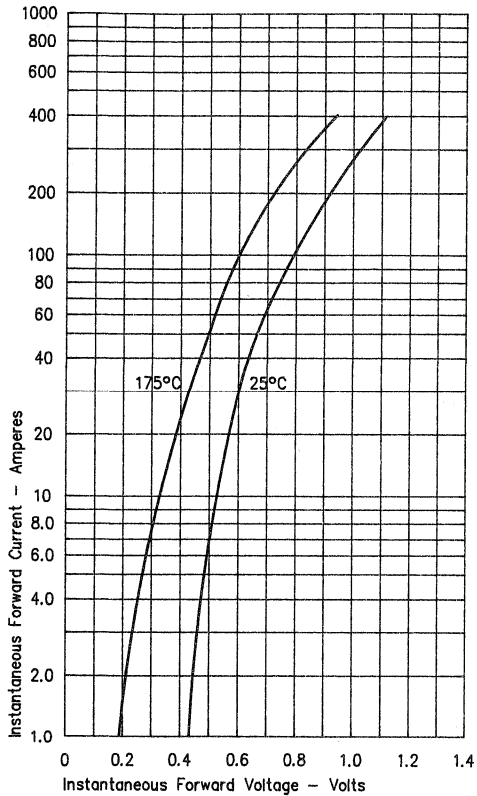


Figure 2  
Typical Reverse Characteristics - Per Leg

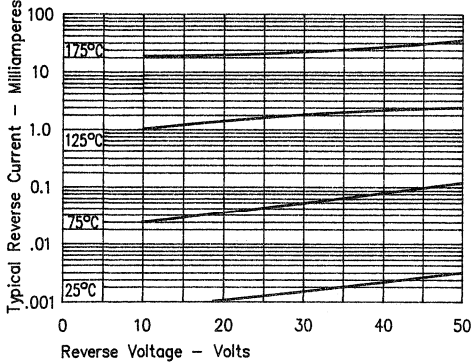


Figure 3  
Typical Junction Capacitance - Per Leg

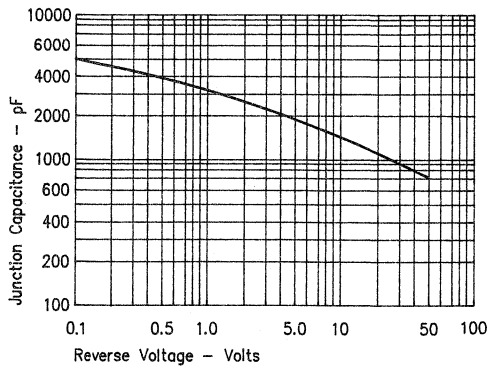


Figure 4  
Forward Current Derating - Per Leg

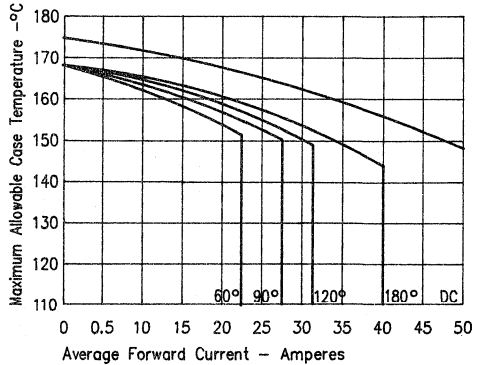
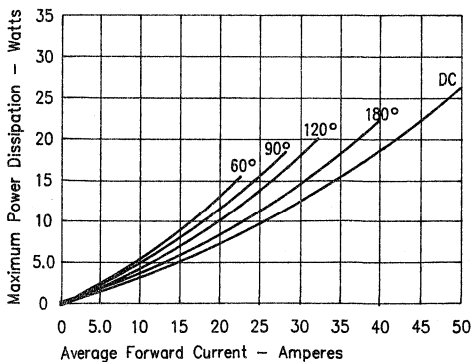
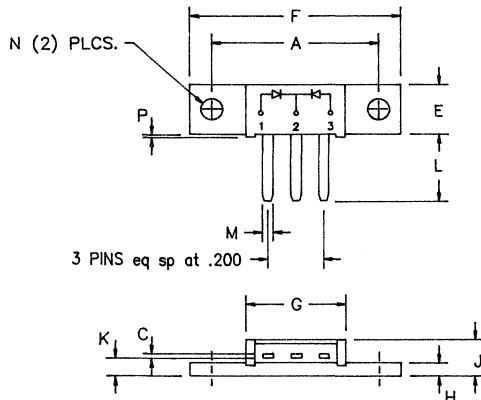


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Schottky MiniMod FST 81



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	1.180	1.195	29.97	30.35	
C	.027	.037	0.69	0.94	
E	.350	.370	8.89	9.40	
F	1.490	1.510	37.85	38.35	
G	.695	.715	17.65	18.16	
H	.088	.098	2.24	2.49	
J	.240	.260	6.10	6.60	
K	.115	.135	2.92	3.43	
L	.460	.480	11.68	12.19	
M	.065	.085	1.65	2.16	
N	.151	.161	3.84	4.09	Dia.
P	.015	.025	0.38	0.64	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST8130*	30V	30V
FST8135*	35V	35V
FST8140*	40V	40V
FST8145*	45V	45V

\*Add the Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- Common Cathode Center Tap
- 2X40 Amperes avg.
- 150°C Junction Temperature
- Reverse Energy Tested
- Low Forward Voltage

## Electrical Characteristics

Average forward current per pkg	$I_F(AV)$ 80 Amps	$T_C = 110^\circ C$ , Square wave, $R_{\theta JC} = 0.5^\circ C/W$
Average forward current per leg	$I_F(AV)$ 40 Amps	$T_C = 110^\circ C$ , Square wave, $R_{\theta JC} = 1.0^\circ C/W$
Maximum surge current per leg	$I_{FSM}$ 800 Amps	8.3 ms, half sine, $T_J = 150^\circ C$
Max repetitive peak reverse current per leg	$I_R(OV)$ 2 Amps	$f = 1$ KHZ, $25^\circ C$ , 1 usec square wave
Max peak forward voltage per leg	$V_{FM}$ 0.47 Volts	$I_{FM} = 40A$ : $T_J = 150^\circ C^*$
Max peak forward voltage per leg	$V_{FM}$ 0.53 Volts	$I_{FM} = 40A$ : $T_J = 25^\circ C^*$
Max peak reverse current per leg	$I_{RM}$ 500 mA	$V_{RRM}$ , $T_J = 125^\circ C^*$
Typical reverse current per leg	$I_{RM}$ 1.5 mA	$V_{RRM}$ , $T_J = 25^\circ C$
Typical junction capacitance	$C_J$ 2100 pF	$V_R = 5.0V$ , $T_C = 25^\circ C$

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-40^\circ C$ to $175^\circ C$
Operating junction temp range	$T_J$	$-40^\circ C$ to $150^\circ C$
Max thermal resistance per leg	$R_{\theta JC}$	$1.0^\circ C/W$ Junction to case
per package	$R_{\theta JC}$	$0.5^\circ C/W$ Junction to case
Typical thermal resistance	$R_{\theta CS}$	$0.3^\circ C/W$ Case to sink
Mounting Base Torque		10 inch pounds maximum
Weight		0.3 ounce (8.4 grams) typical

**Microsemi Corp.**  
**Colorado**



# FST 81



Figure 1  
Maximum Forward Characteristics - Per Leg

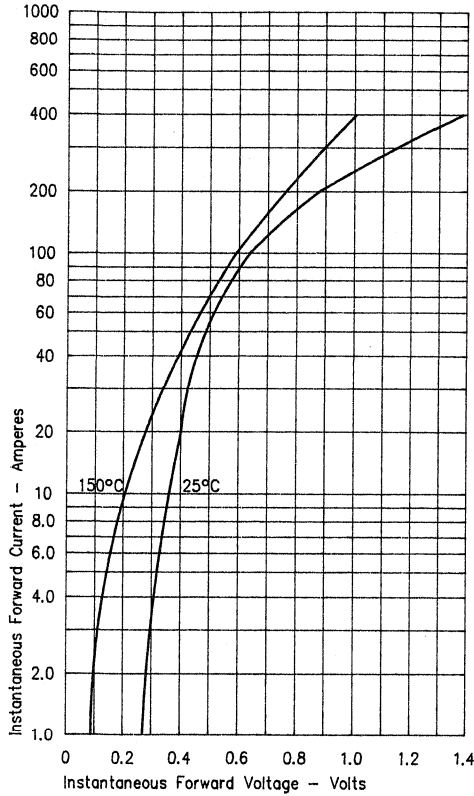


Figure 2  
Typical Reverse Characteristics - Per Leg

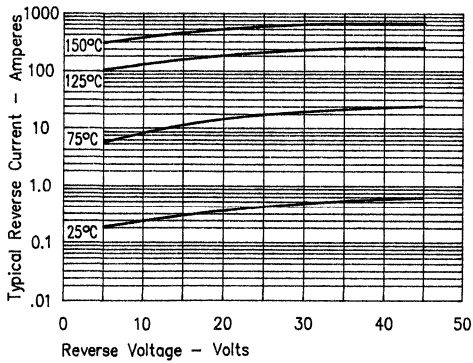


Figure 3  
Typical Junction Capacitance - Per Leg

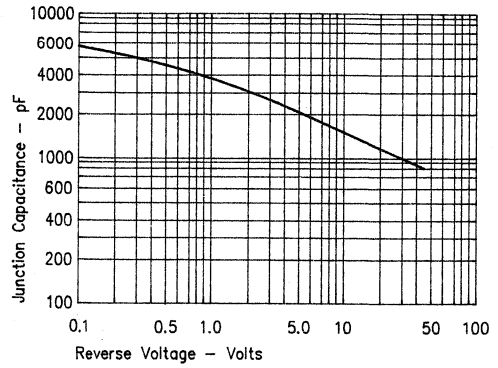


Figure 4  
Forward Current Derating - Per Leg

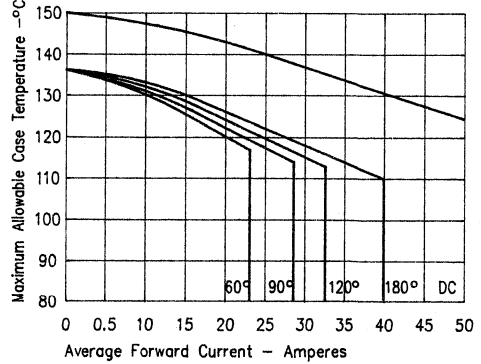
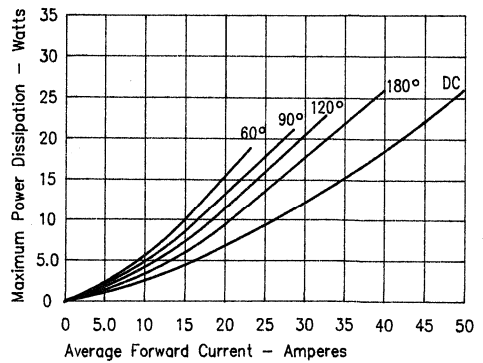
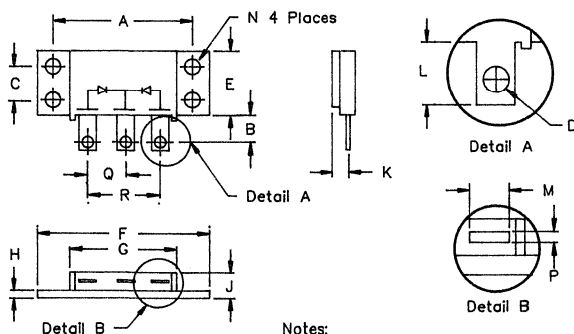


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Schottky PowerMod FST 100



Notes:  
Baseplate: Nickel plated copper;  
electrically isolated  
Pins: Nickel plated copper Center  
terminal: Common Cathode

Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	1.995	2.005	50.67	50.93	
B	0.300	0.325	7.62	8.26	
C	0.495	0.505	12.57	12.83	
D	0.182	0.192	4.62	4.88	Dia.
E	0.990	1.010	25.15	25.65	
F	2.390	2.410	60.71	61.21	
G	1.500	1.525	38.10	38.70	
H	0.120	0.130	3.05	3.30	
J	---	0.400	---	10.16	
K	0.240	0.260	6.10	6.60	to Lead CL
L	0.490	0.510	12.45	12.95	
M	0.330	0.350	8.38	6.90	
N	0.175	0.195	4.45	4.95	Dia.
P	0.035	0.045	0.89	1.14	
Q	0.445	0.455	11.30	11.56	
R	0.890	0.910	22.61	23.11	

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Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST10025*	25V	25V
FST10030*	30V	30V
FST10035*	35V	35V
FST10040*	40V	40V
FST10045*	45V	45V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring for Reverse Protection
- Low forward voltage
- VRRM 20 to 45 Volts
- Electrically isolated base
- Reverse Energy Tested
- Center tap

## Electrical Characteristics

Average forward current per pkg	$I_{F(AV)}$ 100 Amps	$T_C = 85^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.5^\circ\text{C/W}$
Average forward current per leg	$I_{F(AV)}$ 50 Amps	$T_C = 85^\circ\text{C}$ , Square wave, $R_{\theta JC} = 1.0^\circ\text{C/W}$
Maximum surge current per leg	$I_{FSM}$ 1000 Amps	8.3 ms, half sine $T_J = 175^\circ\text{C}$
Max repetitive peak reverse current per leg	$I_{R(OV)}$ 2 Amps	$f = 1 \text{ KHz}$ , $25^\circ\text{C}$ , 1 $\mu\text{sec}$ Square wave
Max peak forward voltage per leg	V <sub>FM</sub> .48 Volts	I <sub>FM</sub> = 50A: $T_J = 125^\circ\text{C}^*$
Max peak forward voltage per leg	V <sub>FM</sub> .53 Volts	I <sub>FM</sub> = 50A: $T_J = 25^\circ\text{C}^*$
Max peak reverse current per leg	I <sub>RM</sub> 600 mA	V <sub>RRM</sub> , $T_J = 125^\circ\text{C}^*$
Max peak reverse current per leg	I <sub>RM</sub> 2 mA	V <sub>RRM</sub> , $T_J = 25^\circ\text{C}$
Typical reverse current per leg	I <sub>RM</sub> 550 $\mu\text{A}$	V <sub>RRM</sub> , $T_J = 25^\circ\text{C}$
Typical junction capacitance	C <sub>J</sub> 2700 pF	V <sub>R</sub> = 5.0V, $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-40°C to 125°C
Operating junction temp range	T <sub>J</sub>	-40°C to 125°C
Max thermal resistance per leg	R <sub><math>\theta</math> JC</sub>	1.0°C/W Junction to case
per package	R <sub><math>\theta</math> C</sub>	0.5°C/W Junction to case
Max thermal resistance per leg	R <sub><math>\theta</math> C</sub>	0.9°C/W Junction to case
Typical thermal resistance	R <sub><math>\theta</math> CS</sub>	0.1°C/W Case to sink
Max mounting torque		15-20 inch pounds maximum
Weight		2.5 ounces (71 grams) typical

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6 **Colorado**

# FST 100



Figure 1  
Typical Forward Characteristics - Per Leg

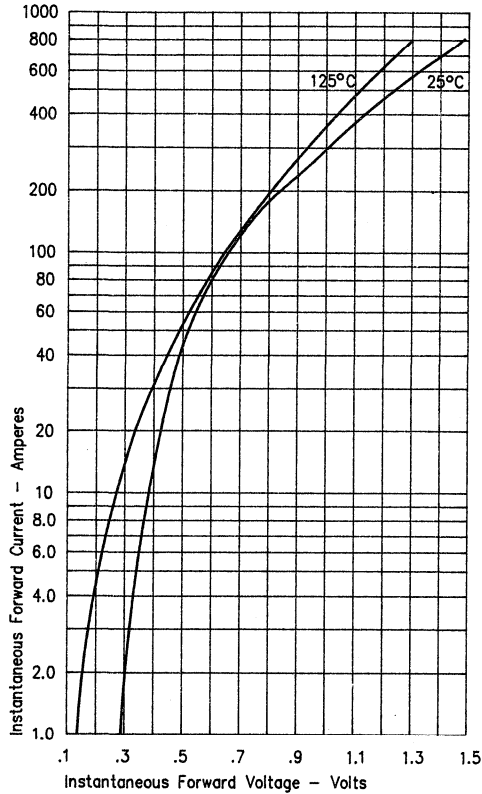


Figure 3  
Typical Junction Capacitance - Per Leg

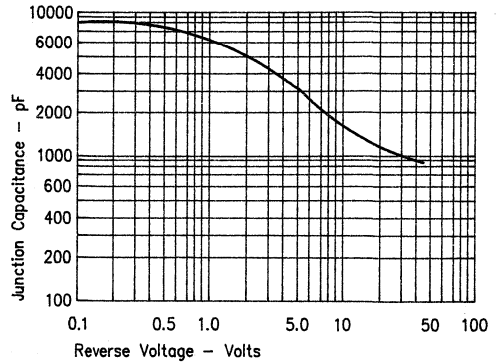


Figure 4  
Forward Current Derating - Per Leg

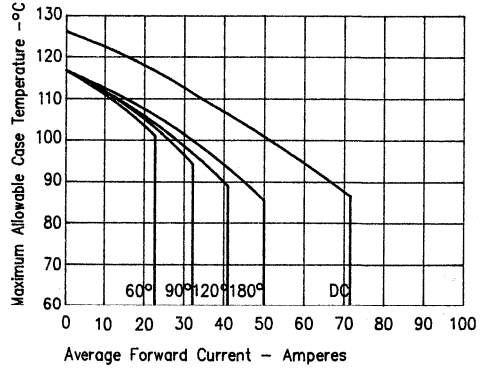


Figure 2  
Typical Reverse Characteristics - Per Leg

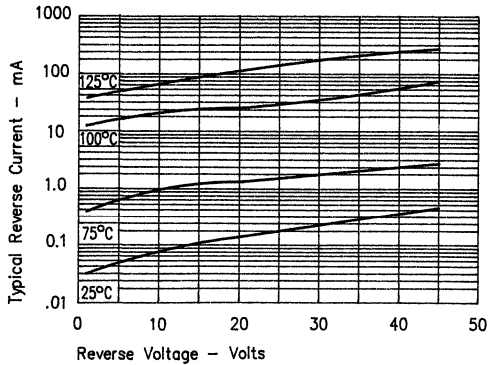
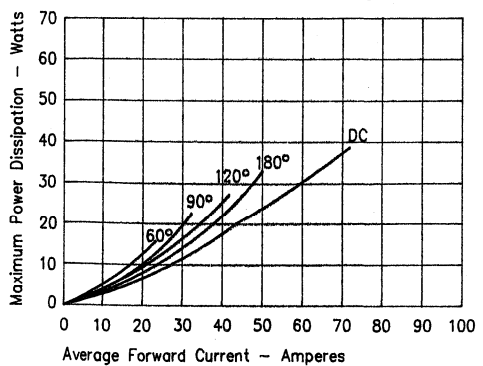
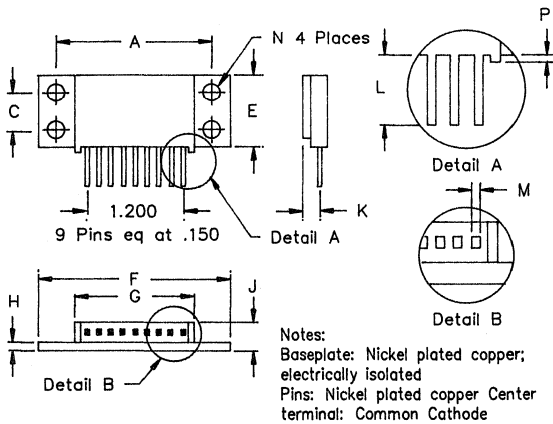


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Schottky PowerMod FST 101



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	1.995	2.005	50.67	50.93	
C	0.495	0.506	12.57	12.83	
E	0.990	1.010	25.15	25.65	
F	2.390	2.410	60.71	61.21	
G	1.490	1.510	37.85	38.35	
H	0.120	0.130	3.05	3.30	
J	---	0.400	---	10.16	
K	0.240	0.260	6.10	6.60	Lead CL
L	0.490	0.510	12.45	12.95	
M	0.040	.050	1.02	1.27	Square
N	0.175	0.195	4.45	4.95	Dia
P	0.032	0.052	0.81	1.32	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST10125*	25V	25V
FST10130*	30V	30V
FST10135*	35V	35V
FST10140*	40V	40V
FST10145*	45V	45V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring for Reverse Protection
- Low forward voltage
- VRRM 20 to 45 Volts
- Electrically isolated base
- Reverse Energy Tested
- Center tap

## Electrical Characteristics

Average forward current per pkg	$I_{F(AV)}$ 100 Amps	$T_C = 85^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.5^\circ\text{C/W}$
Average forward current per leg	$I_{F(AV)}$ 50 Amps	$T_C = 85^\circ\text{C}$ , Square wave, $R_{\theta JC} = 1.0^\circ\text{C/W}$
Maximum surge current per leg	$I_{FSM}$ 1000 Amps	8.3 ms, half sine $T_J = 175^\circ\text{C}$
Max repetitive peak reverse current per leg	$I_{R(OV)}$ 2 Amps	$f = 1 \text{ KHz}$ , $25^\circ\text{C}$ , 1 $\mu\text{sec}$ Square wave
Max peak forward voltage per leg	V <sub>FM</sub> .48 Volts	$I_{FM} = 50\text{A}$ ; $T_J = 125^\circ\text{C}^*$
Max peak forward voltage per leg	V <sub>FM</sub> .53 Volts	$I_{FM} = 50\text{A}$ ; $T_J = 25^\circ\text{C}^*$
Max peak reverse current per leg	$I_{RM}$ 600 mA	V <sub>RRM</sub> , $T_J = 125^\circ\text{C}^*$
Max peak reverse current per leg	$I_{RM}$ 2 mA	V <sub>RRM</sub> , $T_J = 25^\circ\text{C}$
Typical reverse current per leg	$I_{RM}$ 550 $\mu\text{A}$	V <sub>RRM</sub> , $T_J = 25^\circ\text{C}$
Typical junction capacitance	$C_J$ 2700 pF	$V_R = 5.0\text{V}$ , $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-40^\circ\text{C}$ to $125^\circ\text{C}$
Operating junction temp range	$T_J$	$-40^\circ\text{C}$ to $125^\circ\text{C}$
Max thermal resistance per leg	$R_{\theta JC}$	$1.0^\circ\text{C/W}$ Junction to case
per package	$R_{\theta JC}$	$0.5^\circ\text{C/W}$ Junction to case
Max thermal resistance per leg	$R_{\theta JC}$	$0.9^\circ\text{C/W}$ Junction to case
Typical thermal resistance	$R_{\theta CS}$	$0.1^\circ\text{C/W}$ Case to sink
Max mounting torque		15-20 inch pounds maximum
Weight		2.5 ounces (71 grams) typical

**Microsemi Corp.**  
**Colorado**

# FST 101



Figure 1  
Typical Forward Characteristics - Per Leg

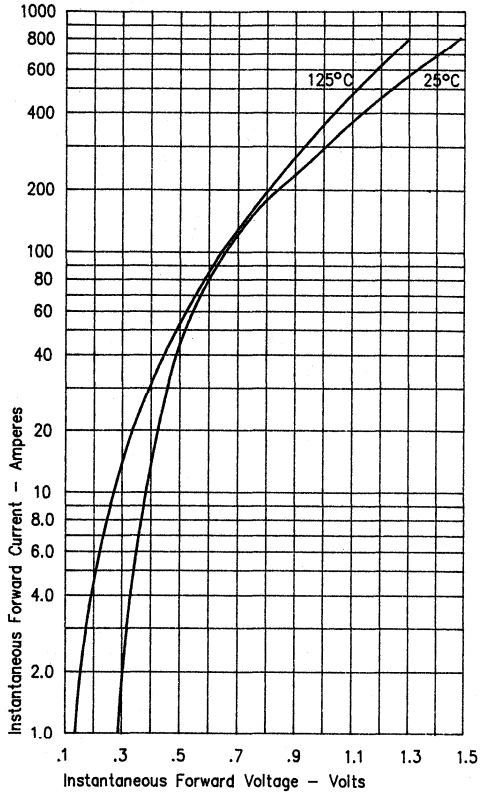


Figure 3  
Typical Junction Capacitance - Per Leg

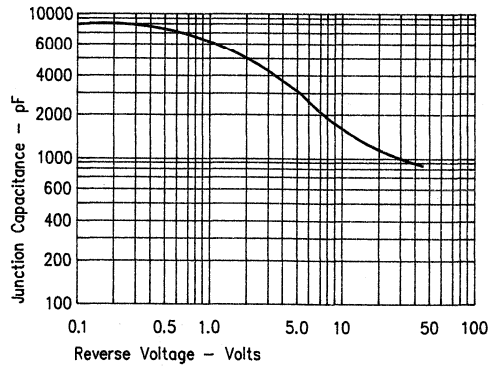


Figure 4  
Forward Current Derating - Per Leg

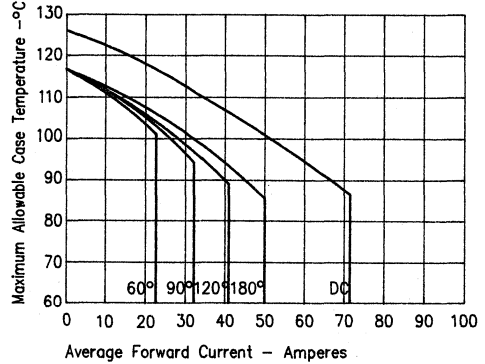


Figure 2  
Typical Reverse Characteristics - Per Leg

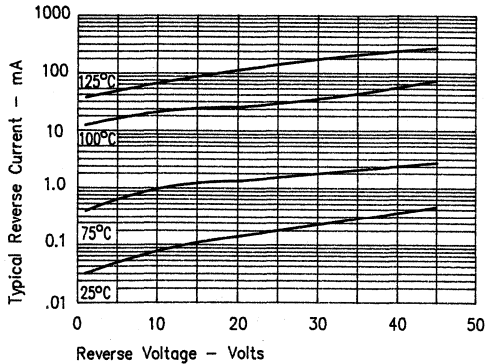
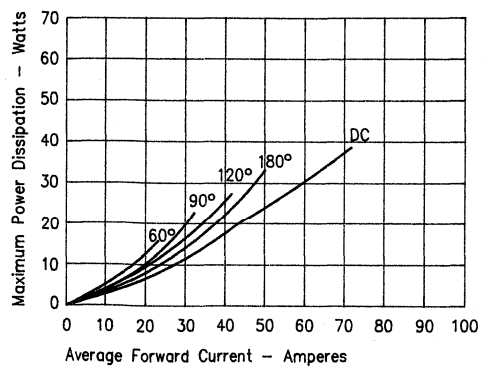
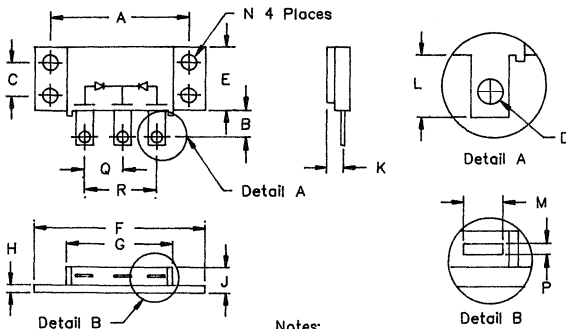


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Schottky Powermod FST 160



Notes:  
Baseplate: Nickel plated copper;  
electrically isolated  
Pins: Nickel plated copper Center  
terminal: Common Cathode

Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	1.995	2.005	50.67	50.93	
B	0.300	0.325	7.62	8.26	
C	0.495	0.505	12.57	12.83	
D	0.182	0.192	4.62	4.88	Dia.
E	0.990	1.010	25.15	25.65	
F	2.390	2.410	60.71	61.21	
G	1.490	1.510	37.85	38.35	
H	0.120	0.130	3.05	3.30	
J	---	0.400	---	10.16	
K	0.240	0.260	6.10	6.60	to Lead CL
L	0.490	0.510	12.45	12.95	
M	0.330	0.350	8.38	8.90	
N	0.175	0.195	4.45	4.95	Dia.
P	0.035	0.045	0.89	1.14	
Q	0.445	0.455	11.30	11.56	
R	0.890	0.910	22.61	23.11	

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Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST16035*	35V	35V
FST16040*	40V	40V
FST16045*	45V	45V
FST16050*	50V	50V

\*Add the Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring for Reverse Protection
- $V_{RRM}$  - 35 to 50 Volts
- High Surge Capacity
- Reverse Energy Tested

Electrical Characteristics		
Average forward current per pkg	$I_{F(AV)}$ 160 Amps	$T_C = 115^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.6^\circ\text{C/W}$
Average forward current per leg	$I_{F(AV)}$ 80 Amps	$T_C = 115^\circ\text{C}$ , Square wave, $R_{\theta JC} = 1.0^\circ\text{C/W}$
Maximum surge current per leg	$I_{FSM}$ 1200 Amps	8.3 ms, half sine $T_J = 175^\circ\text{C}$
Max repetitive peak reverse current per leg	$I_{R(OV)}$ 2 Amps	$f = 1 \text{ KHz}$ , $25^\circ\text{C}$ , 1 $\mu\text{sec}$ Square wave
Max peak forward voltage per leg	$V_{FM}$ .58 Volts	$I_{FM} = 80\text{A}$ ; $T_J = 175^\circ\text{C}$ *
Max peak forward voltage per leg	$V_{FM}$ .74 Volts	$I_{FM} = 80\text{A}$ ; $T_J = 25^\circ\text{C}$ *
Max peak reverse current per leg	$I_{RM}$ 30 mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}$ *
Max peak reverse current per leg	$I_{RM}$ 2 mA	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical reverse current per leg	$I_{RM}$ 20 $\mu\text{A}$	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical junction capacitance	$C_J$ 2300 pF	$V_R = 5.0\text{V}$ , $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	$T_{STG}$	$-40^\circ\text{C}$ to $175^\circ\text{C}$
Operating junction temp range	$T_J$	$-40^\circ\text{C}$ to $175^\circ\text{C}$
Maximum thermal resistance per leg	$R_{\theta JC}$	$1.0^\circ\text{C/W}$ Junction to case
per package	$R_{\theta JC}$	$0.6^\circ\text{C/W}$ Junction to case
Typical thermal resistance per leg	$R_{\theta JC}$	$0.9^\circ\text{C/W}$ Junction to case
Typical thermal resistance	$R_{\theta CS}$	$0.1^\circ\text{C/W}$ Case to sink
Mounting torque		15 - 20 inch pounds maximum
Weight		2.5 ounces (71 grams) typical

**Microsemi Corp.**  
**Colorado**

# FST 160



Figure 1  
Typical Forward Characteristics - Per Leg

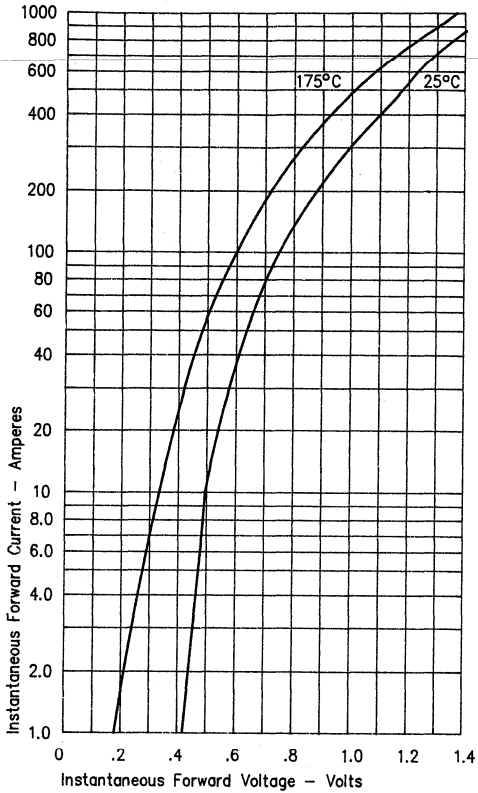


Figure 3  
Typical Junction Capacitance - Per Leg

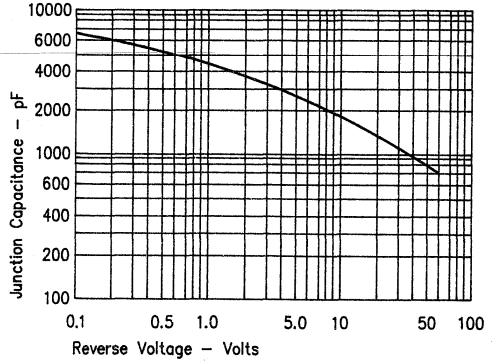


Figure 4  
Forward Current Derating - Per Leg

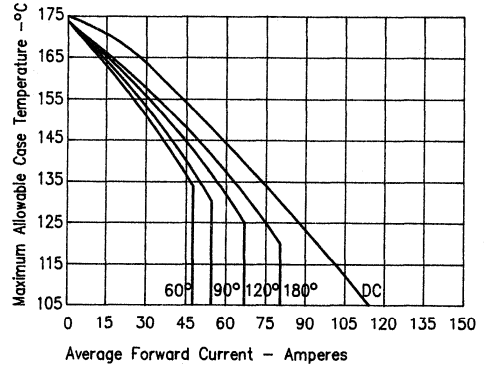


Figure 2  
Typical Reverse Characteristics - Per Leg

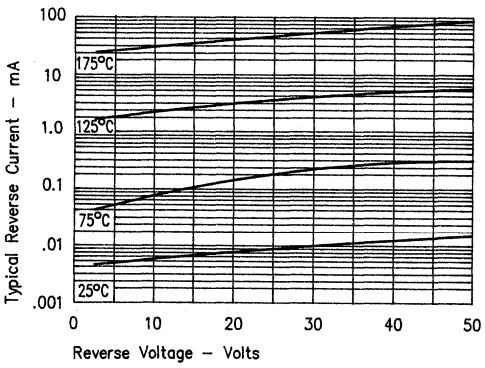
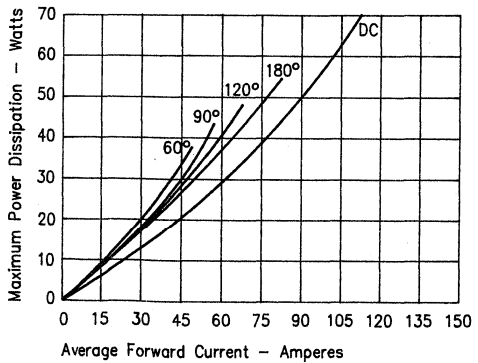
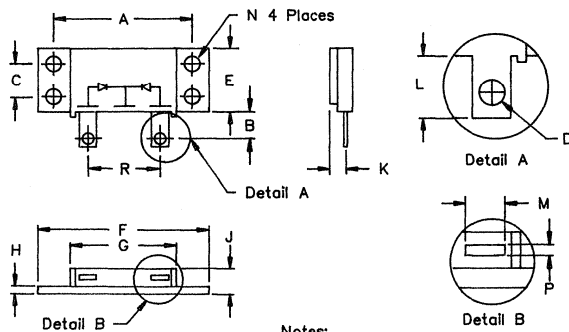


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Schottky PowerMod FST 171



Notes:  
Baseplate: Nickel plated copper,  
common cathode  
Pins: Nickel plated copper

Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	1.995	2.005	50.67	50.93	
B	0.300	0.325	7.62	8.26	
C	0.495	0.505	12.57	12.83	
D	0.182	0.192	4.62	4.88	Dia.
E	0.990	1.010	25.15	25.65	
F	2.390	2.410	60.71	61.21	
G	1.490	1.510	37.85	38.35	
H	0.120	0.130	3.05	3.30	
J	---	0.400	---	10.16	
K	0.240	0.260	6.10	6.60 to Lead CL	
L	0.490	0.510	12.45	12.95	
M	0.330	0.350	8.38	8.90	
N	0.175	0.195	4.45	4.95	Dia.
P	0.035	0.045	0.89	1.14	
R	0.890	0.910	22.61	23.11	

## MD2CC

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST17135*	35V	35V
FST17140*	40V	40V
FST17145*	45V	45V
FST17150*	50V	50V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring for Reverse Protection
- High Surge Capacity
- VRRM - 35 to 50 Volts
- Reverse Energy Tested

## Electrical Characteristics

Average forward current per pkg	I <sub>F(AV)</sub> 170 Amps	T <sub>C</sub> = 120°C, Square wave, R <sub>θJC</sub> = 0.425°C/W
Average forward current per leg	I <sub>F(AV)</sub> 85 Amps	T <sub>C</sub> = 115°C, Square wave, R <sub>θJC</sub> = 0.85°C/W
Maximum surge current per leg	I <sub>FSM</sub> 1200 Amps	8.3 ms, half sine T <sub>J</sub> = 175°C
Max repetitive peak reverse current per leg	I <sub>R(OV)</sub> 2 Amps	f = 1 KHz, 25°C, 1 μsec Square wave
Max peak forward voltage per leg	V <sub>FM</sub> .58 Volts	I <sub>FM</sub> = 80A: T <sub>J</sub> = 175°C*
Max peak forward voltage per leg	V <sub>FM</sub> .74 Volts	I <sub>FM</sub> = 80A: T <sub>J</sub> = 25°C*
Max peak reverse current per leg	I <sub>RM</sub> 60 mA	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C
Max peak reverse current per leg	I <sub>RM</sub> 2 mA	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C
Typical reverse current per leg	I <sub>RM</sub> 20 μA	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 2300 pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance per leg	R <sub>θJC</sub>	0.85°C/W Junction to case
per package	R <sub>θJC</sub>	0.425°C/W Junction to case
Typical thermal resistance per leg	R <sub>θJC</sub>	0.8°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.1°C/W Case to sink
Mounting torque		15-20 inch pounds maximum
Weight		2.5 ounces (71 grams) typical

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# FST 171



Figure 1  
Typical Forward Characteristics - Per Leg

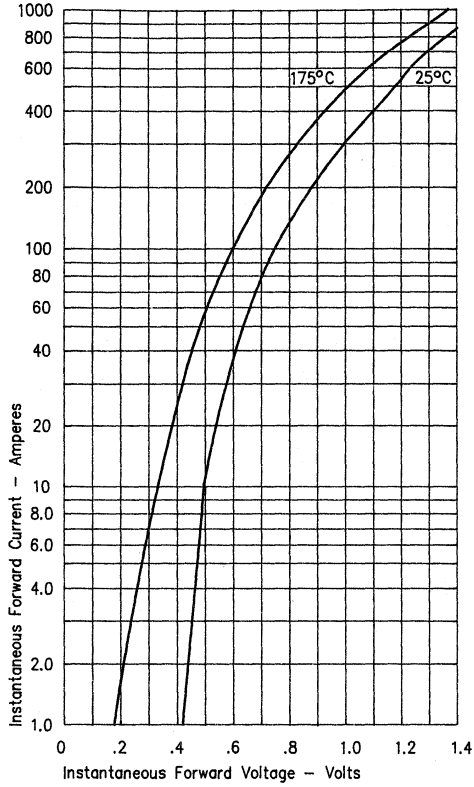


Figure 3  
Typical Junction Capacitance - Per Leg

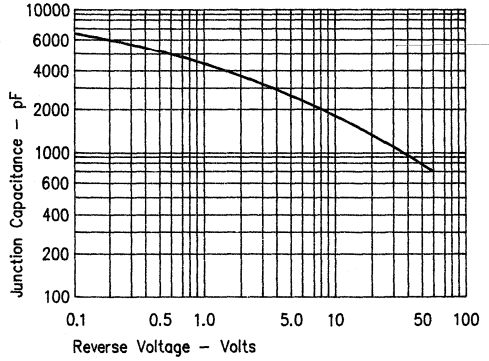


Figure 4  
Forward Current Derating - Per Leg

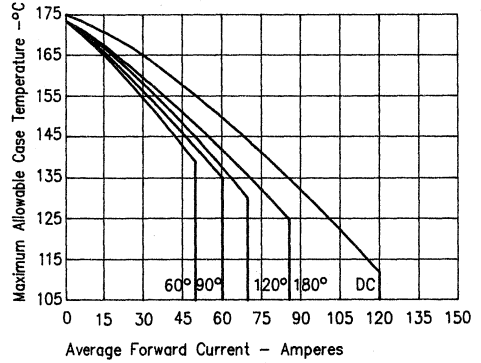


Figure 2  
Typical Reverse Characteristics - Per Leg

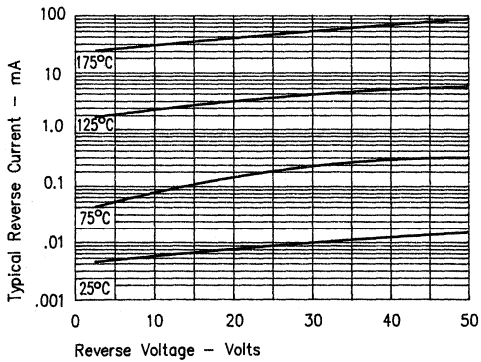
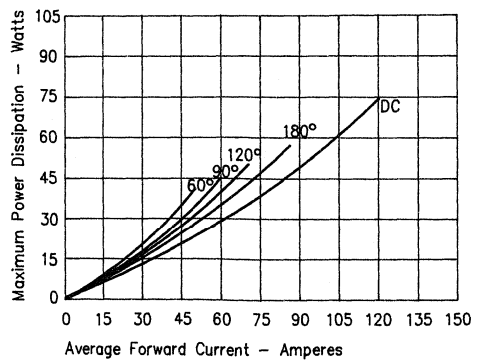
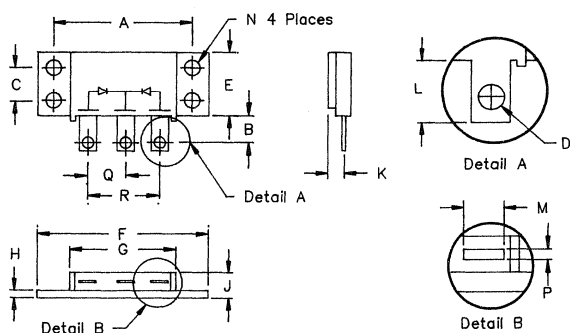


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Low Vf Schottky Powermod FST19035 — FST19050



TO-249

Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	1.995	2.005	50.67	50.93	
B	0.300	0.325	7.62	8.26	
C	0.495	0.505	12.57	12.83	
D	0.182	0.192	4.62	4.88	Dia.
E	0.990	1.010	25.15	25.65	
F	2.390	2.410	60.71	61.21	
G	1.500	1.525	38.10	38.70	
H	0.120	0.130	3.05	3.30	
J	---	0.400	---	10.16	
K	0.240	0.260	6.10	6.60 to	Lead CL
L	0.490	0.510	12.45	12.95	
M	0.330	0.350	8.38	6.90	
N	0.175	0.195	4.45	4.95	Dia.
P	0.035	0.045	0.89	1.14	
Q	0.445	0.455	11.30	11.56	
R	0.890	0.910	22.61	23.11	

Microsemi Catalog Number	Working Peak Peak Reverse Voltage	Repetitive Peak Peak Reverse Voltage
FST19035	35V	35V
FST19040	40V	40V
FST19045	45V	45V
FST19050	50V	50V

- Guard Ring Protection
- Electrically Isolated Base
- Center Tap
- Schottky Barrier Rectifier
- Low Forward Voltage
- Reverse Energy Tested
- $V_{RRM}$  35 to 50 Volts

### Electrical Characteristics

Average Forward Current per pkg.	$I_F(AV)$ 200 Amps	$T_C = 126^\circ C$ , Square wave, $R_{\theta JC} = 0.35^\circ C/W$
Average Forward Current per leg	$I_F(AV)$ 100 Amps	$T_C = 126^\circ C$ , Square wave, $R_{\theta JC} = 0.7^\circ C/W$
Maximum Surge Current per leg	$I_{FSM}$ 1500 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Max. Peak Forward Voltage per leg	$V_{FM}$ .55 Volts	$I_{FM} = 100A, T_J = 175^\circ C^*$
Max. Peak Forward Voltage per leg	$V_{FM}$ .70 Volts	$I_{FM} = 100A, T_J = 25^\circ C^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 100 mA	$V_{RRM}, T_J = 125^\circ C^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 4 mA	$V_{RRM}, T_J = 25^\circ C$
Typical Junction Capacitance	$C_J$ 4800 pF	$VR = 5.0V, T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu$ sec, Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	-40°C to 175°C
Operating junction temp range	$T_J$	-40°C to 175°C
Max thermal resistance per leg	$R_{\theta JC}$	0.7°C/W Junction to case
Max thermal resistance per pkg.	$R_{\theta JC}$	0.35°C/W
Typical thermal resistance per leg	$R_{\theta JC}$	0.6°C/W
Typical thermal resistance	$R_{\theta CS}$	0.1°C/W Case to sink
Typical Weight		2.3 ounces (58.5 grams) typical
Mounting Torque		15-20 inch pounds maximum

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# FST19035 — FST19050



Figure 1  
Typical Forward Characteristics — Per Leg

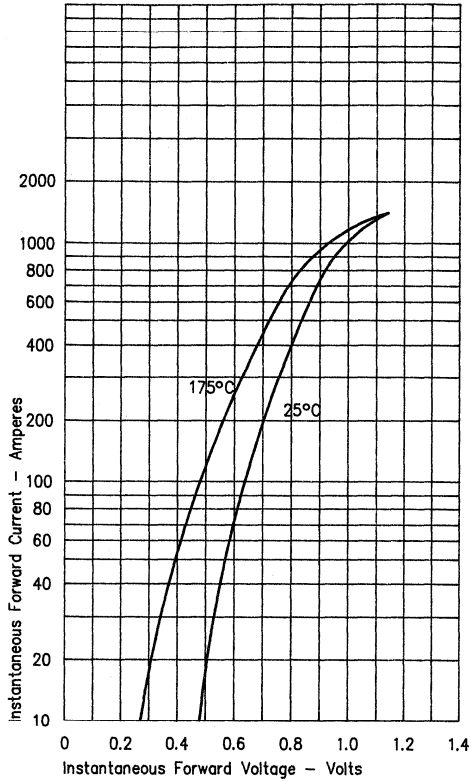


Figure 3  
Typical Junction Capacitance — Per Leg

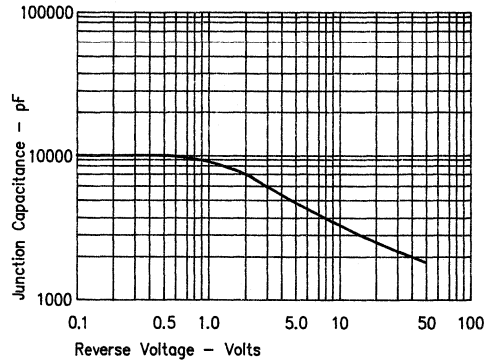


Figure 4  
Forward Current Derating — Per Leg

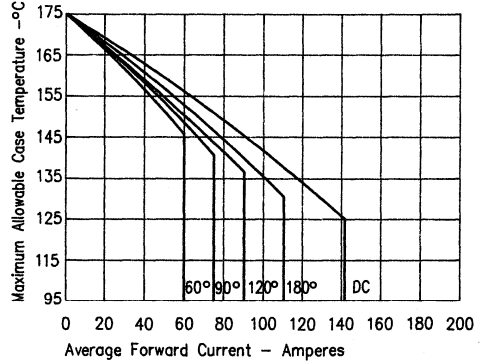


Figure 2  
Typical Reverse Characteristics — Per Leg

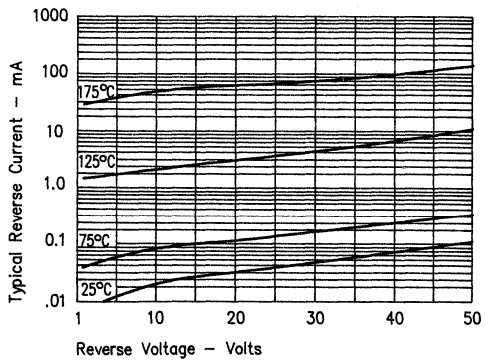
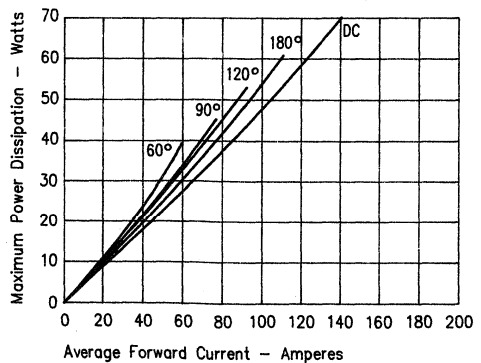
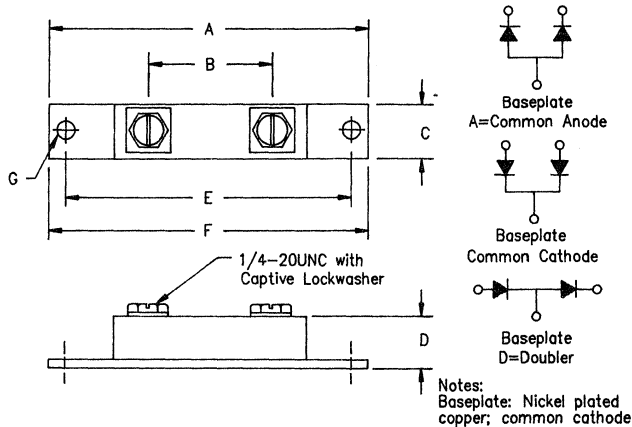


Figure 5  
Maximum Forward Power Dissipation — Per Leg



# Schottky PowerMod FST20035 - FST20050



Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	---	2.450	---	62.23	
B	1.350	1.400	34.29	35.56	
C	0.700	0.800	17.78	20.32	
D	---	0.625	---	15.88	
E	3.140	3.160	79.76	80.26	
F	---	3.650	---	92.71	
G	0.280	0.300	7.140	7.670	Dia.

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST20035*	35V	35V
FST20040*	40V	40V
FST20045*	45V	45V
FST20050*	50V	50V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- Common Cathode Center Tap
- 200 Amperes/35 to 50 Volts
- 175°C Junction Temperature
- Reverse Energy Tested

Electrical Characteristics		
Average forward current per pkg	I <sub>F(AV)</sub> 200 Amps	T <sub>C</sub> = 143°C Square wave, R <sub>θJC</sub> = 0.25°C/W
Average forward current per leg	I <sub>F(AV)</sub> 100 Amps	T <sub>C</sub> = 143°C, Square wave, R <sub>θJC</sub> = 0.5°C/W
Maximum surge current per leg	I <sub>FSM</sub> 2000 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Maximum repetitive reverse current per leg	I <sub>R(OV)</sub> 2 Amps	f = 1 KHZ, 25°C, 1 μsec square wave
Max peak forward voltage per leg	V <sub>FM</sub> 0.80 Volts	I <sub>FM</sub> = 200A; T <sub>J</sub> = 25°C*
Max peak forward voltage per leg	V <sub>FM</sub> 0.60 Volts	I <sub>FM</sub> = 200A; T <sub>J</sub> = 175°C*
Max peak reverse current per leg	I <sub>RM</sub> 75mA	V <sub>RRM</sub> , T <sub>J</sub> = 125°C*
Max peak reverse current per leg	I <sub>RM</sub> 4.0mA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 4600pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operation junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance per leg	R <sub>θJC</sub>	0.5°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.08°C/W Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque		40 inch pounds maximum
Weight		3.4 ounces (95 grams) typical



# FST20035 — FST20050



Figure 1  
Typical Forward Characteristics — Per Leg

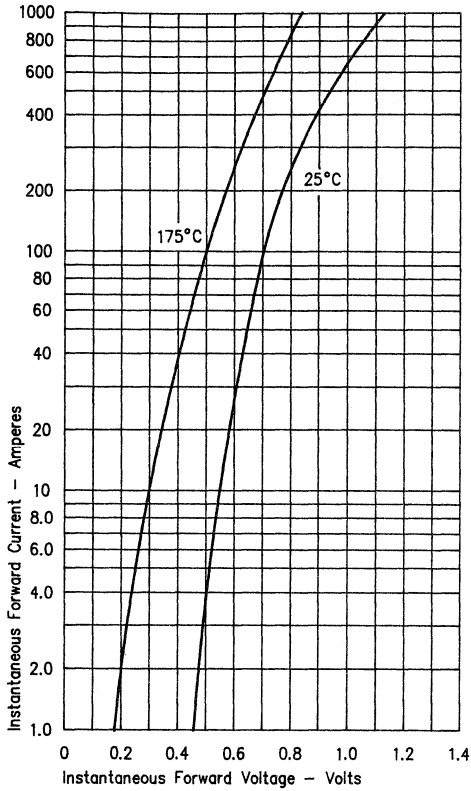


Figure 3  
Typical Junction Capacitance — Per Leg

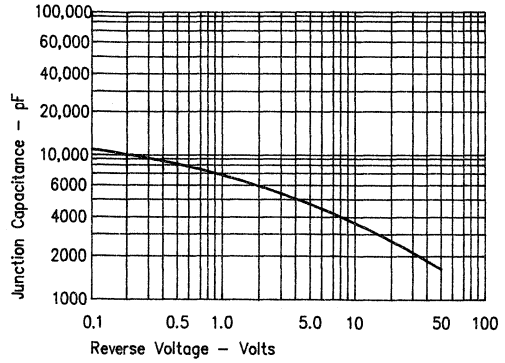


Figure 4  
Forward Current Derating — Per Leg

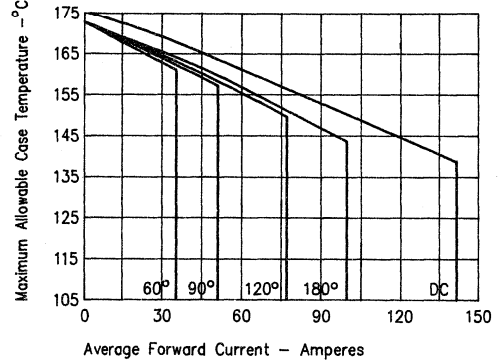


Figure 2  
Typical Reverse Characteristics — Per Leg

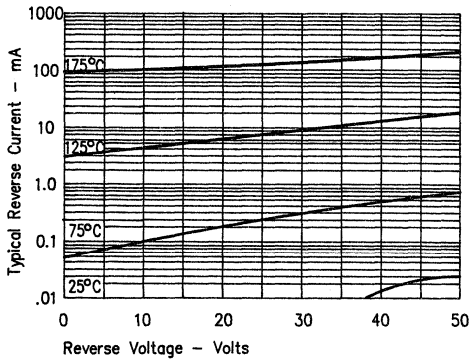
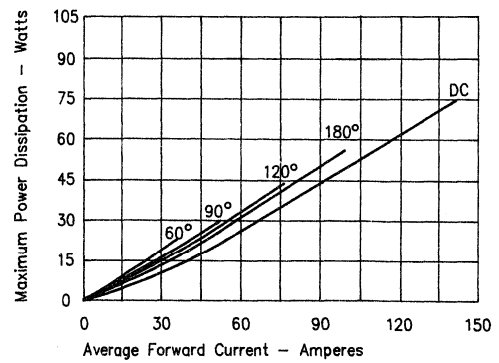
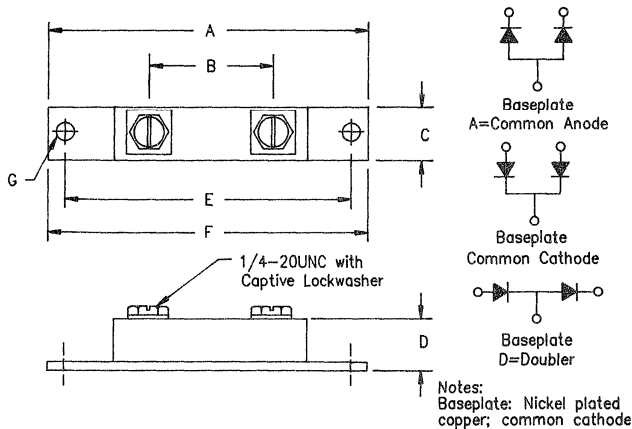


Figure 5  
Maximum Forward Power Dissipation — Per Leg



# Schottky PowerMod

## FST30035 — FST30050



Dim. Inches		Millimeters		Notes
Min.	Max.	Min.	Max.	
A	---	2.450	---	62.23
B	1.350	1.400	34.29	35.56
C	0.700	0.800	17.78	20.32
D	---	0.625	---	15.88
E	3.140	3.160	79.76	80.26
F	---	3.650	---	92.71
G	0.280	0.300	7.140	7.670 Dia.

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST30035*	35V	35V
FST30040*	40V	40V
FST30045*	45V	45V
FST30050*	50V	50V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- Common Cathode Center Tap
- 300 Amperes/35 to 50 Volts
- 175°C Junction Temperature
- Reverse Energy Tested

Electrical Characteristics		
Average forward current per pkg	$I_{F(AV)}$ 300 Amps	$T_C = 136^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.20^\circ\text{C/W}$
Average forward current per leg	$I_{F(AV)}$ 150 Amps	$T_C = 136^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.40^\circ\text{C/W}$
Maximum surge current per leg	$I_{FSM}$ 2000 Amps	8.3ms, half sine, $T_J = 175^\circ\text{C}$
Maximum repetitive reverse current per leg	$I_{R(OV)}$ 2 Amps	$f = 1 \text{ KHZ}$ , $25^\circ\text{C}$
Max peak forward voltage per leg	$V_{FM}$ 0.70 Volts	$I_{FM} = 200\text{A}$ ; $T_J = 125^\circ\text{C}$ *
Max peak forward voltage per leg	$V_{FM}$ 0.76 Volts	$I_{FM} = 200\text{A}$ ; $T_J = 25^\circ\text{C}$ *
Max peak reverse current per leg	$I_{RM}$ 75 mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}$ *
Max peak reverse current per leg	$I_{RM}$ 4.0 mA	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical junction capacitance	$C_J$ 4600 pF	$V_R = 5.0\text{V}$ , $T_C = 25^\circ\text{C}$

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	$T_{STG}$	$-40^\circ\text{C}$ to $175^\circ\text{C}$
Operating junction temp range	$T_J$	$-40^\circ\text{C}$ to $175^\circ\text{C}$
Max thermal resistance per leg	$R_{\theta JC}$	$0.40^\circ\text{C/W}$ Junction to case
Typical thermal resistance	$R_{\theta CS}$	$0.08^\circ\text{C/W}$ Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque		40 inch pounds maximum
Weight		2.8 ounces (75 grams) typical

# FST30035 - FST30050



Figure 1  
Typical Forward Characteristics - Per Leg

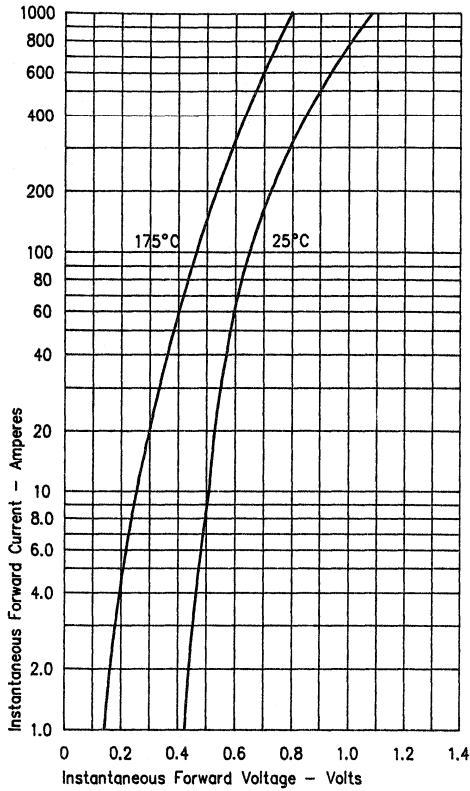


Figure 3  
Typical Junction Capacitance - Per Leg

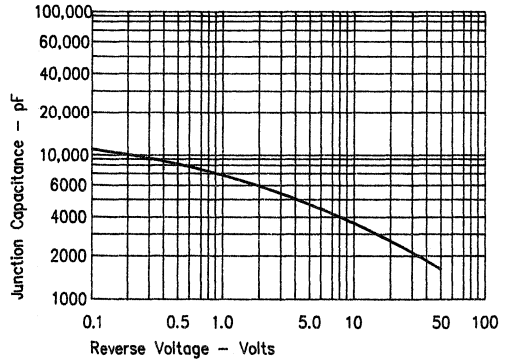


Figure 4  
Forward Current Derating - Per Leg

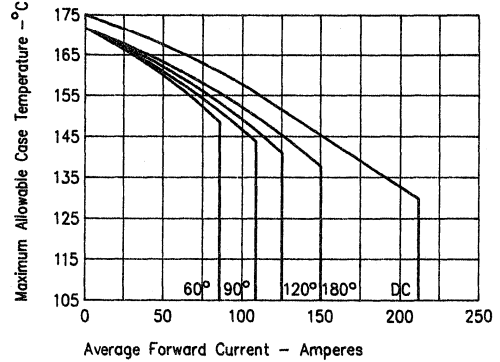


Figure 2  
Typical Reverse Characteristics - Per Leg

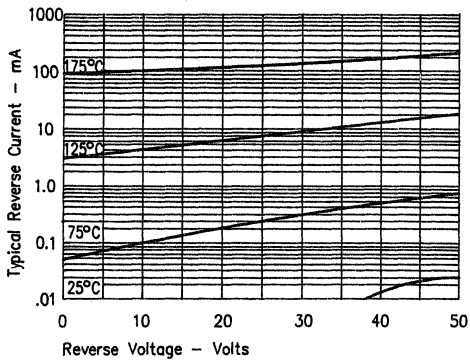
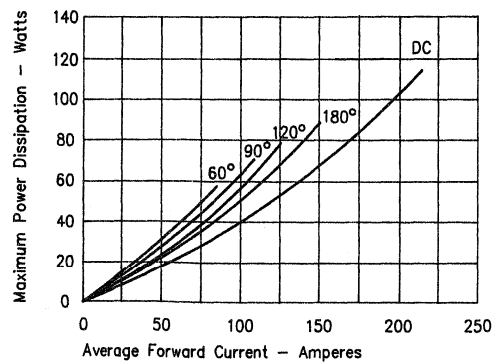


Figure 5  
Maximum Forward Power Dissipation - Per Leg



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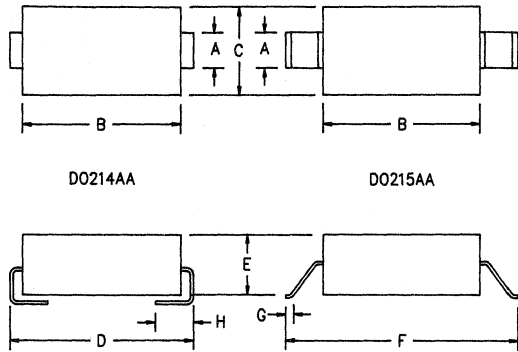
# *Section D*

D

## *Ultrafast Rectifiers*

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# Ultra Fast Recovery Rectifiers UFS105, 110, 115, 120



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.081	.087	2.06	2.21	
B	.160	.180	4.06	4.57	
C	.130	.155	3.30	3.94	
D	.205	.220	5.21	5.59	
E	.075	.095	1.90	2.41	
F	.270	.290	6.86	7.37	
G	.015	.030	.381	.762	
H	.030	.060	.760	1.52	

**D**

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
*UFS105	50V	50V
*UFS110	100V	100V
*UFS115	150V	150V
*UFS120	200V	200V

\*Add Suffix J For J Lead or G For Gull Wing Lead Configuration

- Ultra Fast Recovery
- 175°C Junction Temperature
- VRRM 50 to 200 Volts
- 1 Amp Current Rating
- $t_{RR}$  30ns Max.

Electrical Characteristics		
Average forward current	$I_F(AV)$ 1.0 Amps	$T_A = 140^\circ C$ , Square wave, $R_{\theta J L} = 30^\circ C/W$
Maximum surge current	$I_{FSM}$ 35 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Max peak forward voltage	$V_{FM}$ .75 Volts	$I_{FM} = 0.1A; T_J = 25^\circ C^*$
Max peak reverse voltage	$V_{RM}$ .95 Volts	$I_{FM} = 1.0A; T_J = 25^\circ C^*$
Max reverse recovery time	$t_{RR}$ 30 ns	$1/2A, 1A, 1/4A, T_J = 25^\circ C$
Typical reverse recovery time	$t_{RR}$ 12 ns	$1/2A, 1A, 1/4A, T_J = 25^\circ C$
Max peak reverse current	$I_{RM}$ 5 $\mu A$	$V_{RRM}, T_J = 25^\circ C$
Typical junction capacitance	$C_J$ 10 pF	$V_R = 10V, T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu$ sec, Duty cycle 2%

Thermal and Thermal Characteristics		
Storage temperature range	$T_{STG}$	-40°C to 175°C
Operating junction temp range	$T_J$	-40°C to 175°C
Maximum thermal resistance	$R_{\theta JC}$	30°C/W Junction to Case
Weight		.0047 ounces (.013 grams) typical

# UFS105, 110, 115, 120

Figure 1  
Typical Forward Characteristics

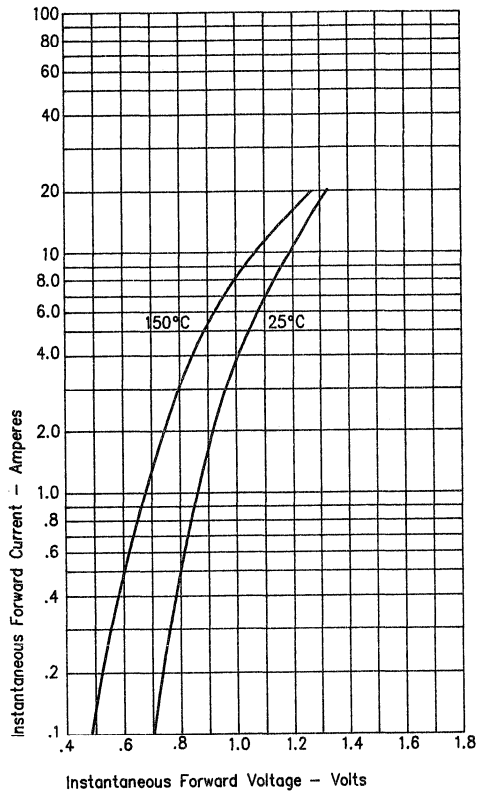


Figure 3  
Typical Junction Capacitance

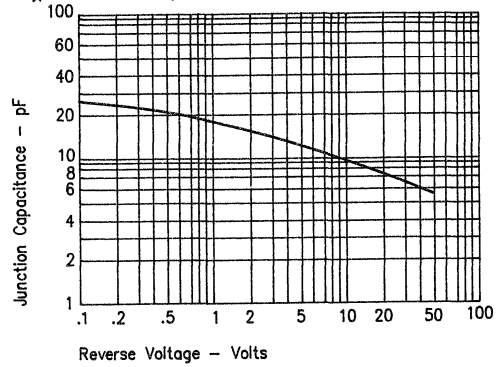
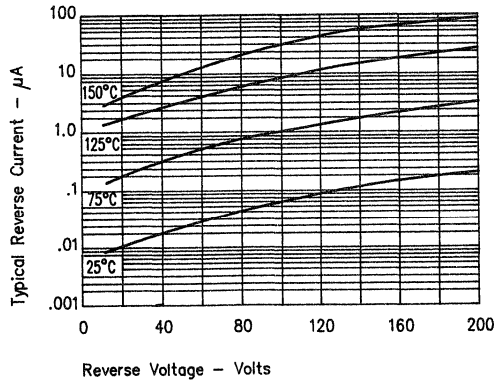
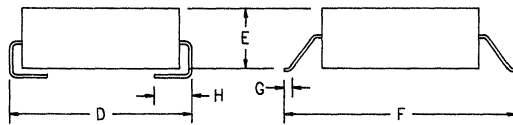
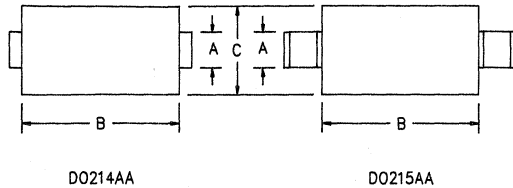


Figure 2  
Typical Reverse Characteristics



# Ultra Fast Recovery Rectifiers

## UFS130, UFS140, UFS150



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.081	.087	2.06	2.21	
B	.160	.180	4.06	4.57	
C	.130	.155	3.30	3.94	
D	.205	.220	5.21	5.59	
E	.075	.095	1.90	2.41	
F	.270	.290	6.86	7.37	
G	.015	.030	.381	.762	
H	.030	.060	.760	1.52	



Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
*UFS130	300V	300V
*UFS140	400V	400V
*UFS150	500V	500V

\* Add Suffix J for J Lead or G for Gull Wing Lead Configuration

- Ultra Fast Recovery
- 175°C Junction Temperature
- VRRM 300 to 500 Volts
- 1 Amp Current Rating
- <sup>t</sup>RR 50nS Max.

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 1.0 Amps	T <sub>A</sub> = 158°C, Square wave R <sub>θJL</sub> = 30°C/W
Maximum surge current	I <sub>FSM</sub> 30 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .80 Volts	I <sub>FM</sub> = 0.1A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> 1.1 Volts	I <sub>FM</sub> = 1.0A; T <sub>J</sub> = 25°C*
Max reverse recovery time	<sup>t</sup> RR 50 nS	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Typical reverse recovery time	<sup>t</sup> RR 24 nS	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> 10 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 2.5 pF	V <sub>R</sub> = 10V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Maximum thermal resistance	R <sub>θJC</sub>	30°C/W                      Junction to Case
Weight		.0047 ounces (.013 grams) typical

**Microsemi Corp.**  
**Colorado**

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FAX: 303-466-3775

# UFS130, UFS140, UFS150

Figure 1  
Typical Forward Characteristics

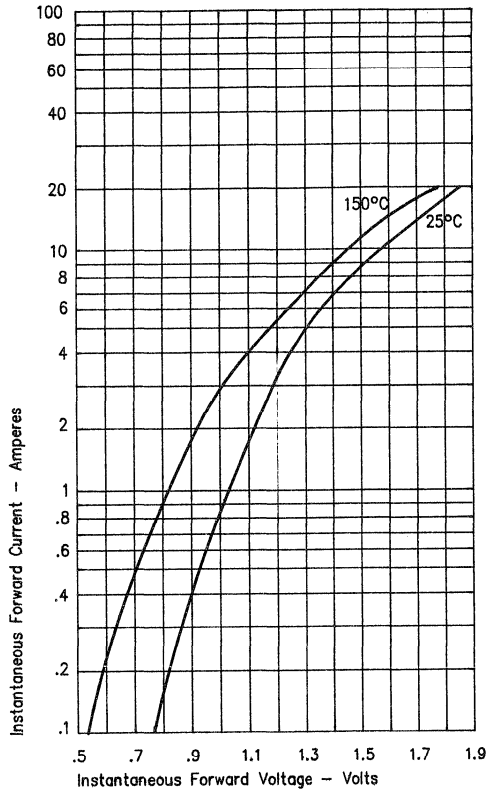


Figure 3  
Typical Junction Capacitance

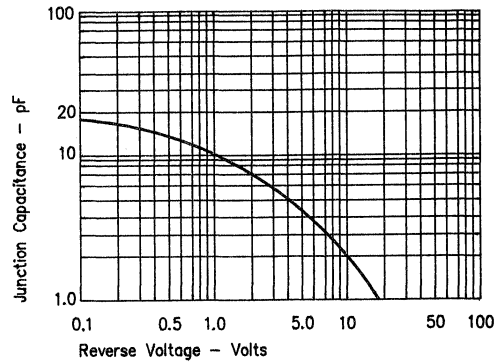
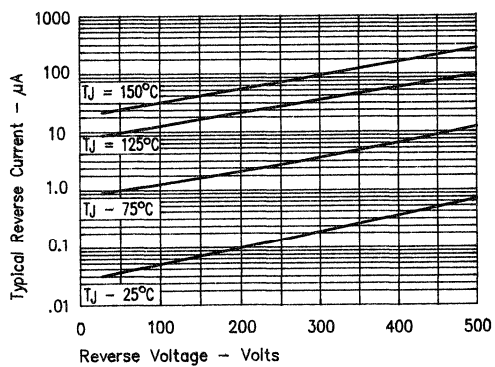
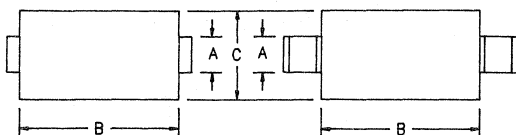


Figure 2  
Typical Reverse Characteristics



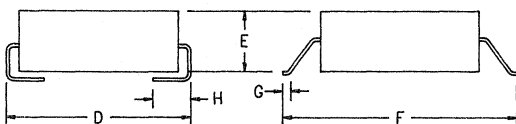
# Ultra Fast Recovery Rectifiers

## UFS160, UFS170, UFS180



DO214AA

DO215AA



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.081	.087	2.06	2.21	
B	.160	.180	4.06	4.57	
C	.130	.155	3.30	3.94	
D	.205	.220	5.21	5.59	
E	.075	.095	1.90	2.41	
F	.270	.290	6.86	7.37	
G	.015	.030	.381	.762	
H	.030	.060	.760	1.52	



Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
*UFS160	600V	600V
*UFS170	700V	700V
*UFS180	800V	800V

\* Add Suffix J for J Lead or G for Gull Wing Lead Configuration

- Ultra Fast Recovery
- 175°C Junction Temperature
- VRRM 600 to 800 Volts
- 1 Amp Current Rating
- $t_{RR}$  60nS Max.

Electrical Characteristics		
Average forward current	$I_F(AV)$ 1.0 Amps	$T_A = 135^\circ C$ , Square wave, $R_{\theta JC} = 30^\circ C/W$
Maximum surge current	$I_{FSM}$ 25 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Max peak forward voltage	$V_{FM}$ .89 Volts	$I_{FM} = 0.1A; T_J = 25^\circ C^*$
Max peak forward voltage	$V_{FM}$ 1.2 Volts	$I_{FM} = 1.0A; T_J = 25^\circ C^*$
Max reverse recovery time	$t_{RR}$ 60 nS	1/2A, 1A, 1/4A, $T_J = 25^\circ C$
Typical reverse recovery time	$t_{RR}$ 45 nS	1/2A, 1A, 1/4A, $T_J = 25^\circ C$
Max peak reverse current	$I_{RR}$ 20 $\mu A$	$V_{RRM}, T_J = 25^\circ C$
Typical junction capacitance	$C_J$ 5.5 pF	$V_R = 10V, T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu sec$ , Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	$T_{STG}$	-40°C to 175°C
Operating junction temp range	$T_J$	-40°C to 175°C
Maximum thermal resistance	$R_{\theta JC}$	30°C/W Junction to Case
Weight		.0047 ounces (.013 grams) typical



# UFS160, UFS170, UFS180

Figure 1  
Typical Forward Characteristics

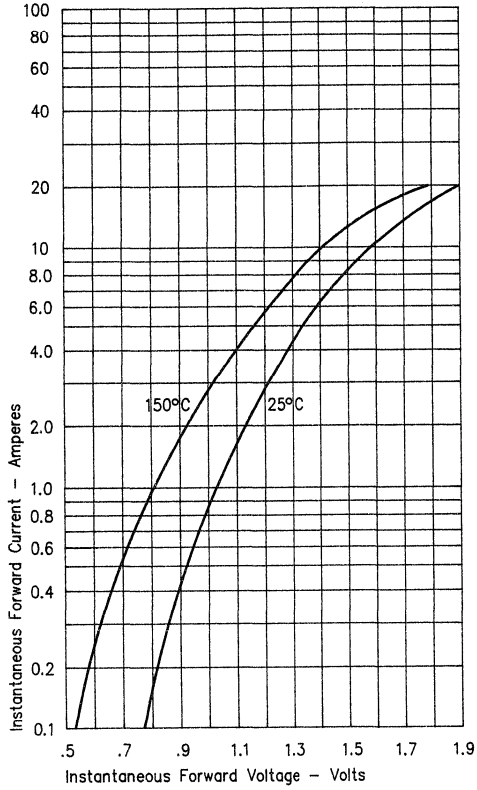


Figure 3  
Typical Junction Capacitance

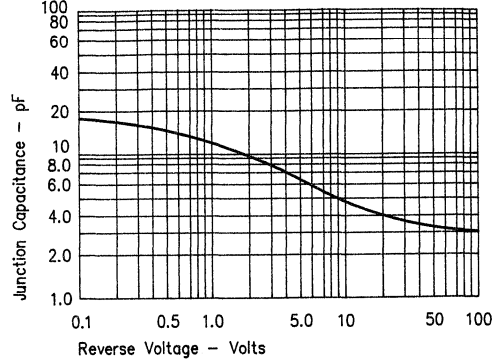
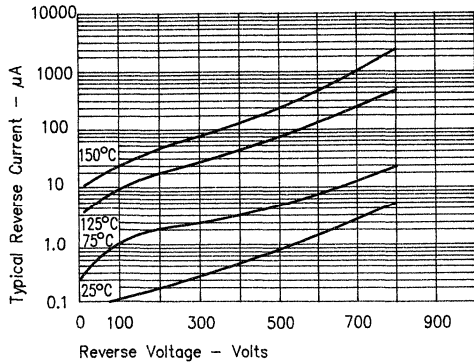


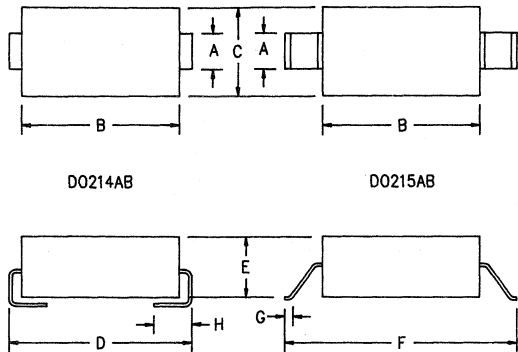
Figure 2  
Typical Reverse Characteristics





# Ultra Fast Recovery Rectifiers

## UFS305, 310, 315, 320



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.117	.123	2.21	2.97	
B	.260	.280	4.57	6.60	
C	.220	.245	3.94	5.58	
D	.307	.322	5.59	7.80	
E	.075	.095	1.90	2.41	
F	.380	.400	6.86	7.37	
G	.025	.040	.381	.762	
H	.030	.060	.760	1.52	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
*UFS305	50V	50V
*UFS310	100V	100V
*UFS315	150V	150V
*UFS320	200V	200V

\*Add Suffix J For J Lead or G For Gull Wing Lead Configuration

- Ultra Fast Recovery
- 175°C Junction Temperature
- VRRM 50 to 200 Volts
- 3 Amp Current Rating
- <sup>t</sup>RR 30 ns Max.

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 3.0 Amps	Square wave
Maximum surge current	I <sub>FSM</sub> 100 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .95 Volts	I <sub>FM</sub> = 3.0A; T <sub>J</sub> = 25°C*
Max reverse recovery time	<sup>t</sup> RR 30 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Typical reverse recovery time	<sup>t</sup> RR 18 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> 10 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 38 pF	V <sub>R</sub> = 10V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Weight		.008 ounces (0.22 grams) typical



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 FAX: 303-466-3775

# UFS305, 310, 315, 320

Figure 1  
Typical Forward Characteristics

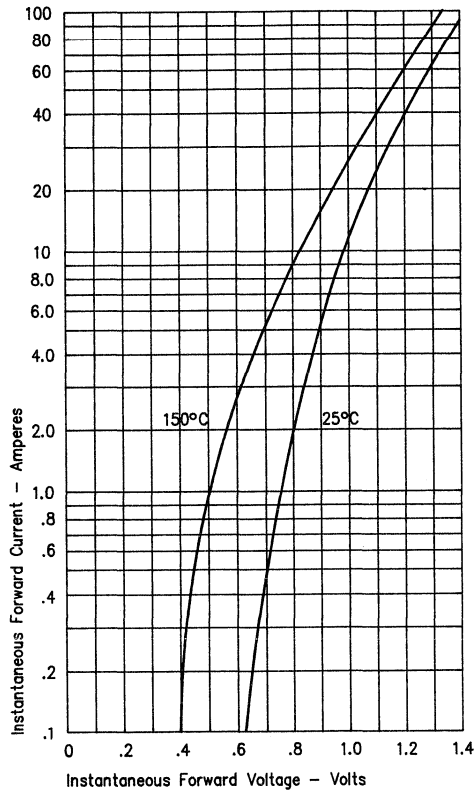


Figure 3  
Typical Junction Capacitance

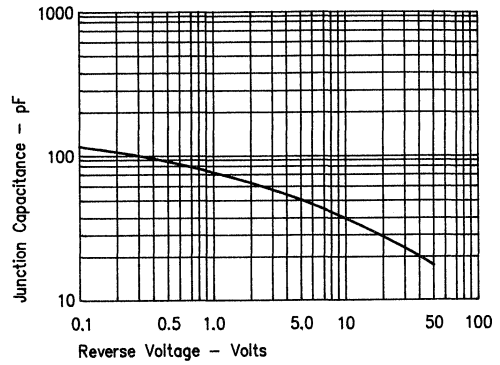
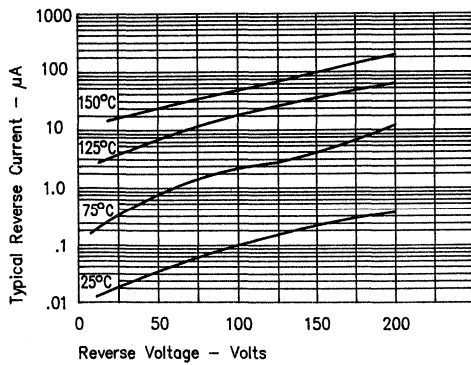
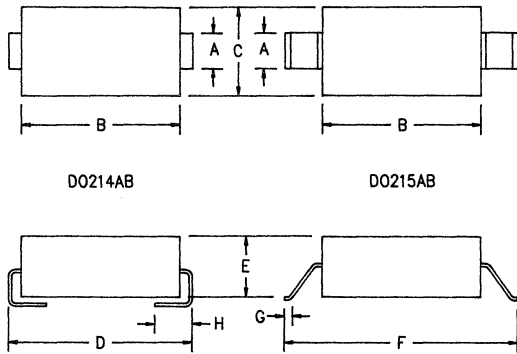


Figure 2  
Typical Reverse Characteristics



# Ultra Fast Recovery Rectifiers

## UFS330, UFS340, UFS350



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.117	.123	2.21	2.97	
B	.260	.280	4.57	6.60	
C	.220	.245	3.94	5.58	
D	.307	.322	5.59	7.80	
E	.075	.095	1.90	2.41	
F	.380	.400	6.86	7.37	
G	.025	.040	.381	.762	
H	.030	.060	.760	1.52	



Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
*UFS330	300V	300V
*UFS340	400V	400V
*UFS350	500V	500V

\* Add Suffix J for J Lead or G for Gull Wing Lead Configuration

- Ultra Fast Recovery
- VRRM 300 to 500 Volts
- 3 Amp Current Rating
- 175°C Junction Temperature
- $t_{RR}$  50ns Max

Electrical Characteristics		
Average forward current	IF(AV) 3.0 Amps	Square wave
Maximum surge current	IFSM 100 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .85 Volts	IFM = 0.1A; T <sub>J</sub> = 25°C *
Max peak forward voltage	V <sub>FM</sub> 1.1 Volts	IFM = 3.0A; T <sub>J</sub> = 25°C *
Max reverse recovery time	t <sub>RR</sub> 50 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Typical peak reverse recovery time	t <sub>RR</sub> 25 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> 10 μA	VRRM, T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 16 pF	VR = 10V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Weight		.0047 ounces (.013 grams) typical

# UFS330, UFS340, UFS350

Figure 1  
Typical Forward Characteristics

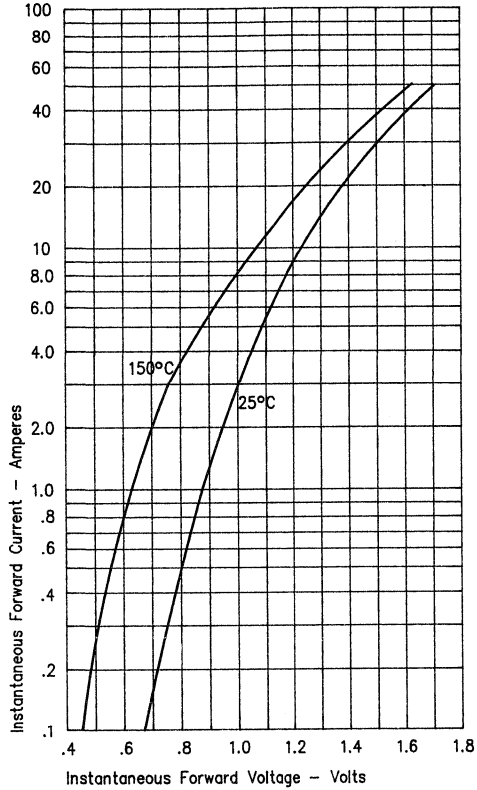


Figure 3  
Typical Junction Capacitance

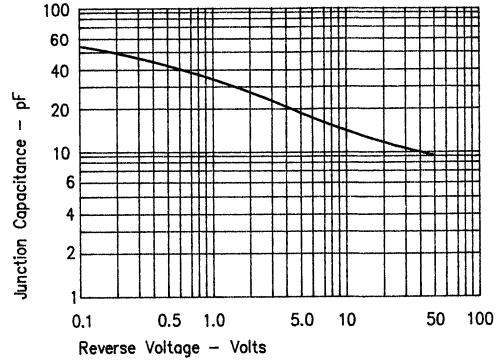
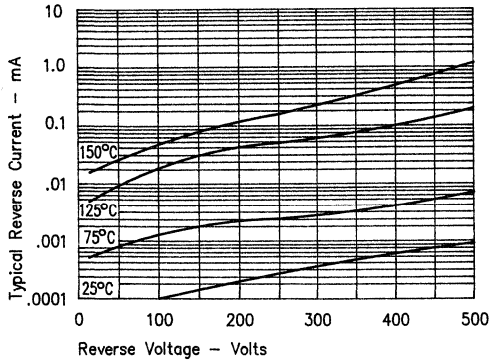
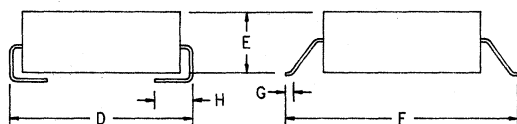
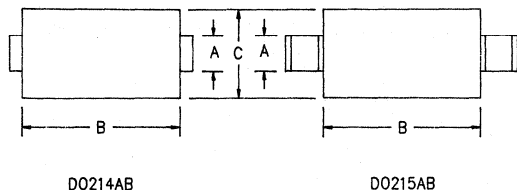


Figure 2  
Typical Reverse Characteristics



# Ultra Fast Recovery Rectifiers

## UFS360, UFS370, UFS380



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.117	.123	2.21	2.97	
B	.260	.280	4.57	6.60	
C	.220	.245	3.94	5.58	
D	.307	.322	5.59	7.80	
E	.075	.095	1.90	2.41	
F	.380	.400	6.86	7.37	
G	.025	.040	.381	.762	
H	.030	.060	.760	1.52	



Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
*UFS360	600V	600V
*UFS370	700V	700V
*UFS380	800V	800V

\*Add Suffix J For J Lead or G For Gull Wing Lead Configuration

- Ultra Fast Recovery
- 175°C Junction Temperature
- VRRM 600 to 800 Volts
- 3 Amp Current Rating
- † RR 60ns Max.

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 3.0 Amps	Square wave
Maximum surge current	I <sub>FSM</sub> 100 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> 1.2 Volts	I <sub>FM</sub> = 3.0A; T <sub>J</sub> = 25°C*
Max reverse recovery time	t <sub>RR</sub> 60 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Typical reverse recovery time	t <sub>RR</sub> 40 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> 10 mA	VRRM, T <sub>J</sub> = 150°C
Max peak reverse current	I <sub>RM</sub> 10 μA	VRRM, T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 19 pF	V <sub>R</sub> = 10V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Weight		.008 ounces (0.22 grams) typical



# UFS360, UFS370, UFS380

Figure 1  
Typical Forward Characteristics

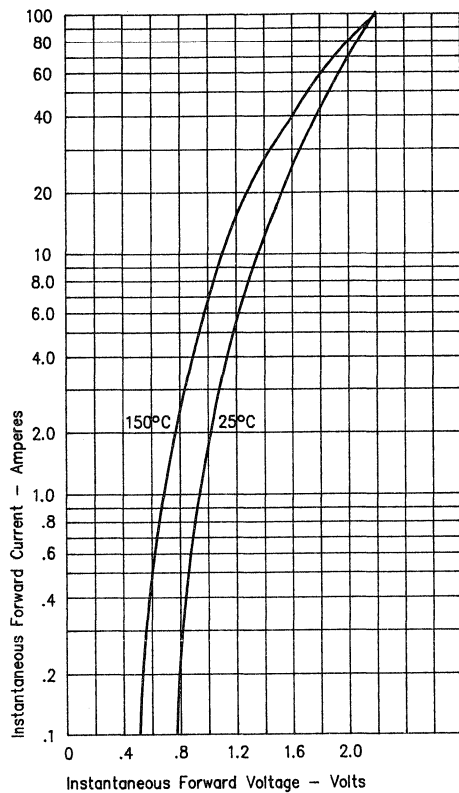


Figure 3  
Typical Junction Capacitance

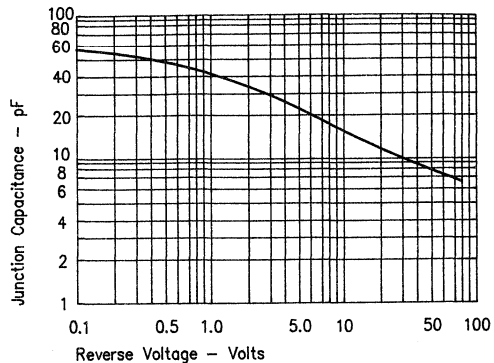
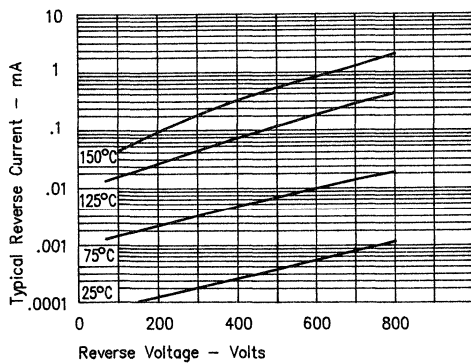
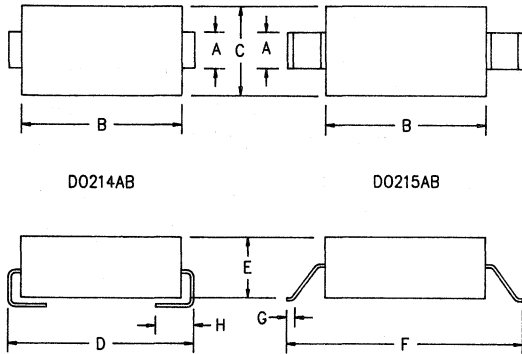


Figure 2  
Typical Reverse Characteristics



# Ultra Fast Recovery Rectifiers

## UFS505, 510, 515, 520



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.117	.123	2.21	2.97	
B	.260	.280	4.57	6.60	
C	.220	.245	3.94	5.58	
D	.307	.322	5.59	7.80	
E	.075	.095	1.90	2.41	
F	.380	.400	6.86	7.37	
G	.025	.040	.381	.762	
H	.030	.060	.760	1.52	



Microsemi Catalog Number	Peak Reverse Voltage	Peak Reverse Voltage
*UFS505	50V	50V
*UFS510	100V	100V
*UFS515	150V	150V
*UFS520	200V	200V

\*Add Suffix J For J Lead or G For Gull Wing Lead Configuration

- Ultra Fast Recovery
- 175°C Junction Temperature
- VRRM 50 to 200 Volts
- 5 Amp current rating
- t<sub>RR</sub> 30ns Max.

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 5.0 Amps	Square wave
Maximum surge current	I <sub>FSM</sub> 175 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .95 Volts	I <sub>FM</sub> = 5.0A; T <sub>J</sub> = 25°C*
Max reverse recovery time	t <sub>RR</sub> 30 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Typical reverse recovery time	t <sub>RR</sub> 20 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> 2 mA	V <sub>RRM, T<sub>J</sub></sub> = 150°C
Max peak reverse current	I <sub>RM</sub> 10 μA	V <sub>RRM, T<sub>J</sub></sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 58 pF	V <sub>R</sub> = 10V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Weight		.008 ounces (.22 grams) typical

# UFS505, 510, 515, 520

Figure 1  
Typical Forward Characteristics

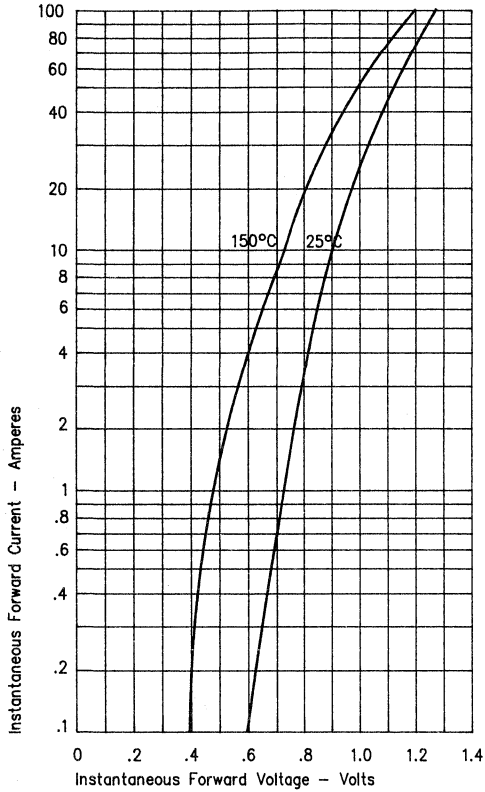


Figure 3  
Typical Junction Capacitance

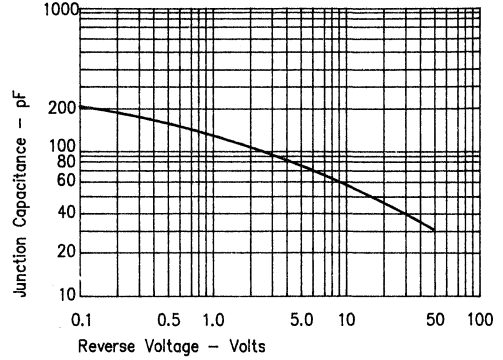
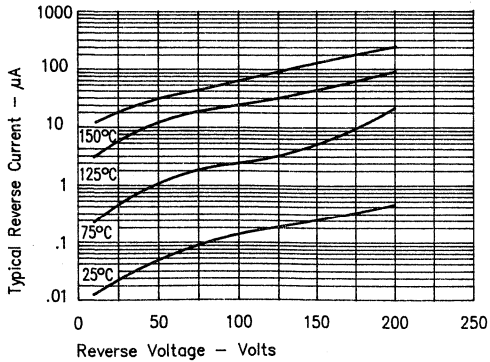


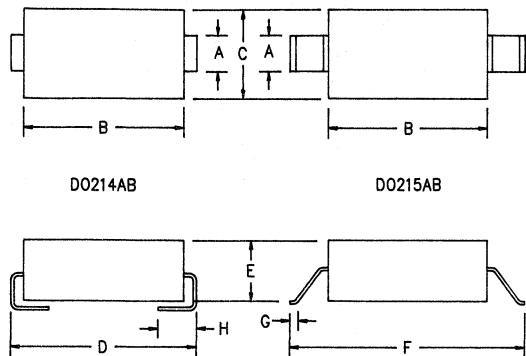
Figure 2  
Typical Reverse Characteristics





# Ultra Fast Recovery Rectifiers

## UFS530, UFS540, UFS550



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.117	.123	2.21	2.97	
B	.260	.280	4.57	6.60	
C	.220	.245	3.94	5.58	
D	.307	.322	5.59	7.80	
E	.075	.095	1.90	2.41	
F	.380	.400	6.86	7.37	
G	.025	.040	.381	.762	
H	.030	.060	.760	1.52	



Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
*UFS530	300V	300V
*UFS540	400V	400V
*UFS550	500V	500V

\* Add Suffix J for J Lead or G for Gull Wing Lead Configuration

- Ultra Fast Recovery
- 175°C Junction Temperature
- VRRM 300 to 500 Volts
- 5 Amp current rating
- <sup>t</sup>RR 50nS Max.

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 5.0 Amps	Square wave
Maximum surge current	I <sub>FSM</sub> 175 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> 1.2 Volts	I <sub>FM</sub> = 5.0A; T <sub>J</sub> = 25°C*
Max reverse recovery time	<sup>t</sup> RR 50 nS	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Typical reverse recovery time	<sup>t</sup> RR 28 nS	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> 10 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 28 pF	V <sub>R</sub> = 10V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Weight		.008 ounces (.22 grams) typical

# UFS530, UFS540, UFS550

Figure 1  
Typical Forward Characteristics

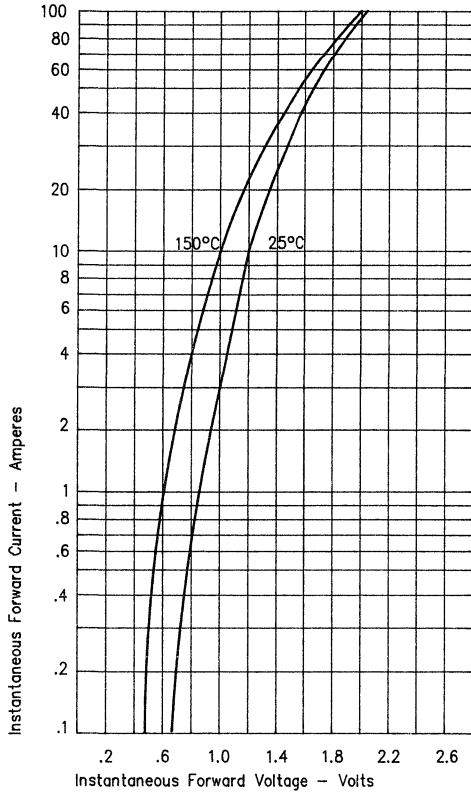


Figure 3  
Typical Junction Capacitance

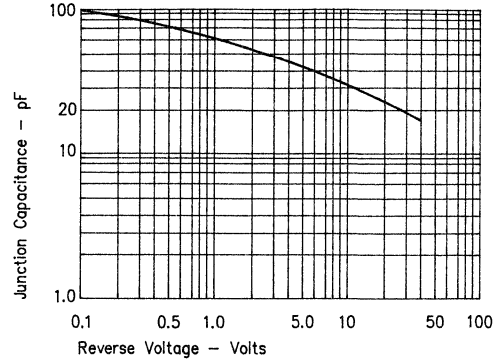
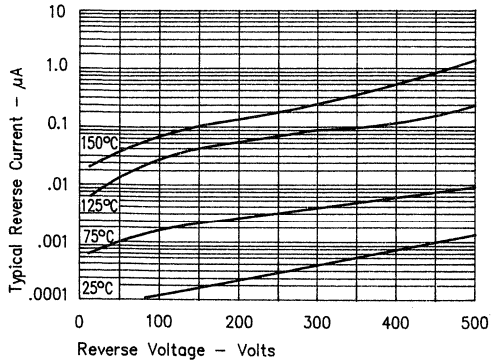
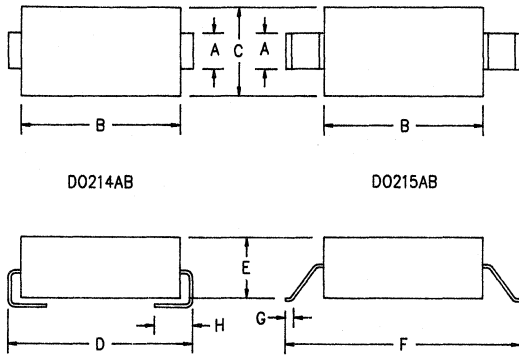


Figure 2  
Typical Reverse Characteristics



# Ultra Fast Recovery Rectifiers

## UFS560, UFS570, UFS580



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.117	.123	2.21	2.97	
B	.260	.280	4.57	6.60	
C	.220	.245	3.94	5.58	
D	.307	.322	5.59	7.80	
E	.075	.095	1.90	2.41	
F	.380	.400	6.86	7.37	
G	.025	.040	.381	.762	
H	.030	.060	.760	1.52	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
*UFS560	600V	600V
*UFS570	700V	700V
*UFS580	800V	800V

\* Add Suffix J for J Lead or G for Gull Wing Lead Configuration

- Ultra Fast Recovery
- 175°C Junction Temperature
- VRRM 600 to 800 Volts
- 5 Amp current rating
- †RR 60ns Max.

Electrical Characteristics			
Average forward current	I <sub>F(AV)</sub> 5.0 Amps	Square wave	
Maximum surge current	I <sub>FSM</sub> 175 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C	
Max peak forward voltage	V <sub>FM</sub> 1.2 Volts	I <sub>FM</sub> = 5.0A; T <sub>J</sub> = 25°C*	
Max reverse recovery time	†RR 60 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C	
Typical reverse recovery time	†RR 40 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C	
Max peak reverse current	I <sub>RM</sub> 10 mA	V <sub>RRM</sub> , T <sub>J</sub> = 150°C	
Max peak reverse current	I <sub>RM</sub> 10 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C	
Typical junction capacitance	C <sub>J</sub> 32 pF	V <sub>R</sub> = 10V, T <sub>J</sub> = 25°C	

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Weight		.008 ounces (.22 grams) typical

# UFS560, UFS570, UFS580

Figure 1  
Typical Forward Characteristics

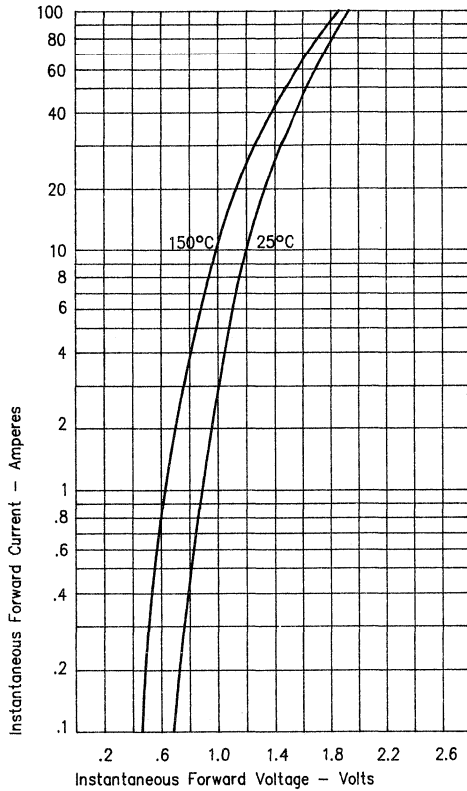


Figure 3  
Typical Junction Capacitance

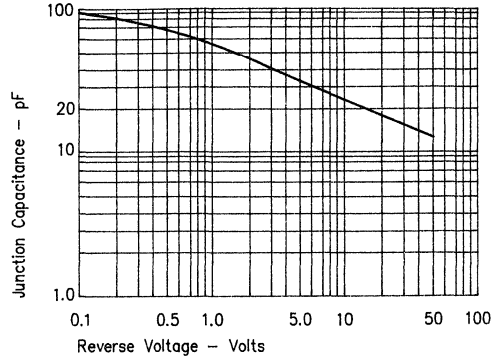
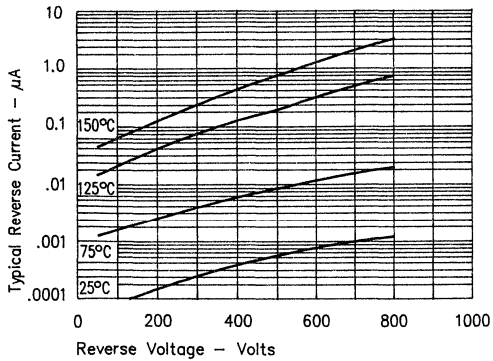
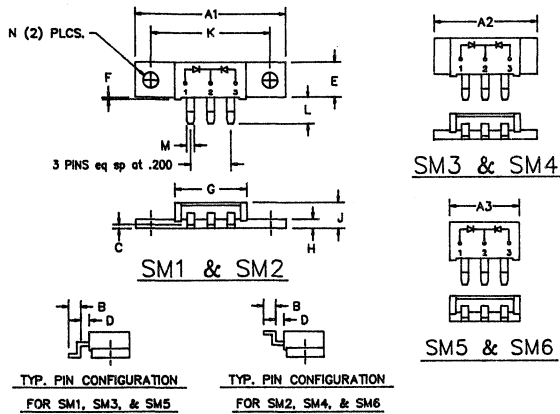


Figure 2  
Typical Reverse Characteristics



# Ultrafast Recovery Modules

## UFT70SM, 71SM & 72SM



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A1	1.490	1.510	37.85	38.35	
A2	1.020	1.040	26.12	26.42	
A3	.695	.715	17.65	18.16	
B	.110	.120	2.79	3.04	
C	.027	.037	0.69	0.94	
D	.100	.110	2.54	2.79	
E	.350	.370	8.89	9.40	
F	.015	.025	0.38	0.64	
G	.695	.715	17.65	18.16	
H	.088	.098	2.24	2.49	
J	.240	.260	6.10	6.60	
K	1.180	1.195	29.97	30.35	
L	.230	.250	5.84	6.35	
M	.065	.085	1.65	2.16	
N	.151	.161	3.84	4.09	Dia.

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UFT7005SM ①②	50V	50V
UFT7010SM --	100V	100V
UFT7015SM --	150V	150V
UFT7020SM --	200V	200V
UFT7120SM ①②	300V	300V
UFT7130SM --	400V	400V
UFT7140SM --	500V	500V
UFT7150SM --	600V	600V
UFT7250SM ①②	700V	700V
UFT7260SM --	800V	800V
UFT7270SM --		
UFT7280SM --		

Note: ① Specify (1-6) to identify package desired  
 ② Specify C-Common Cathode, A-Common Anode, D-Doubler

- Ultra Fast Recovery
- 175°C Junction Temperature
- $V_{RRM}$  50 to 800 Volts
- Unique surface mount package
- 2 X 35 Amp current rating

Electrical Characteristics			
	UFT70SM	UFT71SM	UFT72SM
Average forward current per pkg	IF(AV) 70A	70A	70A
Average forward current per leg	IF(AV) 35A	35A	35A
Case Temperature	TC 148°C	142°C	138°C
Maximum surge current per leg	IFSM 700A	600A	500A
Max peak forward voltage per leg	VFM .95V	1.20V	1.35V
Max reverse recovery time per leg	t <sub>rr</sub> 50ns	60ns	75ns
Typical reverse recovery time per leg	t <sub>rr</sub> 35ns	50ns	65ns
Max peak reverse current per leg	IRM ---	3.0mA	---
Max peak reverse current per leg	IRM ---	25µA	---
Typical Junction capacitance	C <sub>J</sub> 300pF	120pF	115pF

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	TSTG	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance per leg	RθJC	1.0°C/W Junction to case
per package	RθJC	0.5°C/W Junction to case
Typical thermal resistance per leg	RθJC	0.85°C/W Junction to case
Typical thermal resistance	RθCS	0.3°C/W Case to sink
Mounting Base Torque		10 inch pounds maximum
Weight	SM1-2	0.3 ounce (8.4 grams) typical
	SM3-4	0.24 ounce (6.7 grams) typical
	SM5-6	0.18 ounce (5.2 grams) typical



# UFT70SM1 — SM6

Figure 1  
Typical Forward Characteristics — Per Leg

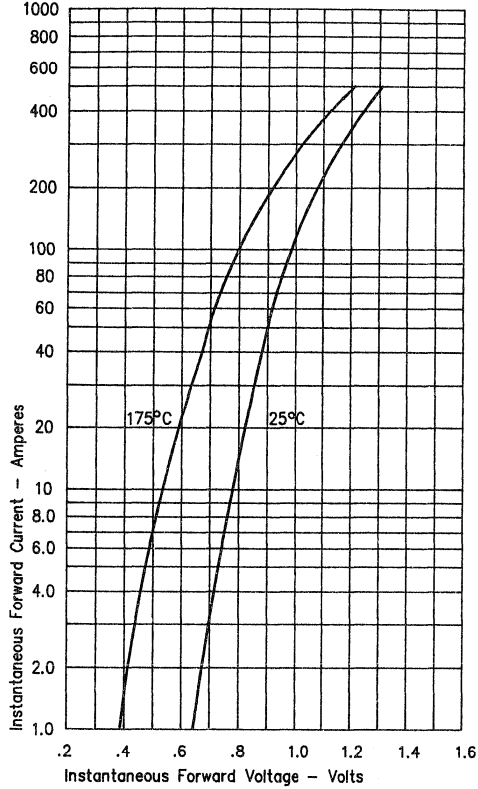


Figure 2  
Typical Reverse Characteristics — Per Leg

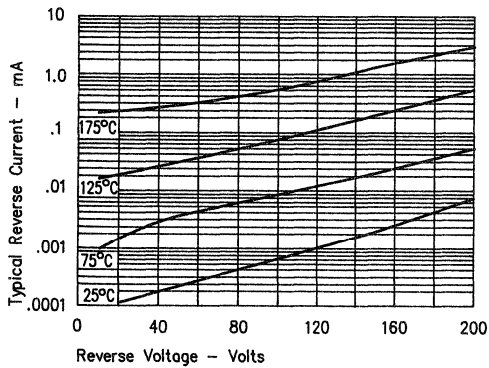


Figure 3  
Typical Junction Capacitance — Per Leg

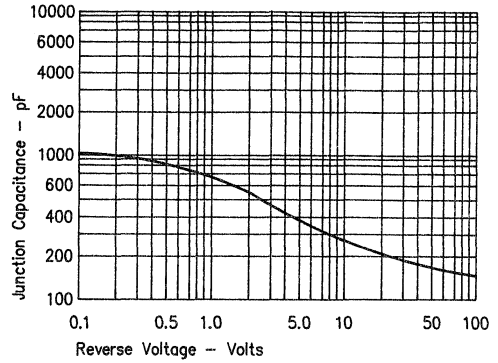


Figure 4  
Forward Current Derating — Per Leg

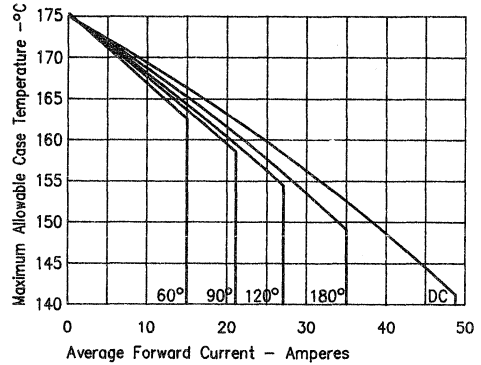
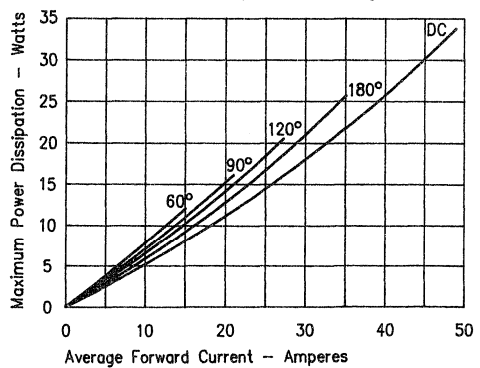


Figure 5  
Maximum Forward Power Dissipation — Per Leg



# UFT71SM1 — SM6

Figure 1  
Typical Forward Characteristics — Per Leg

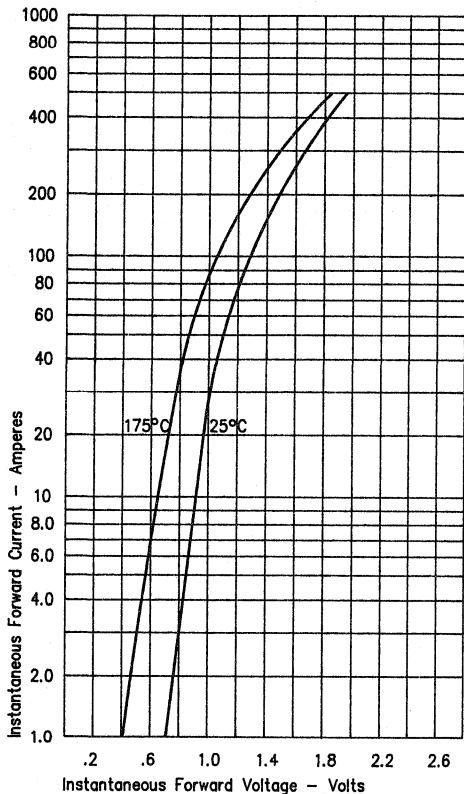


Figure 2  
Typical Reverse Characteristics — Per Leg

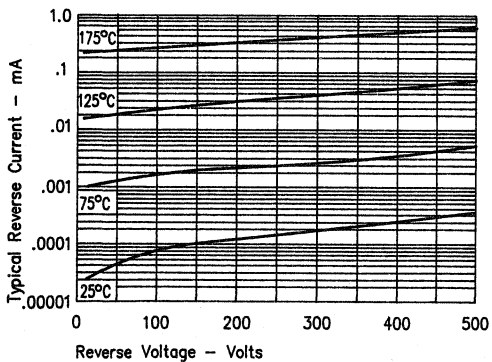


Figure 3  
Typical Junction Capacitance — Per Leg

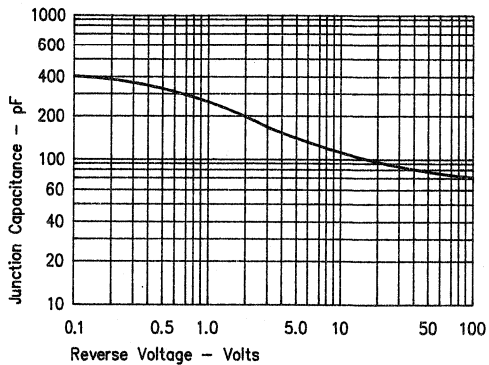


Figure 4  
Forward Current Derating — Per Leg

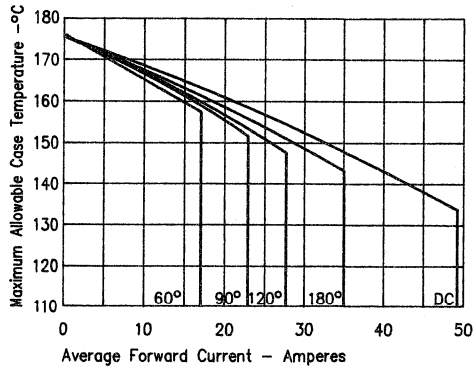
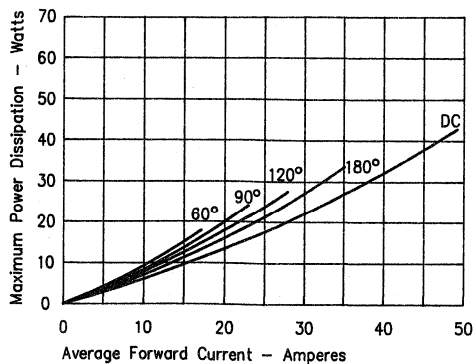


Figure 5  
Maximum Forward Power Dissipation — Per Leg



D

# UFT72SM1 — SM6

Figure 1  
Typical Forward Characteristics — Per Leg

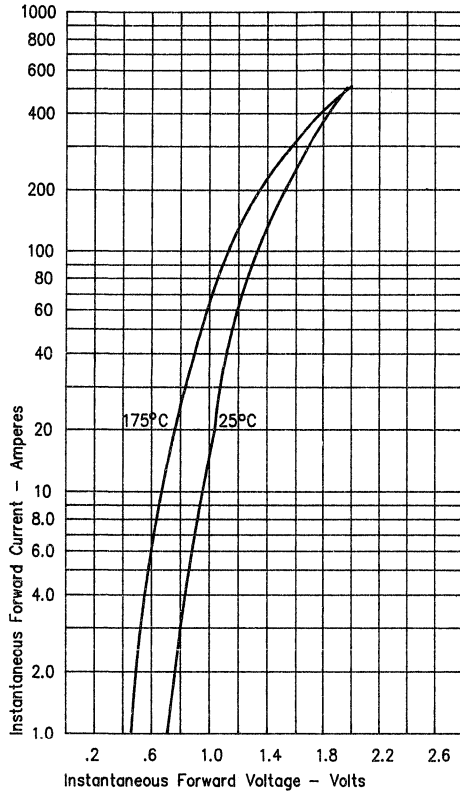


Figure 3  
Typical Junction Capacitance — Per Leg

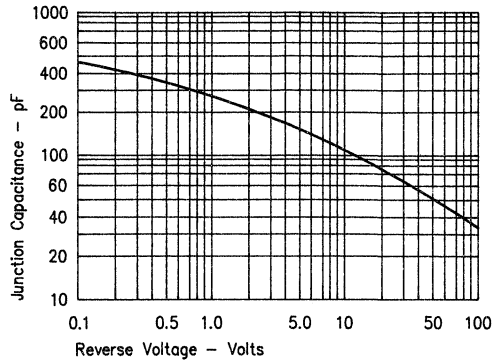


Figure 4  
Forward Current Derating — Per Leg

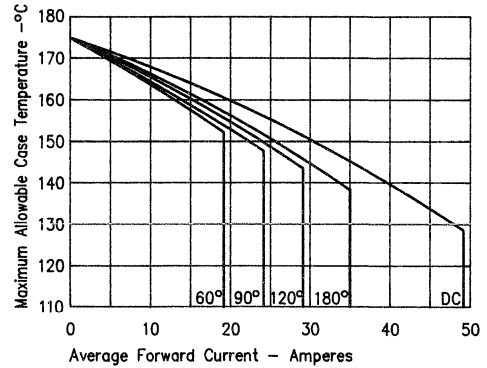


Figure 2  
Typical Reverse Characteristics — Per Leg

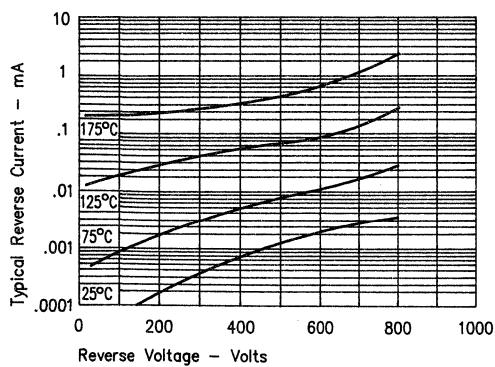
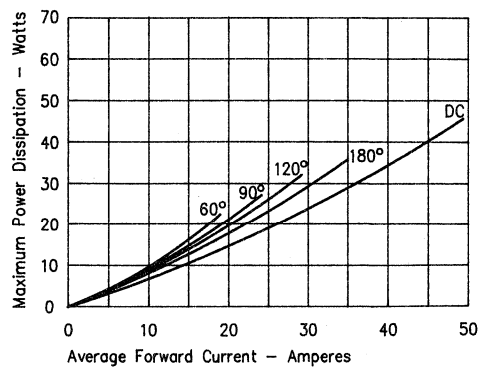


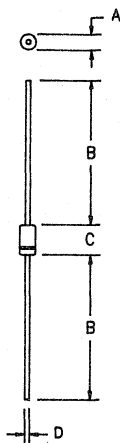
Figure 5  
Maximum Forward Power Dissipation — Per Leg





# Ultra Fast Recovery Rectifiers

## UF105, 110, 115, 120



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.081	.107	2.057	2.718	Dia.
B	1.10	---	27.94	---	
C	.160	.205	4.064	5.207	
D	.028	.034	.711	.864	Dia.

PLASTIC D041

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UF105	50V	50V
UF110	100V	100V
UF115	150V	150V
UF120	200V	200V

- Ultra Fast Recovery
- 175°C Junction Temperature
- VRRM 50 to 200 Volts
- 1 Amp Current Rating
- $t_{RR}$  30ns Max.

### Electrical Characteristics

Average forward current	$I_F(AV)$ 1.0 Amps	$T_A = 135^\circ C$ , Square wave, $R_{\theta JL} = 35^\circ C/W$ , $L = 0"$
Average forward current	$I_F(AV)$ 1.0 Amps	$T_A = 115^\circ C$ , Square wave, $R_{\theta JL} = 60^\circ C/W$ , $L = 3/8"$
Maximum surge current	$I_{FSM}$ 35 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Max peak forward voltage	$V_{FM}$ .75 Volts	$I_{FM} = 0.1A; T_J = 25^\circ C^*$
Max peak forward voltage	$V_{FM}$ .95 Volts	$I_{FM} = 1.0A; T_J = 25^\circ C^*$
Max reverse recovery time	$t_{RR}$ 30 ns	$1/2A, 1A, 1/4A, T_J = 25^\circ C$
Typical reverse recovery time	$t_{RR}$ 12 ns	$1/2A, 1A, 1/4A, T_J = 25^\circ C$
Max peak reverse current	$I_{RRM}$ 5 $\mu A$	$V_{RRM}, T_J = 25^\circ C$
Typical junction capacitance	$C_J$ 10 pF	$V_R = 10V, T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu sec$ , Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temperature range	$T_{STG}$	-40°C to 175°C
Operating junction temp range	$T_J$	-40°C to 175°C
Maximum thermal resistance	$L = 3/8"$ $R_{\theta JL}$	60°C/W Junction to Lead
	$L = 0$ $R_{\theta JL}$	35°C/W Junction to Lead
Weight		.011 ounces (0.34 grams) typical

# UF105, 110, 115, 120

Figure 1  
Typical Forward Characteristics

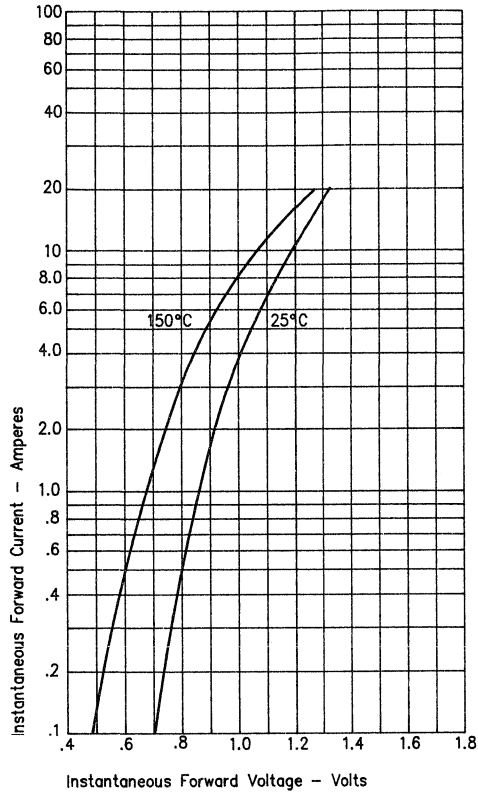


Figure 3  
Typical Junction Capacitance

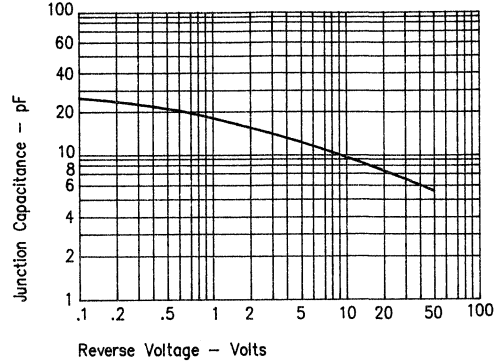
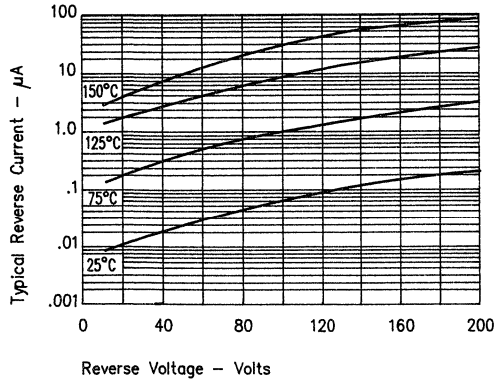
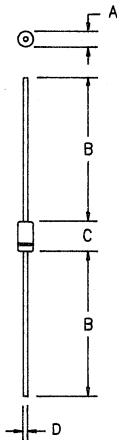


Figure 2  
Typical Reverse Characteristics



# Ultra Fast Recovery Rectifiers

## UF130, UF140, UF150



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.081	.107	2.057	2.718	Dia.
B	1.10	---	27.94	---	
C	.160	.205	4.064	5.207	
D	.028	.034	.711	.864	Dia.

PLASTIC DO41

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UF130	300V	300V
UF140	400V	400V
UF150	500V	500V

- Ultra Fast Recovery
- 175°C Junction Temperature
- VRRM 300 to 500 Volts
- 1 Amp Current Rating
- $t_{RR}$  50nS Max.

### Electrical Characteristics

Average forward current	I <sub>F(AV)</sub> 1.0 Amps	T <sub>A</sub> = 120°C, Square wave, R <sub>θJL</sub> = 50°C/W, L = 0"
Average forward current	I <sub>F(AV)</sub> 1.0 Amps	T <sub>A</sub> = 100°C, Square wave, R <sub>θJL</sub> = 68°C/W, L = 3/8"
Maximum surge current	I <sub>FSM</sub> 30 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .80 Volts	I <sub>FM</sub> = 0.1A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> 1.1 Volts	I <sub>FM</sub> = 1.0A; T <sub>J</sub> = 25°C*
Max reverse recovery time	t <sub>RR</sub> 50 nS	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Typical reverse recovery time	t <sub>RR</sub> 24 nS	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> 10 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 2.5 pF	V <sub>R</sub> = 10V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temperature range	T <sub>STG</sub>	-40°C to 175°C	
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C	
Maximum thermal resistance	L = 3/8" R <sub>θJL</sub>	68°C/W	Junction to Lead
	L = 0 R <sub>θJL</sub>	50°C/W	Junction to Lead
Weight		.011 ounces (0.34 grams) typical	

# UF130, UF140, UF150

Figure 1  
Typical Forward Characteristics

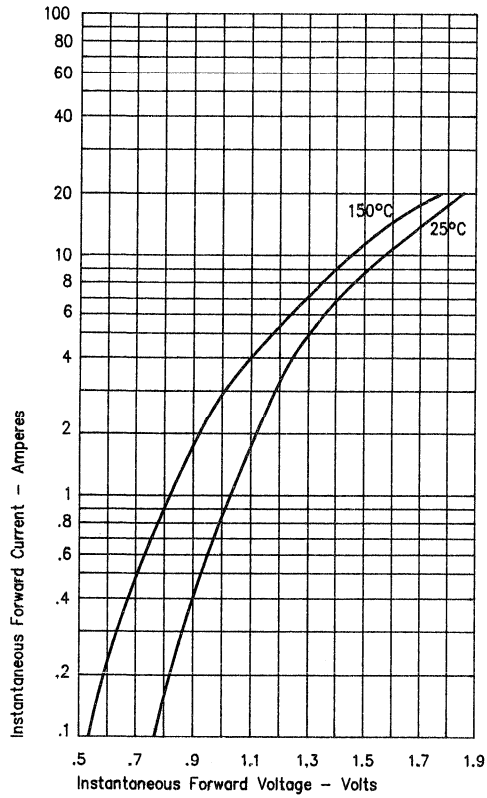


Figure 3  
Typical Junction Capacitance

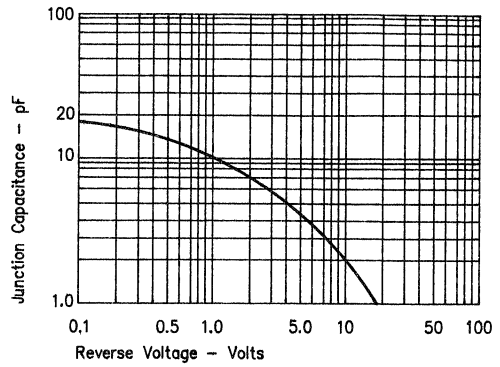
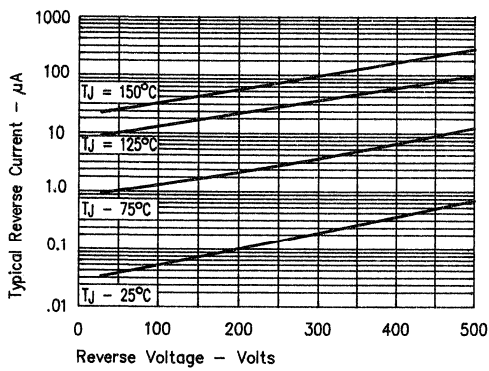
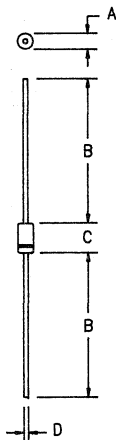


Figure 2  
Typical Reverse Characteristics



# Ultra Fast Recovery Rectifiers

## UF160, UF170, UF180



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.081	.107	2.057	2.718	Dia.
B	1.10	---	27.94	---	
C	.160	.205	4.064	5.207	
D	.028	.034	.711	.864	Dia.

PLASTIC D041

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UF160	600V	600V
UF170	700V	700V
UF180	800V	800V

- Ultra Fast Recovery
- 175°C Junction Temperature
- VRRM 600 to 800 Volts
- 1 Amp Current Rating
- †RR 60nS Max.

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 1.0 Amps	T <sub>A</sub> = 110°C, Square wave, R <sub>θJL</sub> = 50°C/W, L = 0"
Average forward current	I <sub>F(AV)</sub> 1.0 Amps	T <sub>A</sub> = 90°C, Square wave, R <sub>θJL</sub> = 68°C/W = 3/8"
Maximum surge current	I <sub>FSM</sub> 25 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .89 Volts	I <sub>FM</sub> = 0.1A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> 1.2 Volts	I <sub>FM</sub> = 1.0A; T <sub>J</sub> = 25°C*
Max reverse recovery time	†RR 60 nS	1/2A, 1A, 1/4A, I <sub>J</sub> = 25°C
Typical reverse recovery time	†RR 45 nS	1/2A, 1A, 1/4A, I <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> 20 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 5.5 pF	V <sub>R</sub> = 10V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Maximum thermal resistance	L = 3/8" R <sub>θJL</sub>	68°C/W Junction to Lead
	L = 0 R <sub>θJL</sub>	50°C/W Junction to Lead
Weight		.011 ounces (0.34 grams) typical

**Microsemi Corp.**  
**Colorado**

# UF160, UF170, UF180

Figure 1  
Typical Forward Characteristics

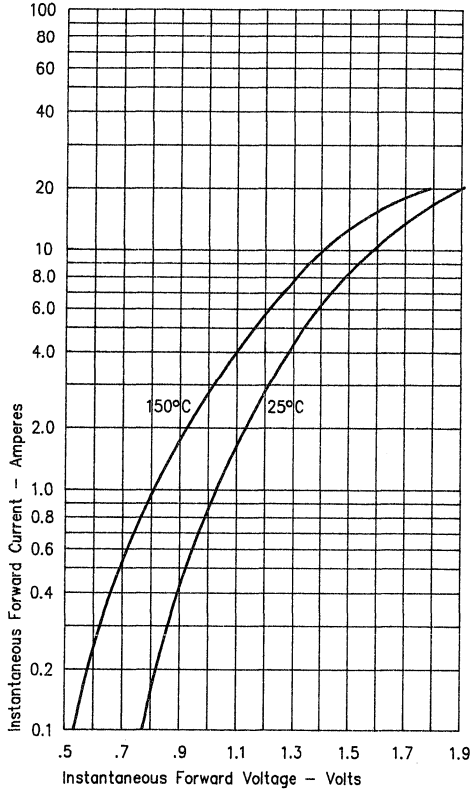


Figure 3  
Typical Junction Capacitance

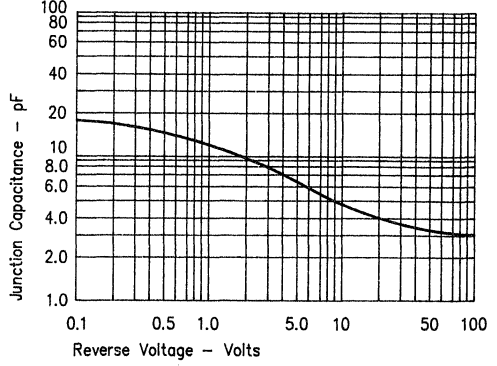
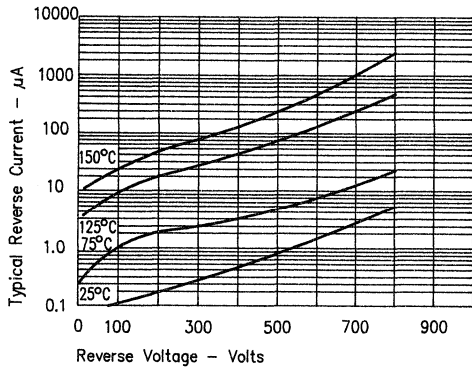
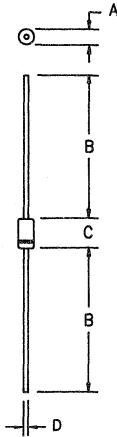


Figure 2  
Typical Reverse Characteristics



# Ultra Fast Recovery Rectifiers UF305, 310, 315, 320



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.

PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UF305	50V	50V
UF310	100V	100V
UF315	150V	150V
UF320	200V	200V

- Ultra Fast Recovery
- 175°C Junction Temperature
- VRRM 50 to 200 Volts
- 3 Amp Current Rating
- t<sub>RR</sub> 30 ns Max.

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 3.0 Amps	T <sub>A</sub> = 126°C, Square wave, R <sub>θJL</sub> = 17°C/W, L = 1/8"
Average forward current	I <sub>F(AV)</sub> 3.0 Amps	T <sub>A</sub> = 109°C, Square wave, R <sub>θJL</sub> = 23°C/W = 3/8"
Maximum surge current	I <sub>FSM</sub> 100 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .95 Volts	I <sub>FM</sub> = 3.0A; T <sub>J</sub> = 25°C*
Max reverse recovery time	t <sub>RR</sub> 30 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Typical reverse recovery time	t <sub>RR</sub> 18 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> 10 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 38 pF	V <sub>R</sub> = 10V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Maximum thermal resistance	L = 1/8" R <sub>θJL</sub> L = 3/8" R <sub>θJL</sub>	17°C/W Junction to Lead 23°C/W Junction to Lead
Weight		.011 ounces (0.34 grams) typical



# UF305, 310, 315, 320

Figure 1  
Typical Forward Characteristics

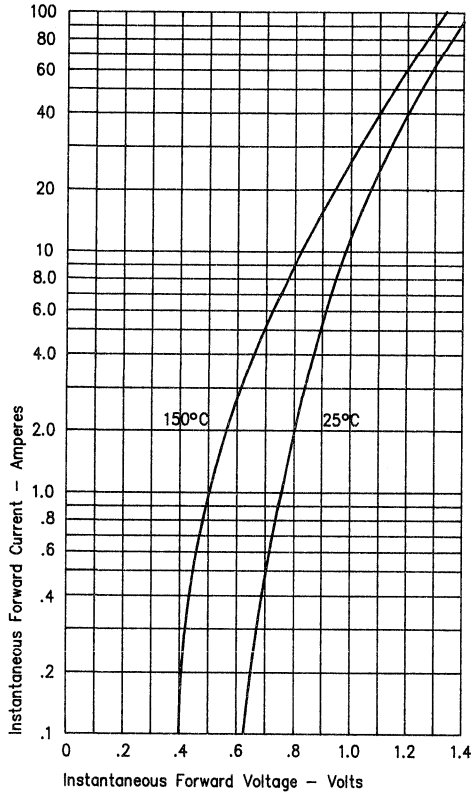


Figure 3  
Typical Junction Capacitance

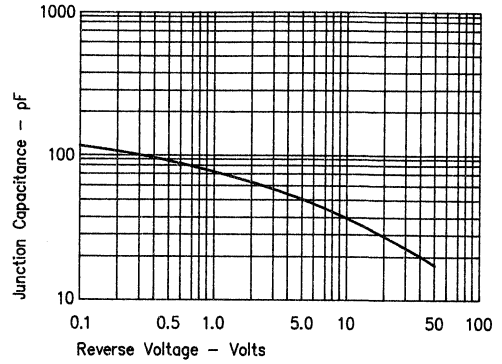
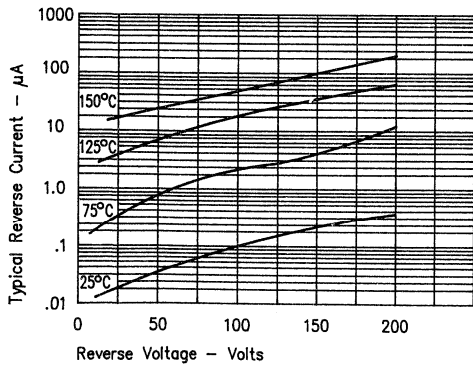
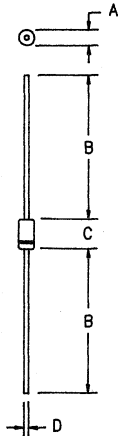


Figure 2  
Typical Reverse Characteristics





# Ultra Fast Recovery Rectifiers UF330, UF340, UF350



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.



PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UF330	300V	300V
UF340	400V	400V
UF350	500V	500V

- Ultra Fast Recovery
- 175°C Junction Temperature
- VRRM 300 to 500 Volts
- 3 Amp Current Rating
- <sup>t</sup>RR 50 ns Max.

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 3.0 Amps	T <sub>A</sub> = 115°C, Square wave, R <sub>θJL</sub> = 17°C/W, L = 1/8"
Average forward current	I <sub>F(AV)</sub> 3.0 Amps	T <sub>A</sub> = 95°C, Square wave, R <sub>θJL</sub> = 23°C/W = 3/8"
Maximum surge current	I <sub>FSM</sub> 100 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .80 Volts	I <sub>FM</sub> = 0.1A; T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> 1.1 Volts	I <sub>FM</sub> = 3.0A; T <sub>J</sub> = 25°C*
Max reverse recovery time	<sup>t</sup> RR 50 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Typical reverse recovery time	<sup>t</sup> RR 25 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> 10 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 16 pF	V <sub>R</sub> = 10V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Maximum thermal resistance	L = 1/8" R <sub>θJL</sub>	17°C/W
	L = 3/8" R <sub>θJL</sub>	23°C/W
Weight		.011 ounces (0.34 grams) typical

Junction to Lead  
Junction to Lead



# UF330, UF340, UF350

Figure 1  
Typical Forward Characteristics

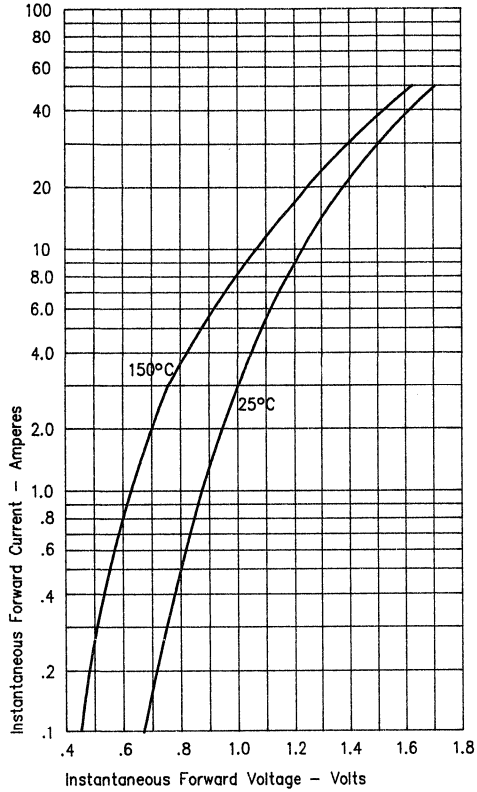


Figure 3  
Typical Junction Capacitance

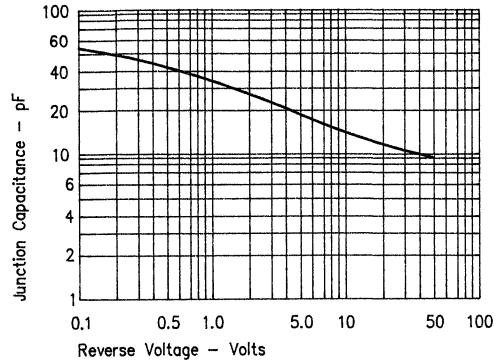
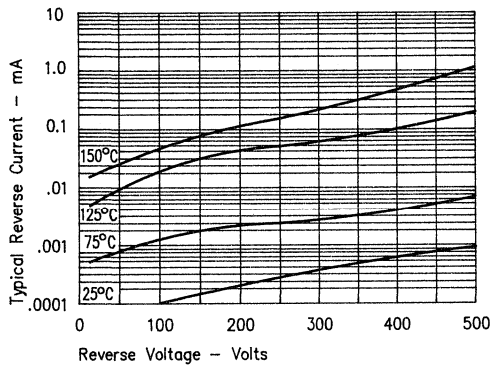
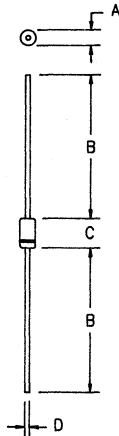


Figure 2  
Typical Reverse Characteristics



# Ultra Fast Recovery Rectifiers

## UF360, UF370, UF380



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.



PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UF360	600V	600V
UF370	700V	700V
UF380	800V	800V

- Ultra Fast Recovery
- 175°C Junction Temperature
- VRRM 600 to 800 Volts
- 3 Amp Current Rating
- <sup>t</sup>RR 60 ns Max.

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 3.0 Amps	T <sub>A</sub> = 113°C, Square wave, R <sub>θJL</sub> = 17°C/W, L = 1/8"
Average forward current	I <sub>F(AV)</sub> 3.0 Amps	T <sub>A</sub> = 92°C, Square wave, R <sub>θJL</sub> = 23°C/W, L = 3/8"
Maximum surge current	I <sub>FSM</sub> 100 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> 1.2 Volts	I <sub>FM</sub> = 3.0A; T <sub>J</sub> = 25°C*
Max reverse recovery time	<sup>t</sup> RR 60 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Typical reverse recovery time	<sup>t</sup> RR 40 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> 10 mA	V <sub>RRM, T<sub>J</sub></sub> = 150°C
Max peak reverse current	I <sub>RM</sub> 10 μA	V <sub>RRM, T<sub>J</sub></sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 19 pF	V <sub>R</sub> = 10V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Maximum thermal resistance	L = 1/8" R <sub>θJL</sub>	17°C/W Junction to Lead
	L = 3/8" R <sub>θJL</sub>	23°C/W Junction to Lead
Weight		.011 ounces (0.34 grams) typical

**Microsemi Corp.**  
**Colorado**

# UF360, UF370, UF380

Figure 1  
Typical Forward Characteristics

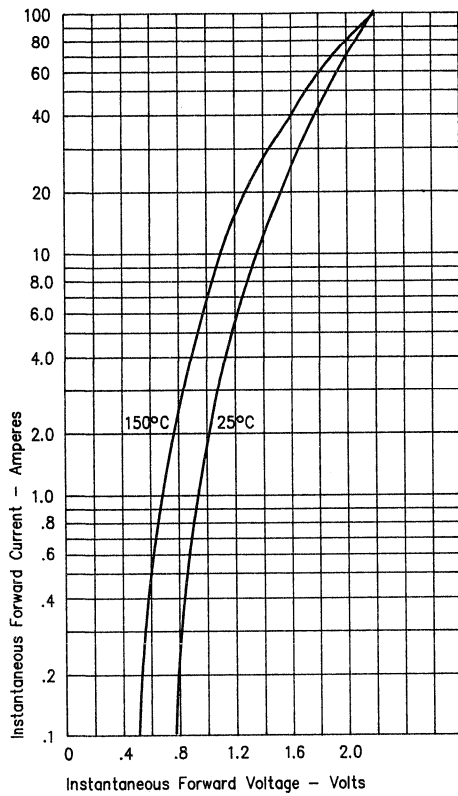


Figure 3  
Typical Junction Capacitance

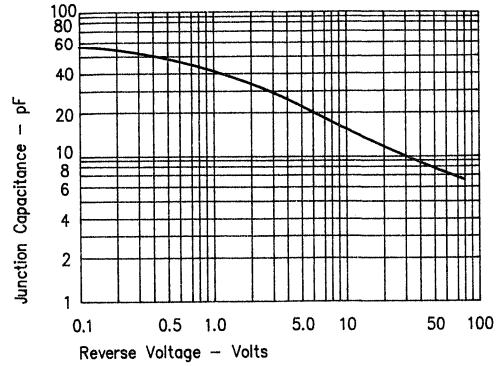
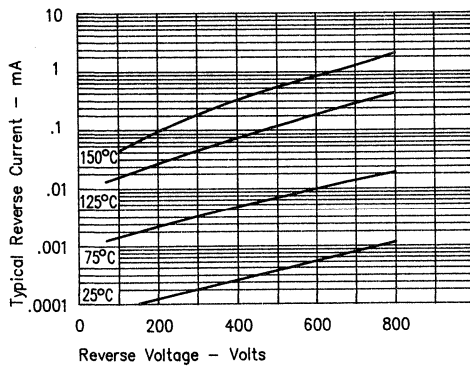
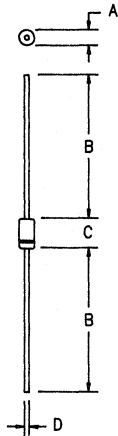


Figure 2  
Typical Reverse Characteristics



# Ultra Fast Recovery Rectifiers

## UF505, 510, 515, 520



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.

PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UF505	50V	50V
UF510	100V	100V
UF515	150V	150V
UF520	200V	200V

- Ultra Fast Recovery
- 175°C Junction Temperature
- VRRM 50 to 200 Volts
- 5 Amp Current Rating
- <sup>t</sup>RR 30 ns Max.

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 5.0 Amps	T <sub>A</sub> = 122°C, Square wave, R <sub>θJL</sub> = 11°C/W, L = 1/8"
Average forward current	I <sub>F(AV)</sub> 5.0 Amps	T <sub>A</sub> = 105°C, Square wave, R <sub>θJL</sub> = 14.7°C/W, L = 3/8"
Maximum surge current	I <sub>FSM</sub> 175 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .95 Volts	I <sub>FM</sub> = 5.0A; T <sub>J</sub> = 25°C*
Max reverse recovery time	<sup>t</sup> RR 30 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Typical reverse recovery time	<sup>t</sup> RR 20 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> 2 mA	V <sub>RRM</sub> , T <sub>J</sub> = 150°C
Max peak reverse current	I <sub>RM</sub> 10 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 58 pF	V <sub>R</sub> = 10V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Maximum thermal resistance	L = 1/8" R <sub>θJL</sub>	11°C/W Junction to Lead
	L = 3/8" R <sub>θJL</sub>	14.7°C/W Junction to Lead
Weight		.011 ounces (0.34 grams) typical

**Microsemi Corp.**  
**Colorado**

# UF505, 510, 515, 520

Figure 1  
Typical Forward Characteristics

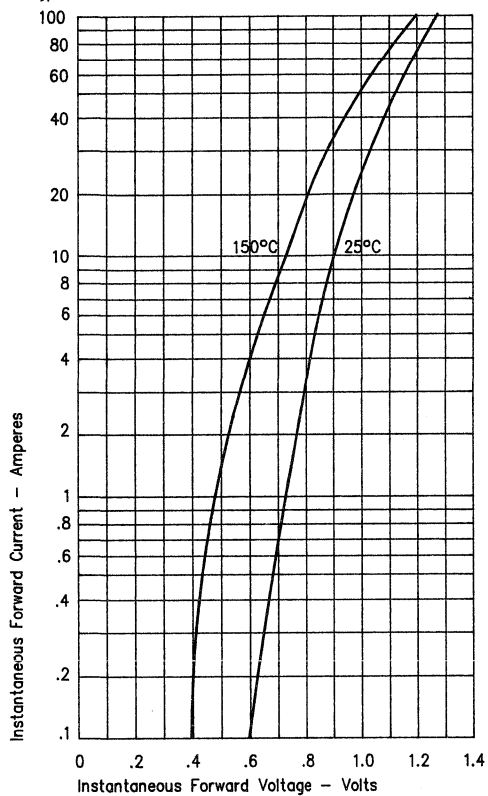


Figure 3  
Typical Junction Capacitance

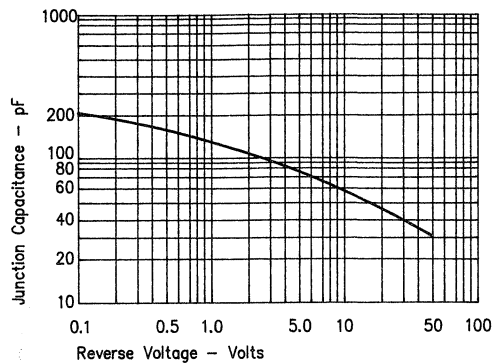
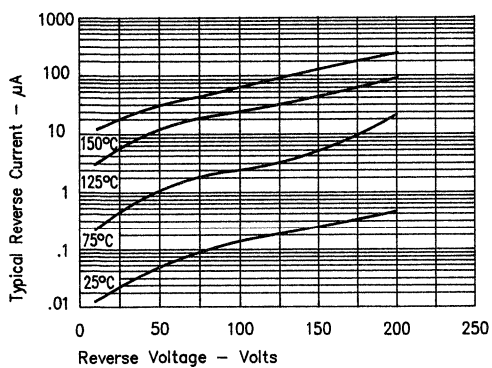
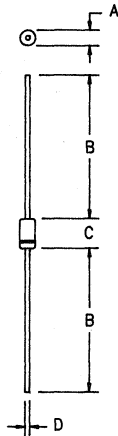


Figure 2  
Typical Reverse Characteristics



# Ultra Fast Recovery Rectifiers

## UF530, UF540, UF550



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.

PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UF530	300V	300V
UF540	400V	400V
UF550	500V	500V

- Ultra Fast Recovery
- 175°C Junction Temperature
- VRRM 300 to 500 Volts
- 5 Amp Current Rating
- $t_{RR}$  50 ns Max.

### Electrical Characteristics

Average forward current  
Average forward current  
Maximum surge current  
Max peak forward voltage  
Max reverse recovery time  
Typical reverse recovery time  
Max peak reverse current  
Typical junction capacitance

I<sub>F(AV)</sub> 5.0 Amps  
I<sub>F(AV)</sub> 5.0 Amps  
I<sub>FSM</sub> 175 Amps  
V<sub>FM</sub> 1.2 Volts  
 $t_{RR}$  50 ns  
 $t_{RR}$  28 ns  
I<sub>RM</sub> 10  $\mu$ A  
C<sub>J</sub> 28pF

T<sub>A</sub> = 110°C, Square wave, R $\theta$ JL = 11°C/W, L = 1/8"  
T<sub>A</sub> = 90°C, Square wave, R $\theta$ JL = 14.7°C/W, L = 3/8"  
8.3ms, half sine, T<sub>J</sub> = 175°C  
I<sub>FM</sub> = 5.0A; T<sub>J</sub> = 25°C\*  
1/2A, 1A, 1/4A, T<sub>J</sub> = 25°C  
1/2A, 1A, 1/4A, T<sub>J</sub> = 25°C  
V<sub>RRM</sub>, T<sub>J</sub> = 25°C  
V<sub>R</sub> = 10V, T<sub>J</sub> = 25°C

\*Pulse test: Pulse width 300  $\mu$ sec, Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temperature range  
Operating junction temp range  
Maximum thermal resistance  
Weight

T<sub>STG</sub>  
T<sub>J</sub>  
L = 1/8" R $\theta$ JL  
L = 3/8" R $\theta$ JL

-40°C to 175°C  
-40°C to 175°C  
11°C/W Junction to Lead  
14.7°C/W Junction to Lead  
.011 ounces (0.34 grams) typical

# UF530, UF540, UF550

Figure 1  
Typical Forward Characteristics

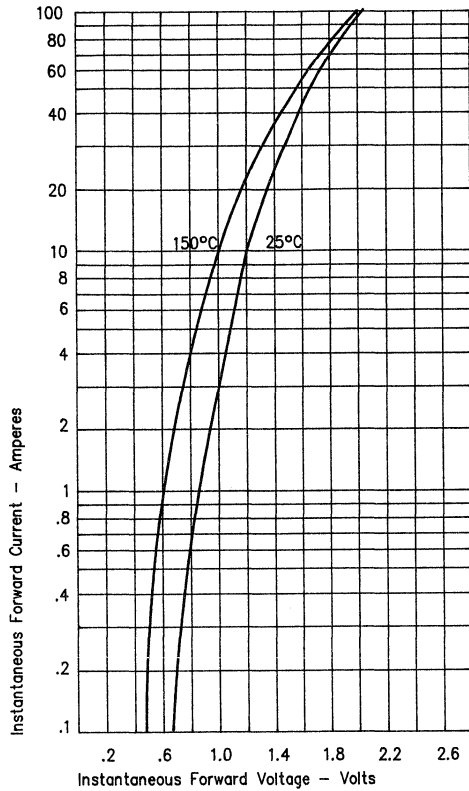


Figure 3  
Typical Junction Capacitance

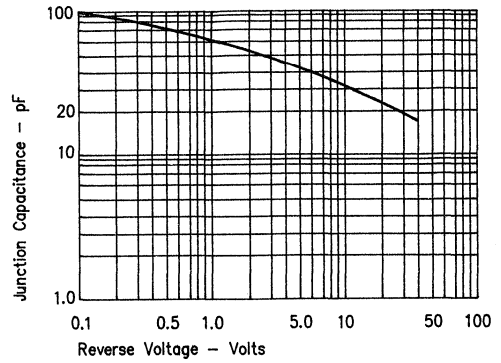
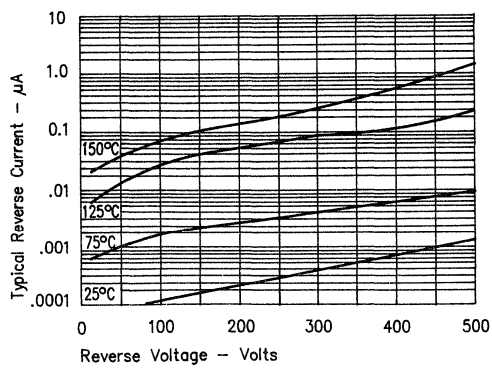


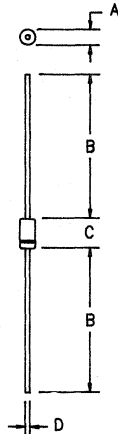
Figure 2  
Typical Reverse Characteristics





# Ultra Fast Recovery Rectifiers

## UF560, UF570, UF580



	Dim. Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.188	.260	4.78	6.50	Dia.
B	1.00	---	25.4	---	
C	.285	.375	7.24	9.52	
D	.046	.056	1.17	1.42	Dia.

PLASTIC D0201AD

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UF560	600V	600V
UF570	700V	700V
UF580	800V	800V

- Ultra Fast Recovery
- 175°C Junction Temperature
- VRRM 600 to 800 Volts
- 5 Amp Current Rating
- $t_{RR}$  60 ns Max.

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 5.0 Amps	T <sub>A</sub> = 109°C, Square wave, R <sub>θJL</sub> = 11°C/W, L = 1/8"
Average forward current	I <sub>F(AV)</sub> 5.0 Amps	T <sub>A</sub> = 87°C, Square wave, R <sub>θJL</sub> = 14.7°C/W, L = 3/8"
Maximum surge current	I <sub>FSM</sub> 175 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> 1.2 Volts	I <sub>FM</sub> = 5.0A, T <sub>J</sub> = 25°C*
Max reverse recovery time	t <sub>RR</sub> 60 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Typical reverse recovery time	t <sub>RR</sub> 40 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> 10 mA	V <sub>RRM</sub> , T <sub>J</sub> = 150°C
Max peak reverse current	I <sub>RM</sub> 10 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 32pF	V <sub>R</sub> = 10V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Maximum thermal resistance	L = 1/8" R <sub>θJL</sub>	11°C/W Junction to Lead
	L = 3/8" R <sub>θJL</sub>	14.7°C/W Junction to Lead
Weight		.011 ounces (0.34 grams) typical

**Microsemi Corp.**  
**Colorado**

# UF560, UF570, UF580

Figure 1  
Typical Forward Characteristics

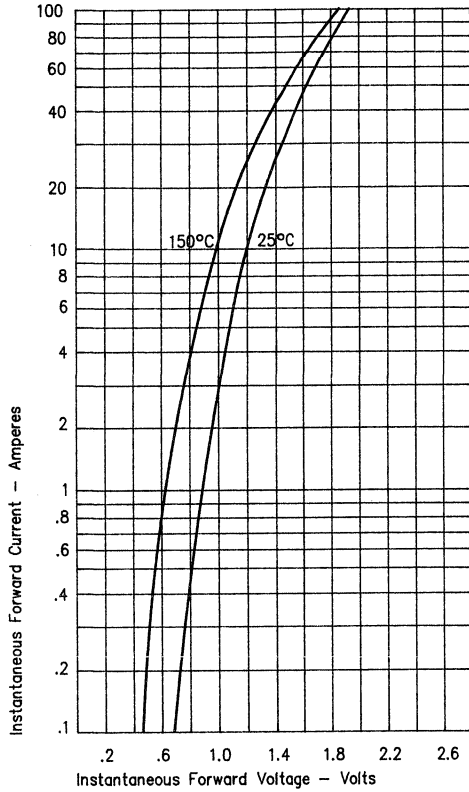


Figure 3  
Typical Junction Capacitance

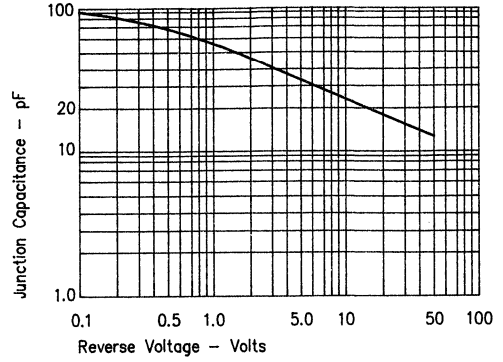
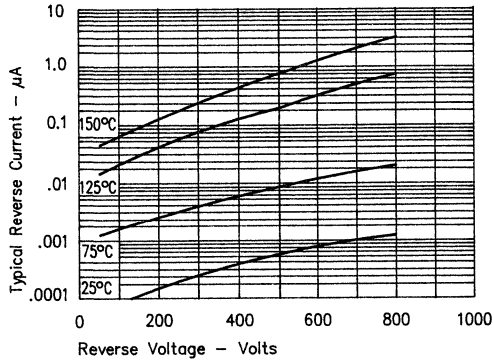
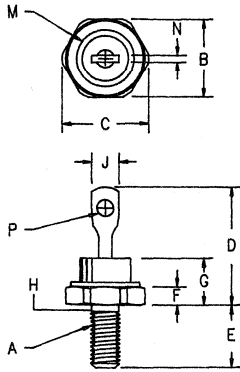


Figure 2  
Typical Reverse Characteristics



# Military Fast Recovery Rectifier

## 1N3890 - 1N3893



**Notes:**

1. 10-32 UNF3A threads
2. Full threads within 2 1/2 threads
3. Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.424	.437	10.77	11.10	
C	---	.505	---	12.82	
D	---	.800	---	20.32	
E	.422	.453	10.72	11.50	
F	.075	.175	1.90	4.44	
G	---	.405	---	10.29	
H	.163	.189	4.14	4.80	2
J	---	.250	---	6.35	
M	---	.424	---	10.77	Dia.
N	.020	.065	.510	1.65	
P	.060	---	1.52	---	Dia.



### D0203AA (D04)

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
1N3890*	100V	100V
1N3891*	200V	200V
1N3893*	400V	400V

\*Add Suffix R For Reverse Polarity

- Fast Recovery Rectifier
- Available in JAN, JANTX, JANTXV
- Mil-S-19500/304
- 175°C Junction Temperature
- VRRM 100 to 400 Volts
- 12 Amps Current Rating

#### Electrical Characteristics

Average forward current	I <sub>F(AV)</sub> 12 Amps	T <sub>C</sub> = 100°C, Square wave, R <sub>θJC</sub> = 2.0°C/W
Maximum surge current	I <sub>FSM</sub> 175 Amps	8.3 ms, half sine TC = 100°C
Max peak forward voltage	V <sub>FM</sub> 2.75 Volts	I <sub>F</sub> = 175A; T <sub>J</sub> = 25°C (800μs pulse width)
Max peak forward voltage	V <sub>FM</sub> 1.50 Volts	I <sub>F</sub> = 38A T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> 10 μA	VRRM, T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> 2 mA	VRRM, T <sub>J</sub> = 150°C
Max reverse recovery time	t <sub>RR</sub> 200 ns	I <sub>F</sub> = 1A dc, V <sub>R</sub> = 30V, di/dt = 25A/μs, TC = 55°C
Typical reverse recovery time	t <sub>RR</sub> 150 ns	I <sub>F</sub> = 1A dc, V <sub>R</sub> = 30V, di/dt = 25A/μs, TC = 55°C
Max junction capacitance	C <sub>J</sub> 115 pF	V <sub>R</sub> = 10V, f = 1Mhz, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

#### Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-65°C to 175°C
Operating junction temp range	T <sub>J</sub>	-65°C to 175°C
Max thermal resistance	R <sub>θJC</sub>	2.0°C/W Junction to case
Typical thermal resistance	R <sub>θJC</sub>	1.4°C/W Junction to case
Max mounting torque		15 inch pounds maximum
Weight		.16 ounces (5.0 grams) typical

**Microsemi Corp.**  
**Colorado**

# 1N3890 — 1N3893

Figure 1  
Typical Forward Characteristics

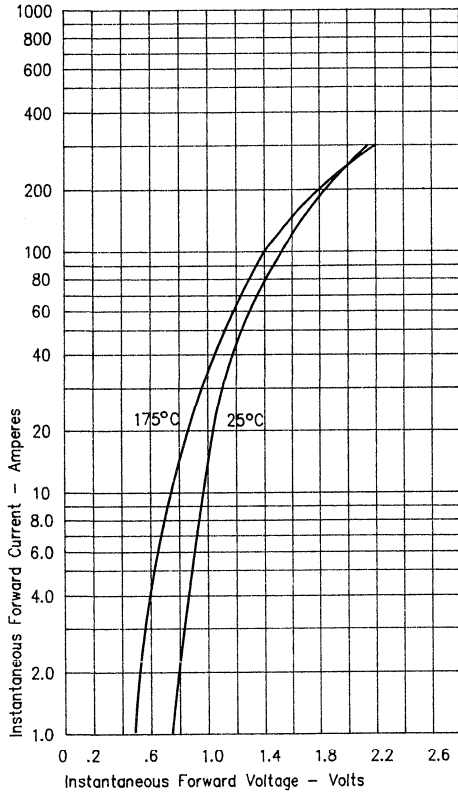


Figure 3  
Typical Junction Capacitance

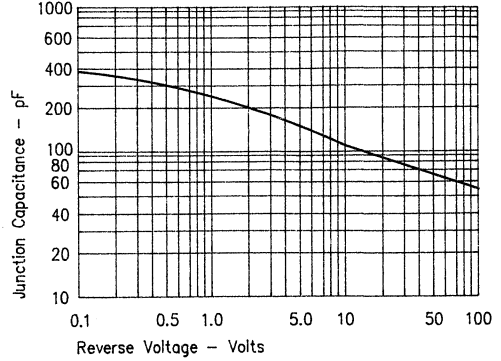


Figure 4  
Forward Current Derating

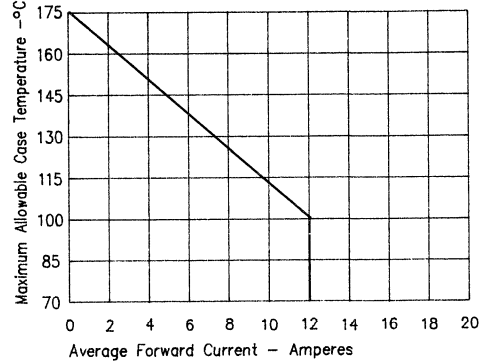
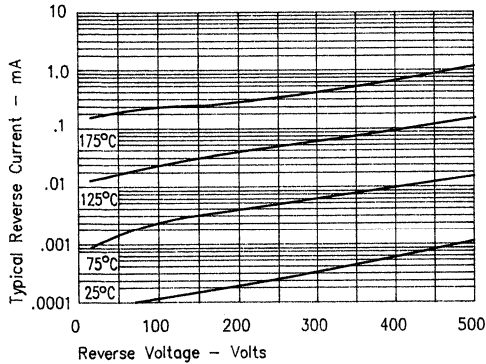
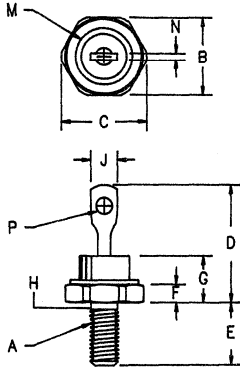


Figure 2  
Typical Reverse Characteristics



# Military Fast Recovery Rectifier

## 1N3890A — 1N3893A



- Notes:
1. 10-32 UNF3A threads
  2. Full threads within 2 1/2 threads
  3. Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

	Dim. Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.424	.437	10.77	11.10	
C	---	.505	---	12.82	
D	---	.800	---	20.32	
E	.422	.453	10.72	11.50	
F	.075	.175	1.90	4.44	
G	---	.405	---	10.29	
H	.163	.189	4.14	4.80	2
J	---	.250	---	6.35	
M	---	.424	---	10.77	Dia.
N	.020	.065	.510	1.65	
P	.060	---	1.52	---	Dia.

D0203AA (D04)

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
1N3890A*	100V	100V
1N3891A*	200V	200V
1N3893A*	400V	400V

\*Add Suffix R For Reverse Polarity

- Fast Recovery Rectifier
- Available in JAN, JANTX, JANTXV
- Mil-S-19500/304A
- 175°C Junction Temperature
- $V_{RRM}$  100 to 400 Volts
- 20 Amps Current Rating

Electrical Characteristics		
Average forward current	$I_{F(AV)}$ 20 Amps	$T_C = 100^\circ\text{C}$ , Square wave, $R_{\theta JC} = 1.5^\circ\text{C/W}$
Maximum surge current	$I_{FSM}$ 250 Amps	8.3 ms, half sine $T_C = 100^\circ\text{C}$
Max peak forward voltage	$V_{FM}$ 2.75 Volts	$I_{FM} = 250\text{A}$ ; $T_J = 25^\circ\text{C}$ (800 $\mu\text{s}$ pulse width)
Max peak forward voltage	$V_{FM}$ 1.50 Volts	$I_{FM} = 38\text{A}$ $T_J = 25^\circ\text{C}$ *
Max peak reverse current	$I_{RM}$ 10 $\mu\text{A}$	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Max peak reverse current	$I_{RM}$ 2 mA	$V_{RRM}$ , $T_J = 150^\circ\text{C}$
Max reverse recovery time	$t_{RR}$ 150 ns	$I_F = 1\text{A}$ dc, $V_R = 30\text{V}$ , $di/dt = 25\text{A}/\mu\text{s}$ , $T_C = 55^\circ\text{C}$
Typical reverse recovery time	$t_{RR}$ 125 ns	$I_F = 1\text{A}$ dc, $V_R = 30\text{V}$ , $di/dt = 25\text{A}/\mu\text{s}$ , $T_C = 55^\circ\text{C}$
Max junction capacitance	$C_J$ 115 pF	$V_R = 10\text{V}$ , $f = 1\text{MHz}$ , $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	$T_{STG}$	$-65^\circ\text{C}$ to $175^\circ\text{C}$
Operating junction temp range	$T_J$	$-65^\circ\text{C}$ to $175^\circ\text{C}$
Max thermal resistance	$R_{\theta JC}$	$1.5^\circ\text{C/W}$ Junction to case
Typical thermal resistance	$R_{\theta JC}$	$1.2^\circ\text{C/W}$ Junction to case
Max mounting torque		15 inch pounds maximum
Weight		.16 ounces (5.0 grams) typical

# 1N3890A — 1N3893A

Figure 1  
Typical Forward Characteristics

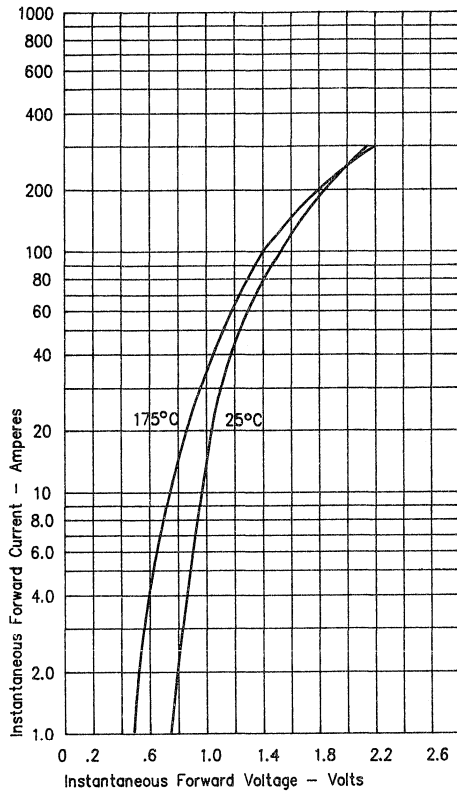


Figure 3  
Typical Junction Capacitance

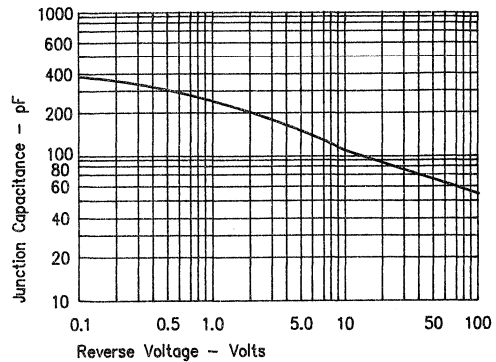


Figure 4  
Forward Current Derating

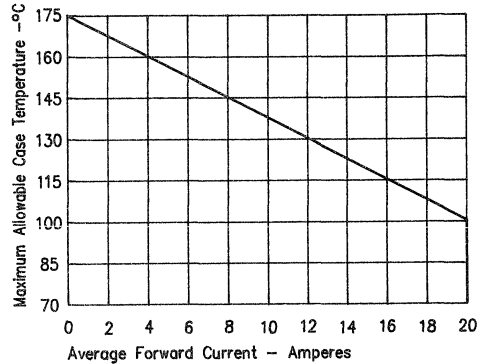
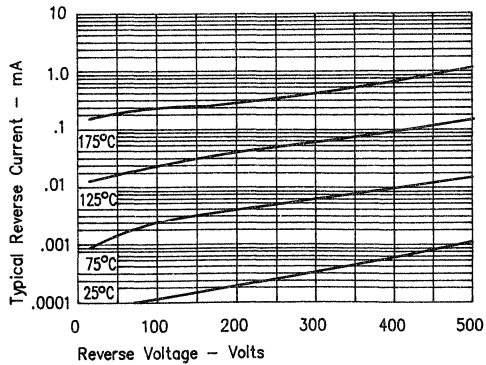
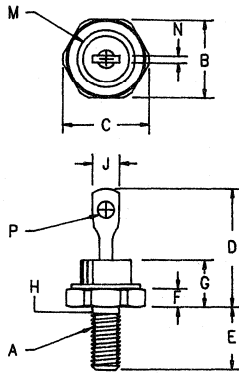


Figure 2  
Typical Reverse Characteristics



# Military Ultra Fast Recovery Rectifier

## 1N5812 - 1N5816



- Notes:**
1. 10-32 UNF3A threads
  2. Full threads within 2 1/2 threads
  3. Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.424	.437	10.77	11.10	
C	---	.505	---	12.82	
D	.600	.800	15.24	20.32	
E	.422	.453	10.72	11.50	
F	.075	.175	1.91	4.44	
G	---	.405	---	10.29	
H	.163	.189	4.15	4.80	2
J	---	.250	2.54	3.56	
M	---	.350	---	8.89	Dia.
N	.020	.065	.510	1.65	
P	.070	.100	1.78	2.54	Dia.

**D0203AA (D04)**

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
1N5812*	50V	50V
1N5814*	100V	100V
1N5816*	150V	150V

\*Add Suffix R For Reverse Polarity

- Ultra Fast Recovery Rectifier
- Available in JAN, JANTX, JANTXV
- Mil-S-19500/478
- 175°C Junction Temperature
- VRRM - 50 to 150 Volts
- 20 Amps Current Rating

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 20 Amps	T <sub>C</sub> = 100°C, Square wave, R <sub>θJC</sub> = 1.5°C/W
Maximum surge current	I <sub>FSM</sub> 400 Amps	8.3 ms, half sine T <sub>C</sub> = 100°C
Max peak forward voltage	V <sub>FM</sub> .86 Volts	I <sub>FM</sub> = 10A: T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> .95 Volts	I <sub>FM</sub> = 20A: T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> .78 Volts	I <sub>FM</sub> = 10A: T <sub>J</sub> = 100°C*
Max peak reverse current	I <sub>RM</sub> 10 μA	VRRM, T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> 750 μA	VRRM, T <sub>J</sub> = 100°C
Max reverse recovery time	t <sub>RR</sub> 35 ns	I <sub>F</sub> = I <sub>R</sub> = 1A dc (pk), I <sub>(REC)</sub> = 0.1A, di/dt = 85A/μs
Typical reverse recovery time	t <sub>RR</sub> 25 ns	I <sub>F</sub> = I <sub>R</sub> = 1A dc (pk), I <sub>(REC)</sub> = 0.1A, di/dt = 85A/μs
Max junction capacitance	C <sub>J</sub> 300 pF	V <sub>R</sub> = 10V, f = 1Mhz, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	T <sub>STG</sub>	-65°C to 200°C
Operating junction temp range	T <sub>J</sub>	-65°C to 175°C
Max thermal resistance	R <sub>θJC</sub>	1.5°C/W Junction to case
Typical thermal resistance	R <sub>θJC</sub>	1.2°C/W Junction to case
Max mounting torque		15 inch pounds maximum
Weight		.16 ounces (5.0 grams) typical

**Microsemi Corp.**  
**Colorado**

# 1N5812 — 1N5816

Figure 1  
Typical Forward Characteristics

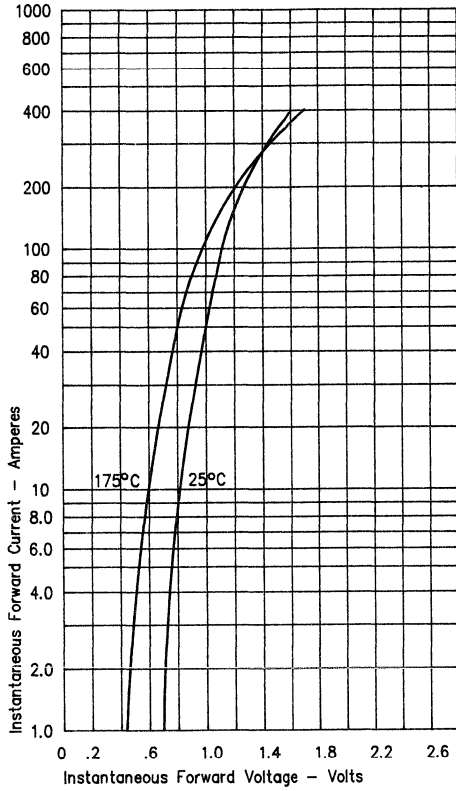


Figure 3  
Typical Junction Capacitance

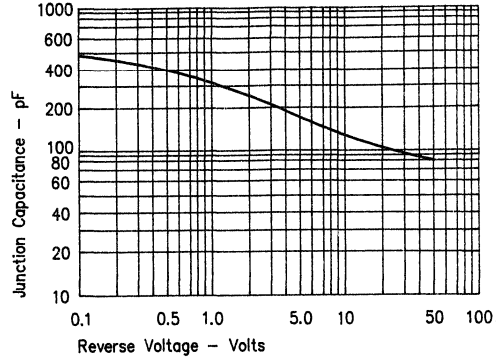


Figure 4  
Forward Current Derating

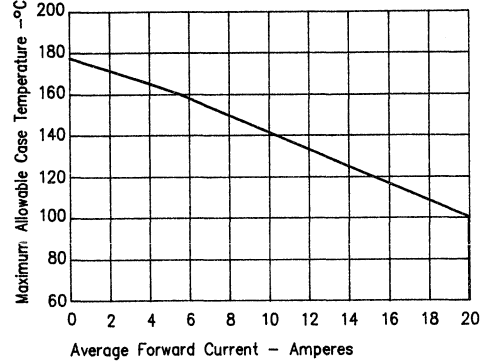
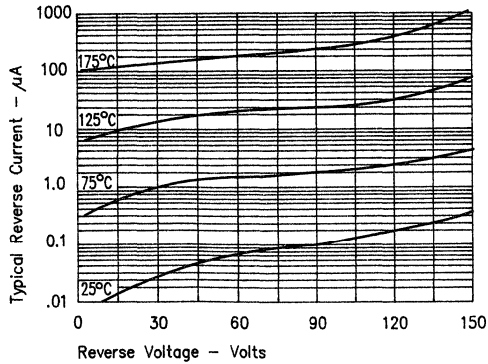
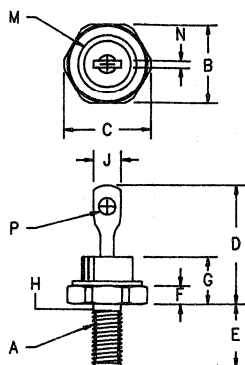


Figure 2  
Typical Reverse Characteristics





# Ultra Fast Recovery Rectifiers UFR30, 31 & 32



Notes:  
 1. 10-32 UNF3A threads  
 2. Full threads within 2 1/2 threads Standard Polarity: Stud is Cathode Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.424	.437	10.77	11.10	
C	---	.505	---	12.82	
D	.600	.800	15.24	20.32	
E	.422	.453	10.72	11.50	
F	.075	.175	1.91	4.44	
G	---	.405	---	10.29	
H	.163	.189	4.15	4.80	2
J	.100	.310	2.54	7.87	
M	---	.350	---	8.89	Dia.
N	.020	.065	.510	1.65	
P	.070	.100	1.78	2.54	Dia.

## D0203AA (D04)

Microsemi Catalog Number	Working Peak Reverse Voltage	Peak Reverse Voltage
UFR3005*	50V	50V
UFR3010*	100V	100V
UFR3015*	150V	150V
UFR3020*	200V	200V
UFR3120*	300V	300V
UFR3130*	400V	400V
UFR3140*	500V	500V
UFR3150*	600V	600V
UFR3250*	700V	700V
UFR3260*	800V	800V
UFR3270*		
UFR3280*		

\*Add Suffix R For Reverse Polarity

- Ultra Fast Recovery Rectifier
- 175°C Junction Temperature
- $V_{RRM}$  50 to 800V
- High Reliability
- 30 Amps current rating
- $t_{RR}$  35 to 60 nsec maximum

### Electrical Characteristics

	UFR30	UFR31	UFR32	
Average forward current	$I_F(AV)$ 30A	30A	30A	Square wave, $R_{\theta JC} = 1.8^\circ C/W$
Case Temperature	$T_C$ 127°C	110°C	107°C	
Maximum surge current	$I_{FSM}$ 500A	400A	300A	8.3 ms, half sine, $T_J = 175^\circ C$
Max peak forward voltage	$V_{FM}$ .975V	1.25V	1.35V	$I_{FM} = 30A; T_J = 25^\circ C^*$
Max reverse recovery time	$t_{RR}$ 35 ns	50 ns	60 ns	1/2A, 1A, 1/4A, $T_J = 25^\circ C$
Typical reverse recovery time	$t_{RR}$ 26 ns	36 ns	50 ns	1/2A, 1A, 1/4A, $T_J = 25^\circ C$
Max peak reverse current	$I_{RM}$ _____	1.0 mA	_____	$V_{RRM}, T_J = 125^\circ C$
Max peak reverse current	$I_{RM}$ _____	15 $\mu A$	_____	$V_{RRM}, T_J = 25^\circ C$
Typical Junction Capacitance	$C_J$ 140 pF	115 pF	100 pF	$V_R = 10V, f = 1MHz, T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu sec$ , Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	-65°C to 175°C
Operating junction temp range	$T_J$	-65°C to 175°C
Max thermal resistance	$R_{\theta JC}$	1.8°C/W Junction to Case
Typical thermal resistance	$R_{\theta JC}$	1.3°C/W Junction to Case
Typical thermal resistance	$R_{\theta CS}$	0.4°C/W Case to sink
Max mounting torque		15.0 inch pounds
Typical Weight		0.2 ounces (6.0 grams)

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**Colorado**

# UFR30

Figure 1  
Typical Forward Characteristics

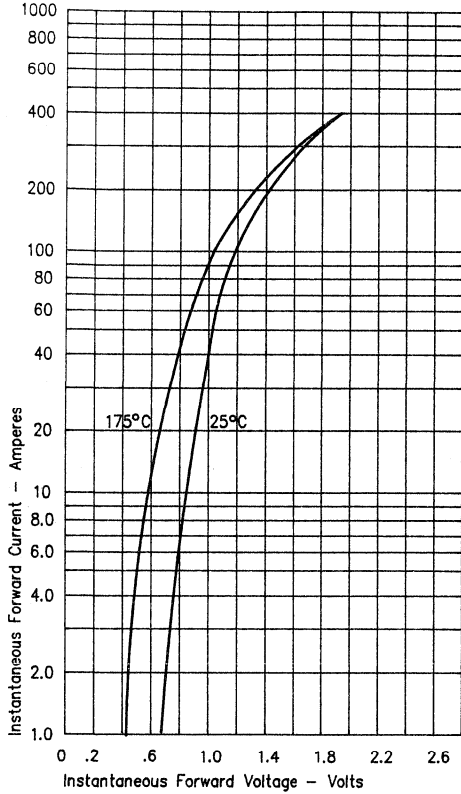


Figure 3  
Typical Junction Capacitance

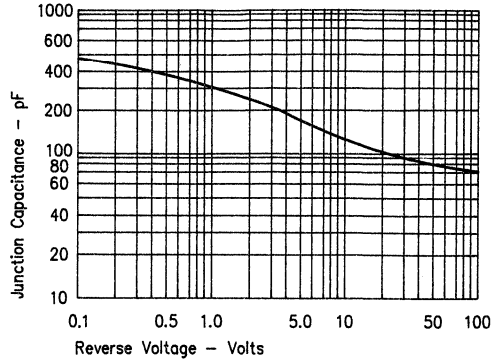


Figure 4  
Forward Current Derating

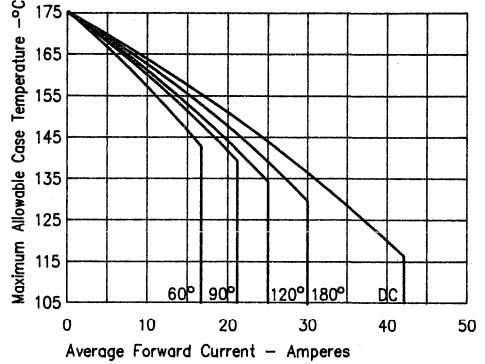


Figure 2  
Typical Reverse Characteristics

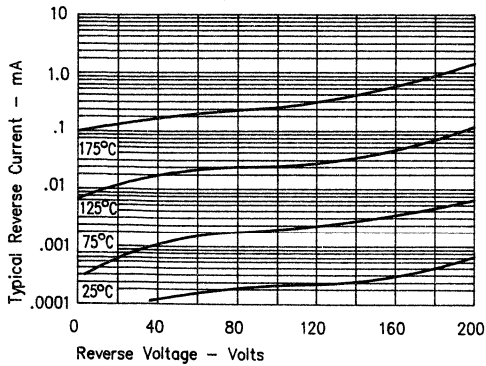
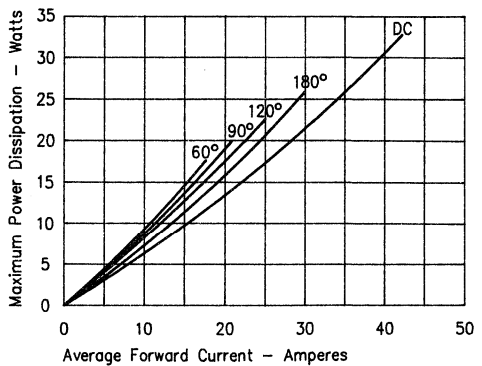


Figure 5  
Maximum Forward Power Dissipation



# UFR31

Figure 1  
Typical Forward Characteristics

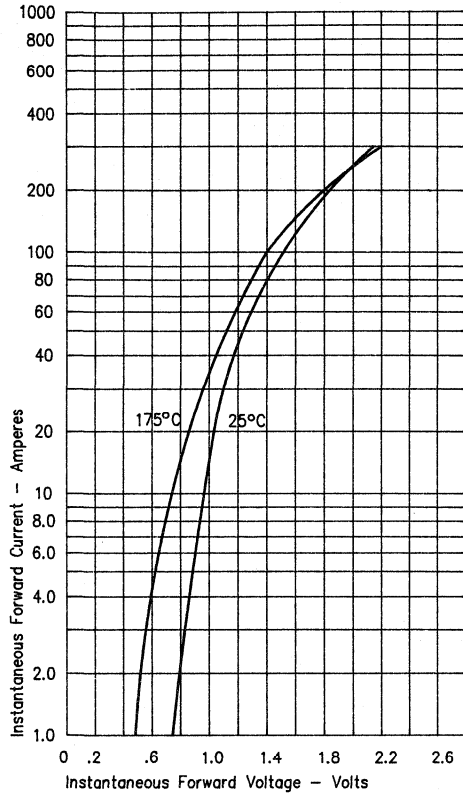


Figure 3  
Typical Junction Capacitance

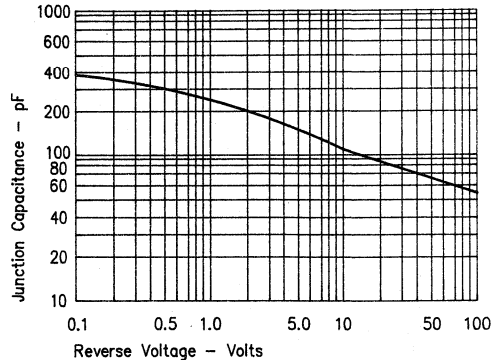


Figure 4  
Forward Current Derating

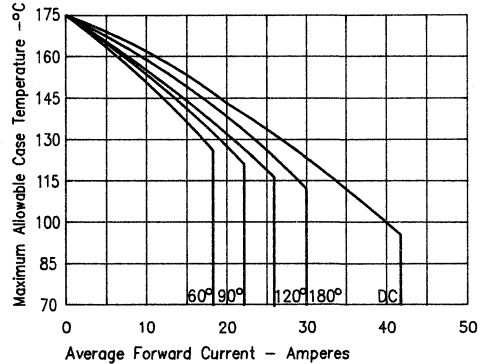


Figure 2  
Typical Reverse Characteristics

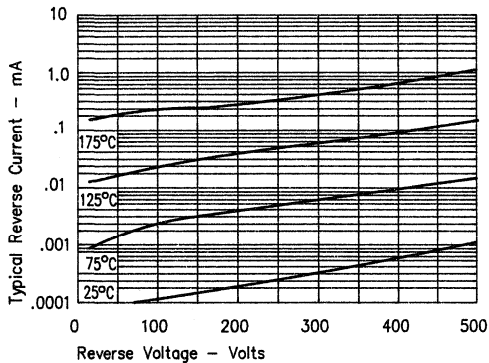
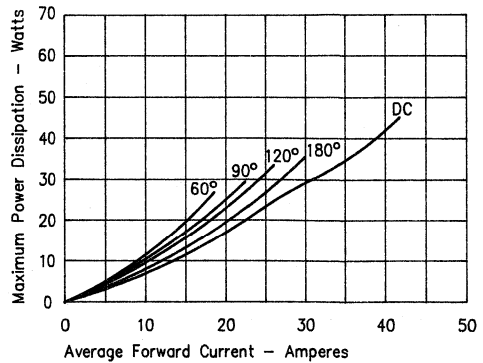


Figure 5  
Maximum Forward Power Dissipation



D

# UFR32

Figure 1  
Typical Forward Characteristics

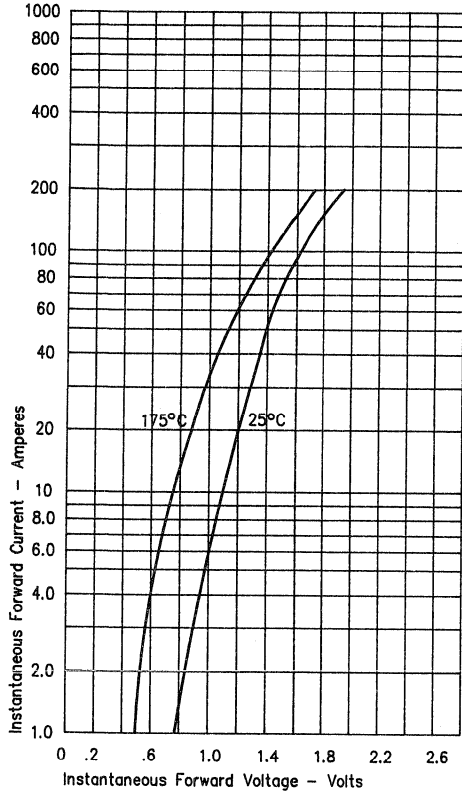


Figure 3  
Typical Junction Capacitance

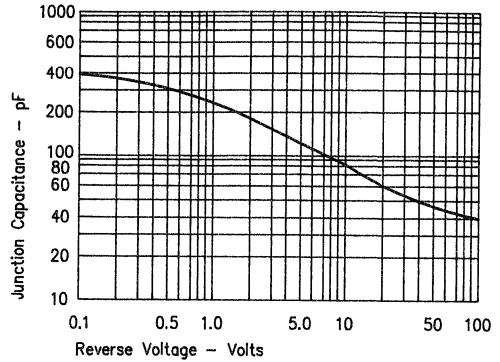


Figure 4  
Forward Current Derating

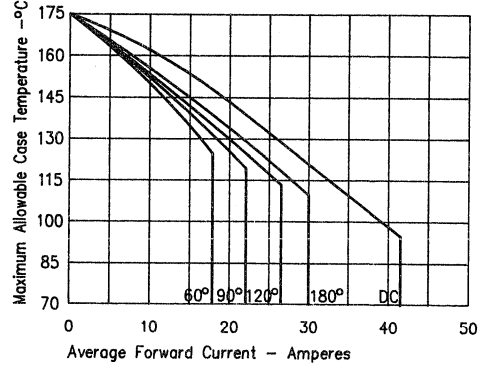


Figure 2  
Typical Reverse Characteristics

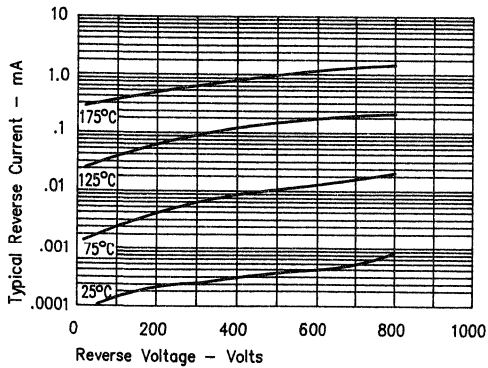
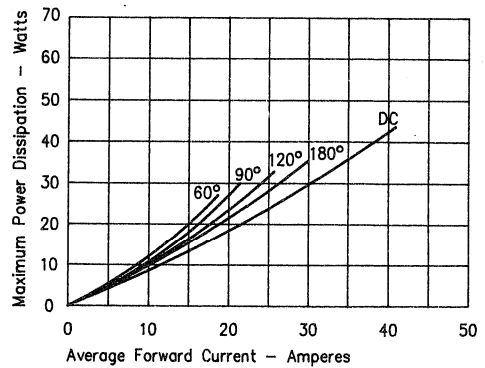
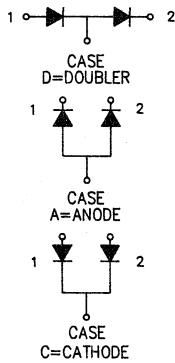
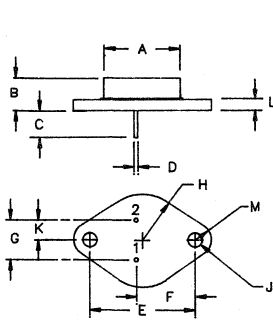


Figure 5  
Maximum Forward Power Dissipation



# Ultra Fast Recovery Rectifiers UFT30, 31 & 32



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	—	.875	—	22.23	Dia.
B	.250	.450	6.35	11.43	
C	.312	—	7.92	—	
D	.038	.043	.97	1.09	Dia.
E	1.177	1.197	29.90	30.40	
F	.655	.675	16.64	17.15	
G	.420	.440	10.67	11.18	
H	—	.525	—	13.34	Rad.
J	.151	.161	3.84	4.09	Dia.
K	.205	.225	5.21	5.72	
L	—	.135	—	3.43	
M	—	.188	—	4.78	Rad.

## TO-204AA (TO-3)

Microsemi Catalog Number	Working Peak Reverse Voltage	Peak Reverse Voltage
UFT3005*	50V	50V
UFT3010*	100V	100V
UFT3015*	150V	150V
UFT3020*	UFT3120*	200V
	UFT3130*	300V
	UFT3140*	400V
UFT3250*	UFT3150*	500V
UFT3260*		600V
UFT3270*		700V
UFT3280*		800V

\*Add D, C or A

- Ultra Fast Recovery Rectifier
- 175°C Junction Temperature
- VRRM 50 to 800V
- High Reliability
- 30 Amps current rating
- t<sub>RR</sub> 35 to 60 nsec maximum

## Electrical Characteristics Per Leg

	UFT30	UFT31	UFT32	
Average forward current	I <sub>F(AV)</sub> 30A	30A	30A	Square wave
Case Temperature (Standard)	T <sub>C</sub> 138°C	124°C	122°C	R <sub>θJC</sub> = 1.4°C/W
Case Temperature (Reverse)	T <sub>C</sub> 115°C	95°C	90°C	R <sub>θJC</sub> = 2.2°C/W
Maximum surge current	I <sub>FSM</sub> 400A	350A	300A	8.3 ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage	V <sub>FM</sub> .93V	1.10V	1.20V	I <sub>FM</sub> = 15A: T <sub>J</sub> = 25°C*
Max reverse recovery time	t <sub>RR</sub> 35 ns	50 ns	60 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Typical reverse recovery time	t <sub>RR</sub> 26 ns	36 ns	50 ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> —	1.0 mA	—	VRRM, T <sub>J</sub> = 125°C
Max peak reverse current	I <sub>RM</sub> —	15 μA	—	VRRM, T <sub>J</sub> = 25°C
Typical Junction Capacitance	C <sub>J</sub> 140 pF	115 pF	100 pF	V <sub>R</sub> = 10V, f = 1Mhz, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-65°C to 200°C
Operating junction temp range	T <sub>J</sub>	-65°C to 175°C
Max thermal resistance (standard polarity)	R <sub>θJC</sub>	1.4°C/W Junction to Case
Typical thermal resistance (standard polarity)	R <sub>θJC</sub>	1.2°C/W Junction to Case
Max thermal resistance (reverse polarity)	R <sub>θJC</sub>	2.2°C/W Junction to Case
Typical thermal resistance (reverse polarity)	R <sub>θJC</sub>	2.0°C/W Junction to Case
Thermal resistance (Case to sink)	R <sub>θCS</sub>	0.4°C/W Case to sink
Weight		1.0 ounces (28 grams) typical

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**Colorado**

# UFT30

Figure 1  
Typical Forward Characteristics - Per Leg

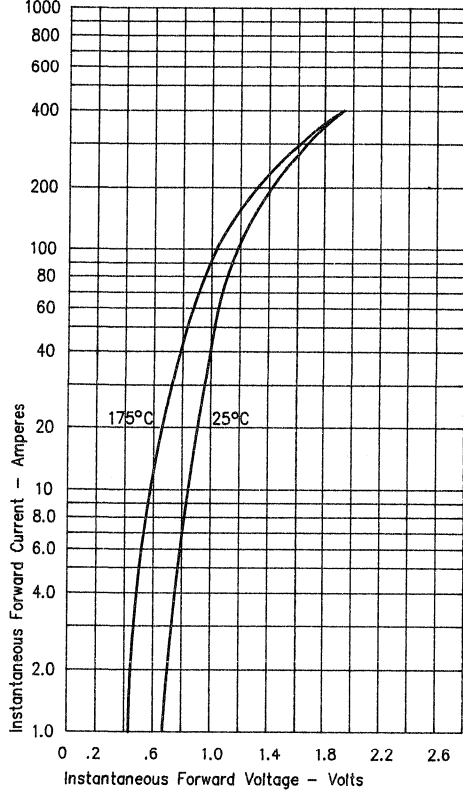


Figure 2  
Typical Reverse Characteristics - Per Leg

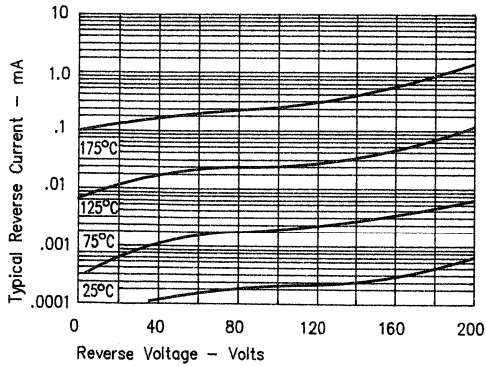


Figure 3  
Typical Junction Capacitance - Per Leg

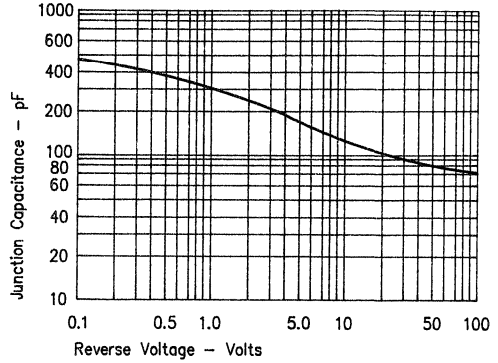


Figure 4  
Forward Current Derating - Standard Polarity - Per Leg

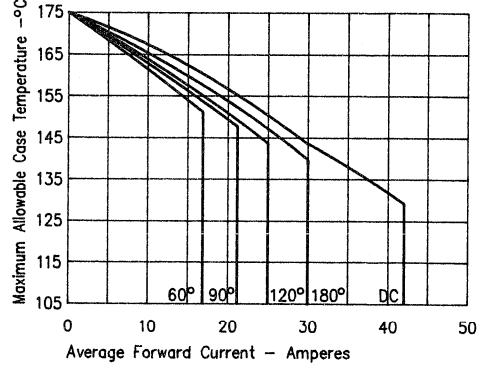
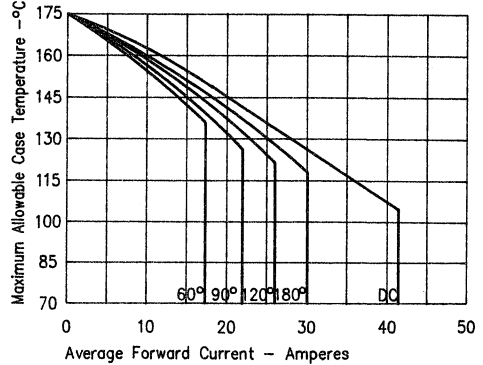


Figure 5  
Forward Current Derating - Reverse Polarity - Per Leg



# UFT30

Figure 6  
Forward Current Derating – Standard Polarity – Per Leg

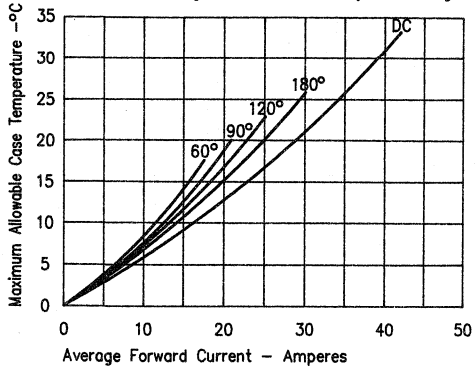
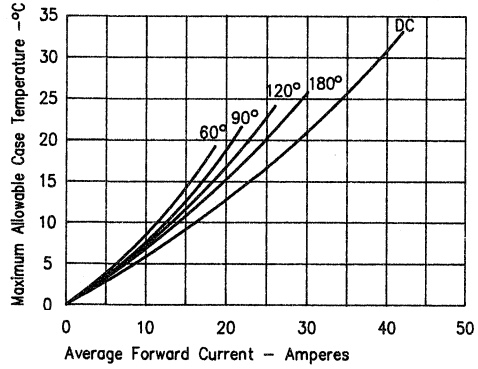


Figure 7  
Forward Current Derating – Reverse Polarity – Per Leg



# UFT31

Figure 1  
Typical Forward Characteristics – Per Leg

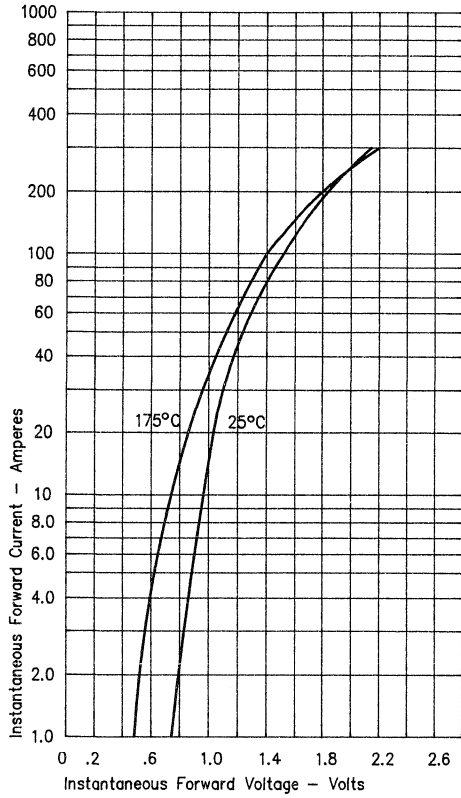


Figure 2  
Typical Reverse Characteristics – Per Leg

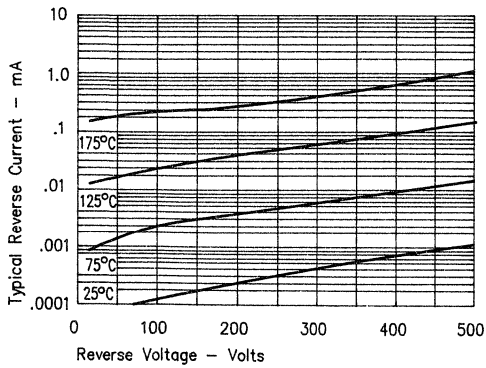


Figure 3  
Typical Junction Capacitance – Per Leg

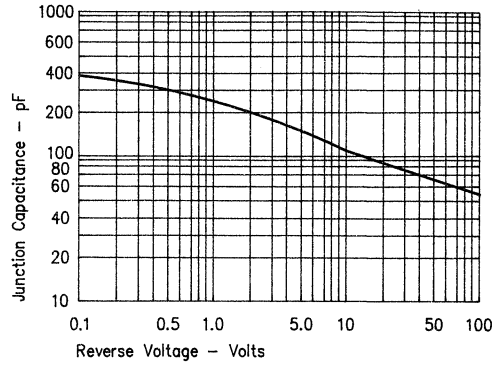


Figure 4  
Forward Current Derating – Standard Polarity – Per Leg

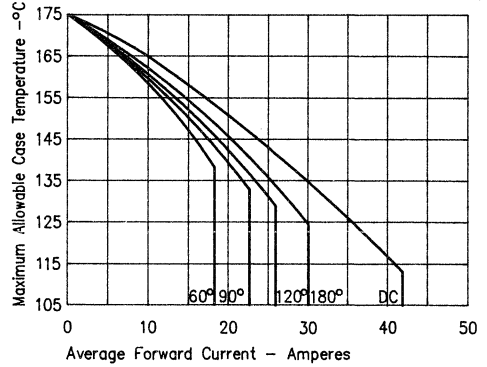
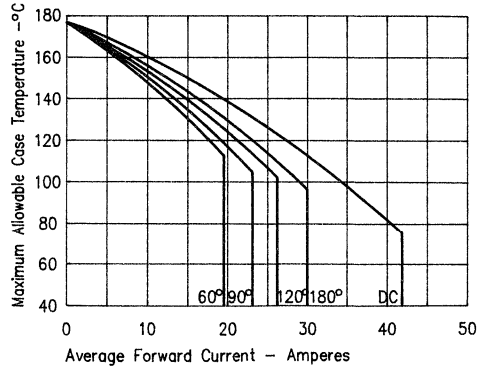


Figure 5  
Forward Current Derating – Reverse Polarity – Per Leg





# UFT31

Figure 6  
Forward Current Derating – Standard Polarity – Per Leg

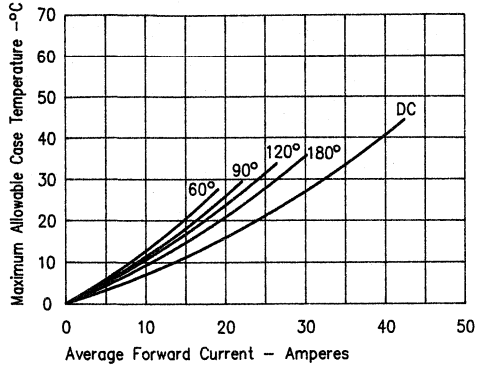
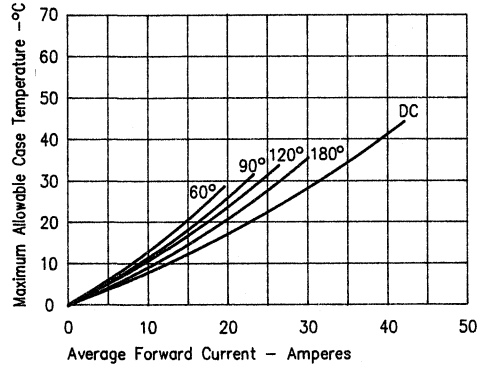


Figure 7  
Forward Current Derating – Reverse Polarity – Per Leg



D

# UFT32

Figure 1  
Typical Forward Characteristics - Per Leg

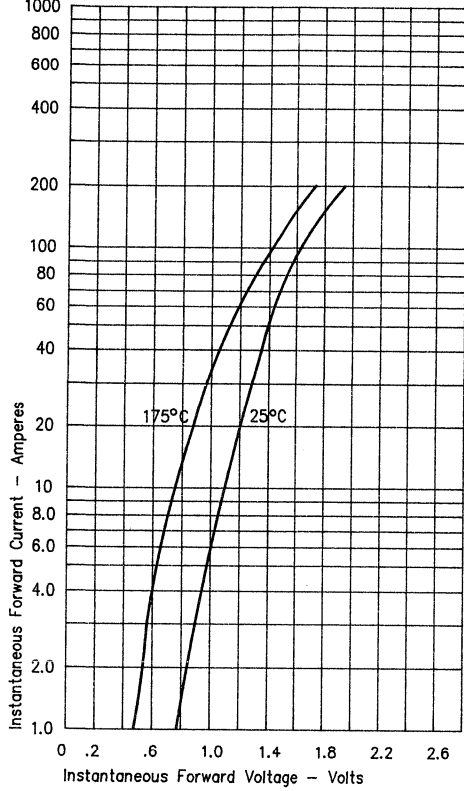


Figure 3  
Typical Junction Capacitance - Per Leg

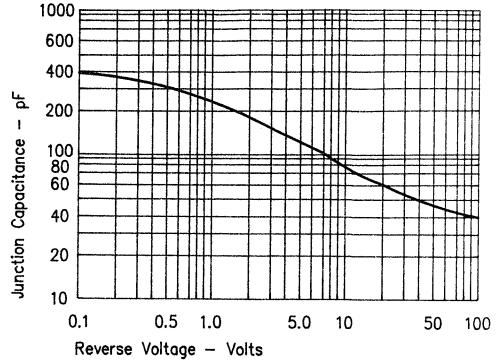


Figure 4  
Forward Current Derating - Standard Polarity - Per Leg

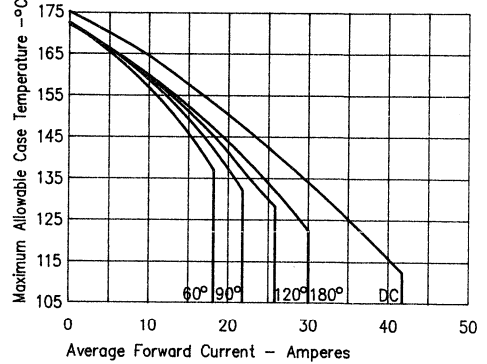


Figure 2  
Typical Reverse Characteristics - Per Leg

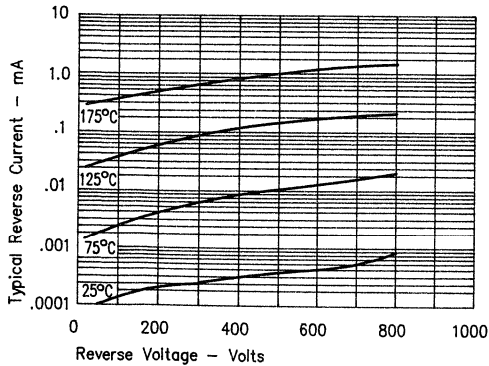
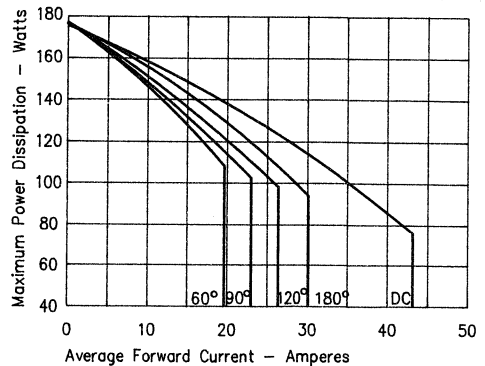


Figure 5  
Forward Current Derating - Reverse Polarity - Per Leg



# UFT32

Figure 6  
Forward Current Derating – Standard Polarity – Per Leg

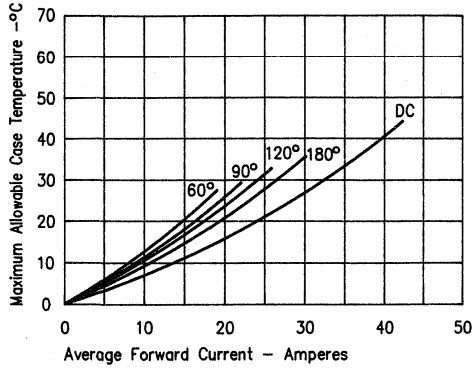
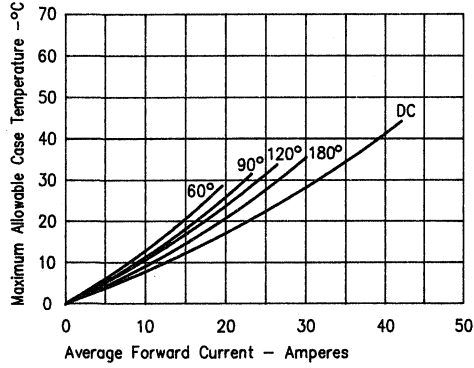
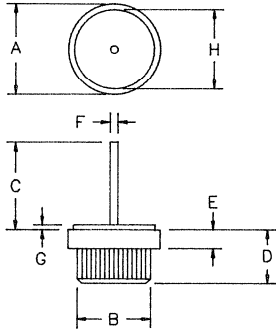


Figure 7  
Forward Current Derating – Reverse Polarity – Per Leg



# Ultra Fast Recovery Rectifier UFR30PF & UFR31PF



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.590	.630	15.0	16.0	Dia.
B	.499	.510	12.6	13.0	Dia.
C	.600	—	15.2	—	
D	.350	.370	8.90	9.40	
E	.090	.130	2.28	3.30	
F	.045	.053	1.14	1.35	Dia.
G	.030	.035	.762	.900	
H	.500	.510	12.7	13.0	Dia.

Microsemi Catalog Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
UFR3005PF*	50V	50V
UFR3010PF*	100V	100V
UFR3015PF*	150V	150V
UFR3020PF*	200V	200V
UFR3120PF*	200V	200V
UFR3130PF*	300V	300V
UFR3140PF*	400V	400V
UFR3150PF*	500V	500V

\*Add Suffix R for Reverse Polarity

- Ultra Fast Recovery
- 175°C Junction Temperature
- $t_{RR}$  35 to 50 nsec Maximum
- High Reliability
- 30 Amps Current Rating
- $V_{RRM}$  50 to 500V

## Electrical Characteristics

	UFR30PF	UFR31PF	
Average forward current	$I_{F(AV)}$ 30A	30A	Square wave
Case Temperature (standard polarity)	$T_C$ 148°C	139°C	$R_{\theta JC} = 1.0^\circ C/W$
Case Temperature (reverse polarity)	$T_C$ 127°C	110°C	$R_{\theta JC} = 1.8^\circ C/W$
Maximum surge current	$I_{FSM}$ 500A	400A	8.3 ms, half sine, $T_J = 175^\circ C$
Max peak forward voltage	$V_{FM}$ .975V	1.25V	$I_{FM} = 30A; T_J = 25^\circ C^*$
Max reverse recovery time	$t_{RR}$ 35 ns	50 ns	1/2A, 1A, 1/4A, $T_J = 25^\circ C$
Typical reverse recovery time	$t_{RR}$ 26 ns	36 ns	1/2A, 1A, 1/4A, $T_J = 25^\circ C$
Max peak reverse current	$I_{RM}$ —1.0 mA	—	$V_{RRM}, T_J = 125^\circ C$
Max peak reverse current	$I_{RM}$ —15 $\mu A$	—	$V_{RRM}, T_J = 25^\circ C$
Typical Junction Capacitance	$C_J$ 140 pF	115 pF	$V_R = 10V, f = 1MHz, T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu sec$ , Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	-40°C to 175°C
Operating junction temp range	$T_J$	-40°C to 175°C
Max thermal resistance (standard polarity)	$R_{\theta JC}$	1.0°C/W
Max thermal resistance (reverse polarity)	$R_{\theta JC}$	1.8°C/W
Typical thermal resistance	$R_{\theta CS}$	0.4°C/W
Typical Weight		0.3 ounce (9.0 grams) typical

**Microsemi Corp.**  
**6 Colorado**

# UFR30PF

Figure 1  
Typical Forward Characteristics

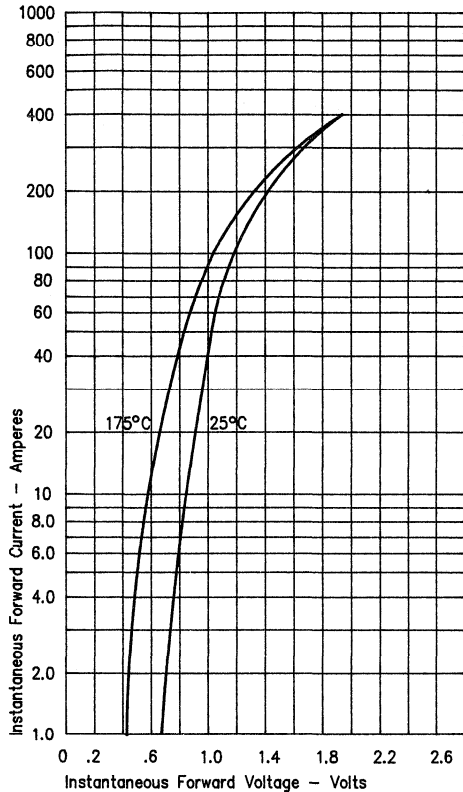


Figure 3  
Typical Junction Capacitance

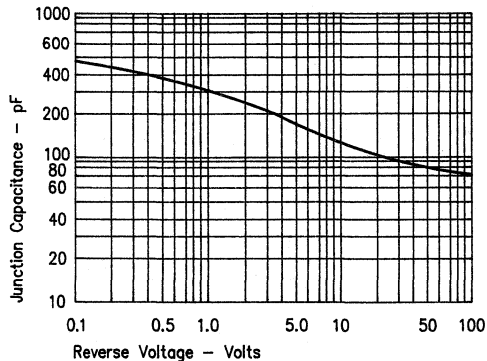


Figure 4  
Forward Current Derating - Standard Polarity

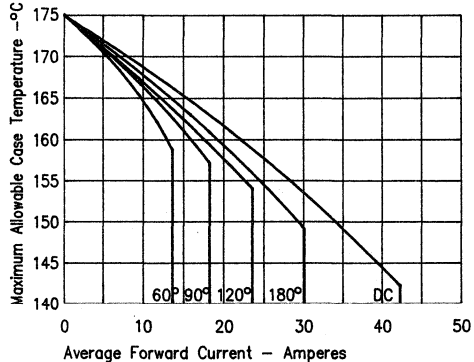


Figure 2  
Typical Reverse Characteristics

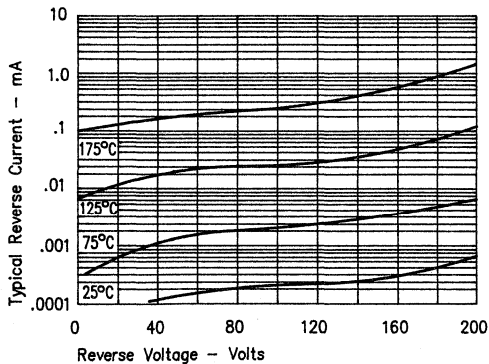
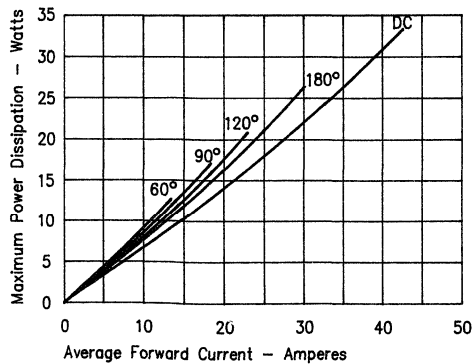


Figure 5  
Maximum Forward Power Dissipation - Standard Polarity



# UFR30PF

Figure 6  
Forward Current Derating - Reverse Polarity

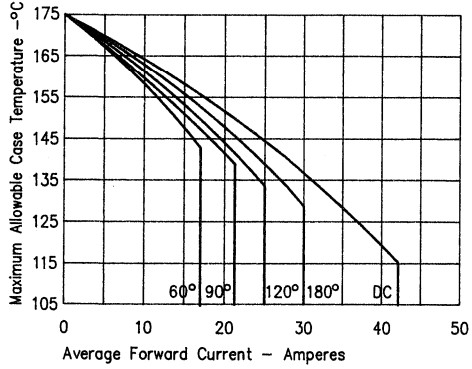
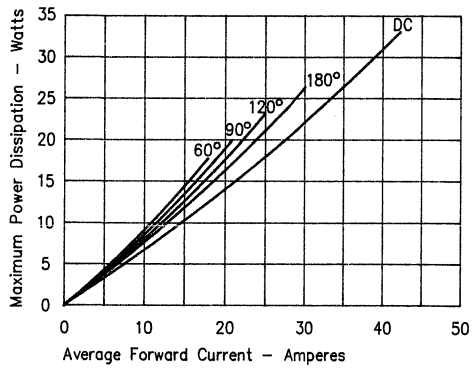


Figure 7  
Maximum Forward Power Dissipation - Reverse Polarity



# UFR31PF

Figure 1  
Typical Forward Characteristics

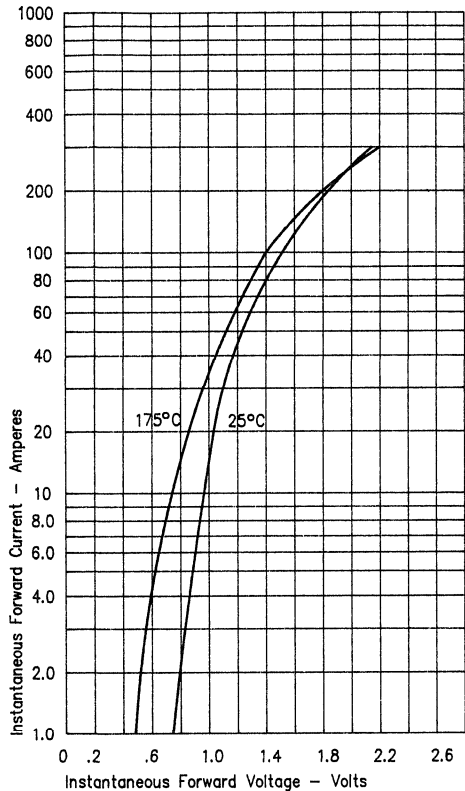


Figure 2  
Typical Reverse Characteristics

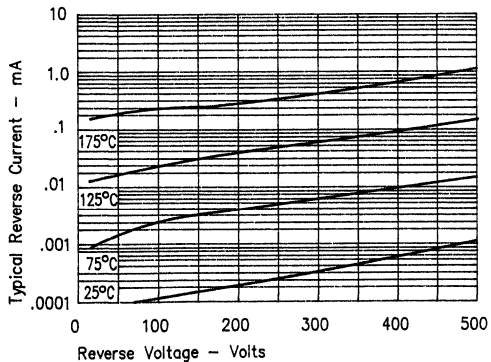


Figure 3  
Typical Junction Capacitance

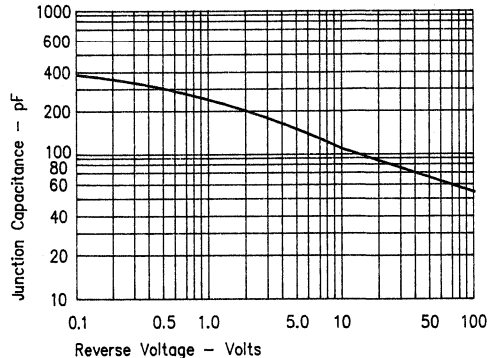


Figure 4  
Forward Current Derating - Standard Polarity

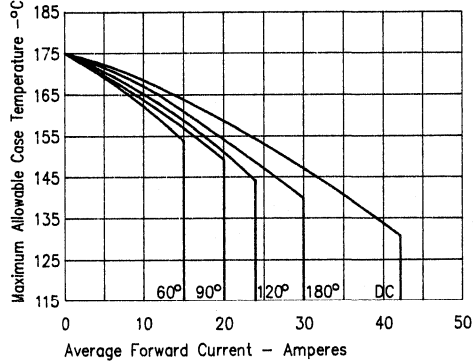
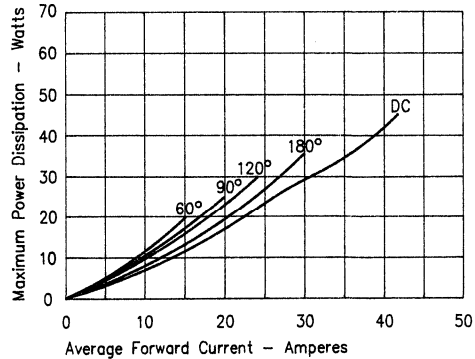


Figure 5  
Maximum Forward Power Dissipation - Reverse Polarity



# UFR31PF

Figure 6  
Forward Current Derating – Reverse Polarity

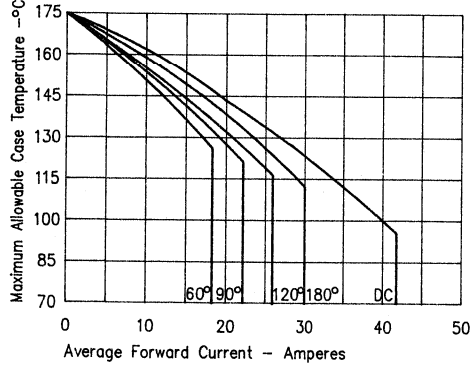
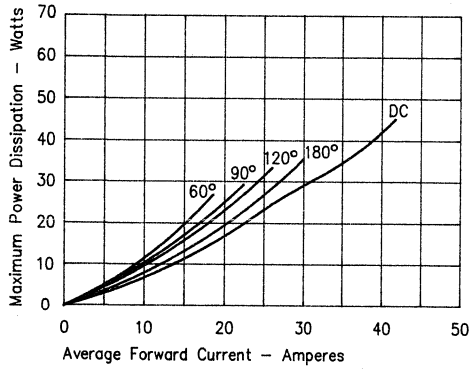


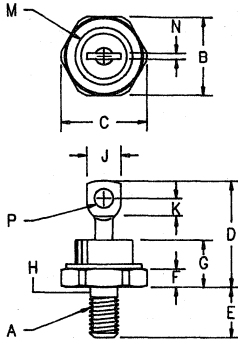
Figure 7  
Maximum Forward Power Dissipation – Standard Polarity





# Military Fast Recovery Rectifier

## 1N3909 — 1N3913



- Notes:
1. Full threads within 2 1/2 threads
  2. Standard Polarity: Stud is Cathode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1/4-28
B	.669	.688	16.99	17.48	
C	---	.794	---	20.16	
D	.750	1.000	19.05	25.40	
E	.422	.453	10.72	11.51	
F	.115	.200	2.92	5.08	
G	---	.450	---	11.43	
H	.220	.249	5.58	6.32	1
J	.250	.375	6.35	9.53	
K	.156	---	3.96	---	
M	---	.667	---	16.94	Dia.
N	.030	.080	.760	2.03	
P	.140	.175	3.56	4.45	Dia.

### D0203AB (D05)

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
1N3909*	50V	50V
1N3910*	100V	100V
1N3911*	200V	200V
1N3912*	300V	300V
1N3913*	400V	400V

\*Add the Suffix R for reverse polarity

- Fast Recovery Rectifier
- Available in JAN, JANTX, JANTXV
- Mil-S-19500/308
- 150°C Junction Temperature
- 30 Amp current rating
- VRRM 50 to 400 Volts

Electrical Characteristics		
Average forward current	$I_{F(AV)}$ 30 Amps	$T_C = 100^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.8^\circ\text{C/W}$
Maximum surge current	$I_{FSM}$ 300 Amps	8.3 ms, half sine $T_C = 100^\circ\text{C}$
Max peak forward voltage	$V_{FM}$ 2.75 Volts	$I_{FM} = 300\text{A}$ ; $T_J = 25^\circ\text{C}$ (800 $\mu\text{s}$ pulse width)
Max peak forward voltage	$V_{FM}$ 1.40 Volts	$I_{FM} = 50\text{A}$ ; $T_J = 25^\circ\text{C}$ *
Max peak reverse current	$I_{RM}$ 15 $\mu\text{A}$	VRRM, $T_J = 25^\circ\text{C}$
Max peak reverse current	$I_{RM}$ 6 mA	VRRM, $T_J = 150^\circ\text{C}$
Max reverse recovery time	$t_{RR}$ 200 ns	$I_F = 1\text{A dc}$ , $V_R = 30\text{V}$ , $di/dt = 25\text{A}/\mu\text{s}$
Typical reverse recovery time	$t_{RR}$ 150 ns	$I_F = 1\text{A dc}$ , $V_R = 30\text{V}$ , $di/dt = 25\text{A}/\mu\text{s}$
Max junction capacitance	$C_J$ 150 pF	$V_R = 10\text{V}$ , $f = 1\text{MHz}$ , $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	$T_{STG}$	-65°C to 175°C
Operating junction temp range	$T_J$	-65°C to 150°C
Max thermal resistance	$R_{\theta JC}$	0.8°C/W Junction to case
Typical thermal resistance	$R_{\theta JC}$	0.75°C/W Junction to case
Max mounting torque		30 inch pounds maximum
Weight		.54 ounces (15.3 grams) typical

**Microsemi Corp.**  
**Colorado**

# 1N3909 — 1N3913

Figure 1  
Typical Forward Characteristics

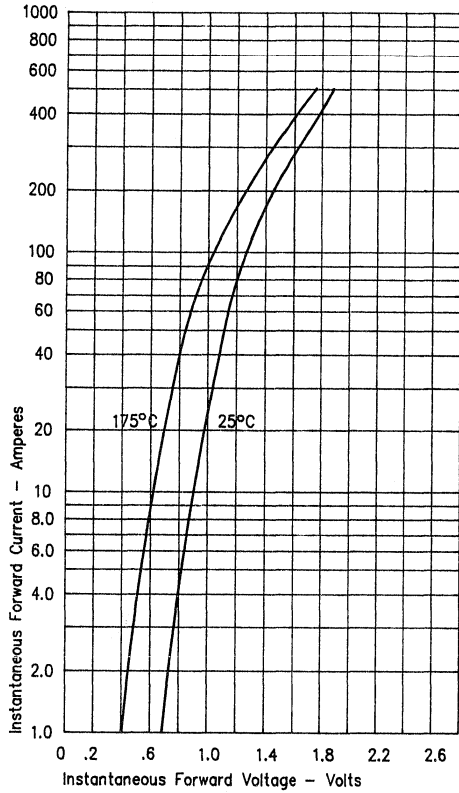


Figure 3  
Typical Junction Capacitance

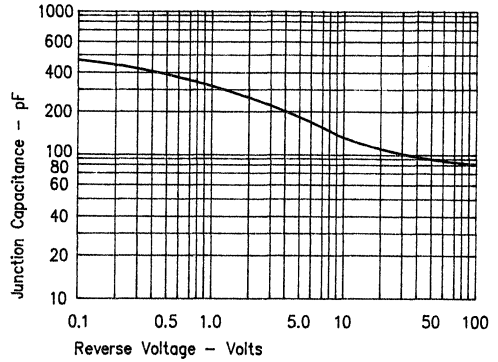


Figure 4  
Forward Current Derating

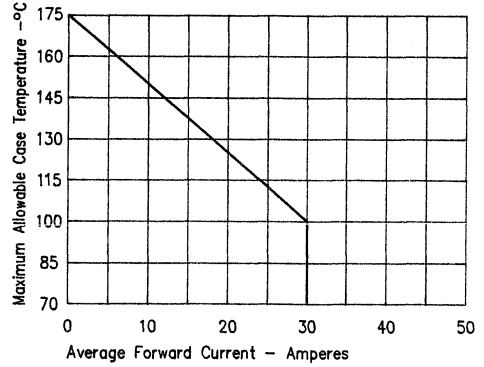
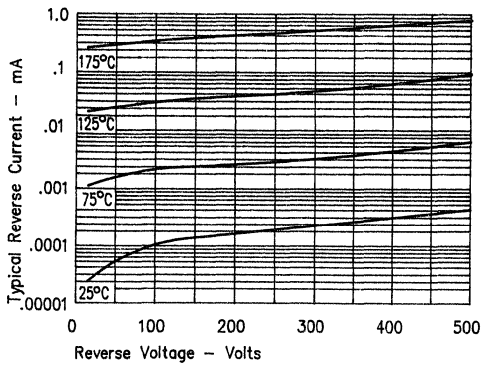
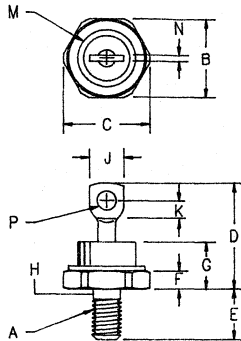


Figure 2  
Typical Reverse Characteristics



# Military Fast Recovery Rectifier

## 1N3909A — 1N3913A



- Notes:
1. Full threads within 2 1/2 threads
  2. Standard Polarity: Stud is Cathode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1/4-28
B	.669	.688	16.99	17.48	
C	---	.794	---	20.16	
D	.750	1.000	19.05	25.40	
E	.422	.453	10.72	11.51	
F	.115	.200	2.92	5.08	
G	---	.450	---	11.43	
H	.220	.249	5.58	6.32	1
J	.250	.375	6.35	9.53	
K	.156	---	3.96	---	
M	---	.667	---	16.94	Dia.
N	.030	.080	.760	2.03	
P	.140	.175	3.56	4.45	Dia.

D0203AB (D05)

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
1N3909A*	50V	50V
1N3910A*	100V	100V
1N3911A*	200V	200V
1N3912A*	300V	300V
1N3913A*	400V	400V

\*Add the Suffix R for reverse polarity

- Fast Recovery Rectifier
- Available in JAN, JANTX, JANTXV
- Mil-S-19500/308A
- 150°C Junction Temperature
- 50 Amp current rating
- VRRM 50 to 400 Volts

### Electrical Characteristics

Average forward current	$I_{F(AV)}$ 50 Amps	$T_C = 100^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.8^\circ\text{C/W}$
Maximum surge current	$I_{FSM}$ 400 Amps	8.3 ms, half sine $T_C = 100^\circ\text{C}$
Max peak forward voltage	$V_{FM}$ 2.75 Volts	$I_{FM} = 400\text{A}$ ; $T_J = 25^\circ\text{C}$ (800 $\mu\text{s}$ pulse width)
Max peak forward voltage	$V_{FM}$ 1.40 Volts	$I_{FM} = 50\text{A}$ $T_J = 25^\circ\text{C}$ *
Max peak reverse current	$I_{RM}$ 15 $\mu\text{A}$	VRRM, $T_J = 25^\circ\text{C}$
Max peak reverse current	$I_{RM}$ 6 mA	VRRM, $T_J = 150^\circ\text{C}$
Max reverse recovery time	$t_{RR}$ 150 ns	$I_F = 1\text{A}$ dc, $V_R = 30\text{V}$ , $di/dt = 25\text{A}/\mu\text{s}$
Typical reverse recovery time	$t_{RR}$ 125 ns	$I_F = 1\text{A}$ dc, $V_R = 30\text{V}$ , $di/dt = 25\text{A}/\mu\text{s}$
Max junction capacitance	$C_J$ 150 pF	$V_R = 10\text{V}$ , $f = 1\text{MHz}$ , $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-65^\circ\text{C}$ to $175^\circ\text{C}$
Operating junction temp range	$T_J$	$-65^\circ\text{C}$ to $150^\circ\text{C}$
Max thermal resistance	$R_{\theta JC}$	$0.8^\circ\text{C/W}$ Junction to case
Typical thermal resistance	$R_{\theta JC}$	$0.75^\circ\text{C/W}$ Junction to case
Max mounting torque		30 inch pounds maximum
Weight		.54 ounces (15.3 grams) typical

**Microsemi Corp.**  
**Colorado**

# 1N3909A — 1N3913A

Figure 1  
Typical Forward Characteristics

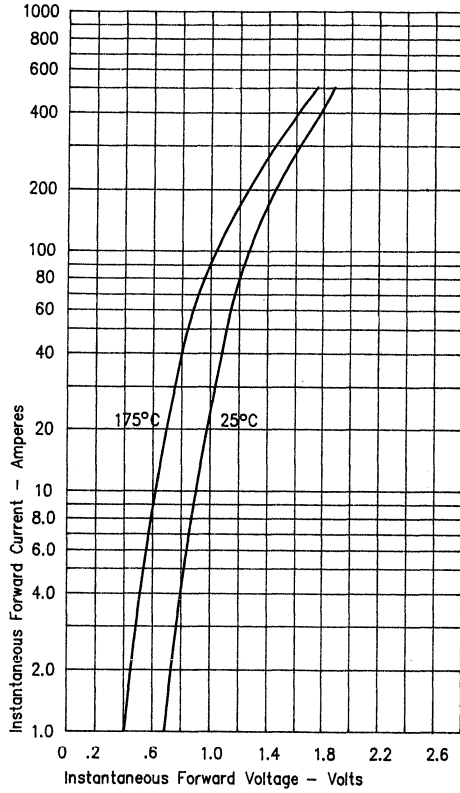


Figure 3  
Typical Junction Capacitance

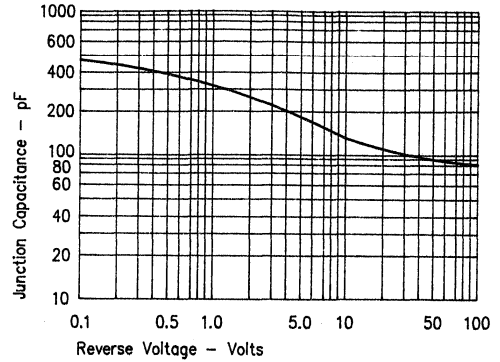


Figure 4  
Forward Current Derating

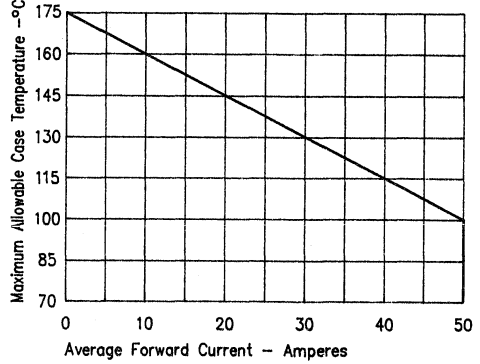
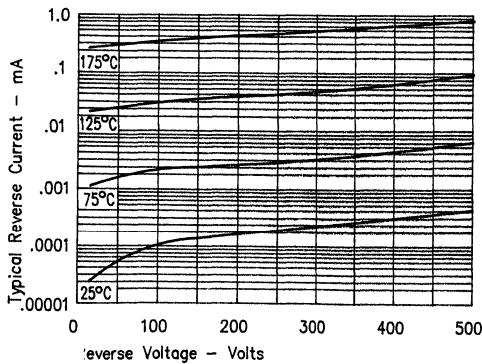
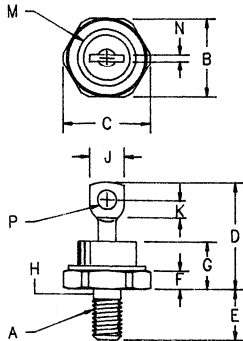


Figure 2  
Typical Reverse Characteristics



# Military Ultra Fast Rectifier

## 1N6304 — 1N6306



### Notes:

- 1/4-28
- Full threads within 2 1/2 threads
- For Reverse Polarity add R to Part Number  
Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.669	.688	16.99	17.48	
C	---	.793	---	20.14	
D	.750	1.00	19.05	25.40	
E	.422	.453	10.72	11.51	
F	.115	.200	2.92	5.08	
G	---	.450	---	11.43	
H	.220	.249	5.59	6.32	2
J	---	.375	---	9.53	
K	.156	---	3.97	---	
M	---	.667	---	16.94	Dia
N	---	.080	---	2.03	
P	.140	.175	3.56	4.45	Dia

D0203AB (D05)

Microsemi Catalog Number	Working Peak Reverse Voltage	Peak Reverse Voltage
1N6304*	50V	50V
1N6305*	100V	100V
1N6306*	150V	150V

\*Add Suffix R For Reverse Polarity

- Available in JAN, JANTX, JANTXV
- Mil-S-19500/550
- Ultra Fast Recovery Rectifier
- 70 Amps current rating
- 800 Amps surge rating
- VRRM 50 to 150 Volts

### Electrical Characteristics

Average forward current	I <sub>F(AV)</sub> 70 Amps	T <sub>C</sub> = 100°C, Square wave, R <sub>θJC</sub> = 0.8°C/W
Maximum surge current	I <sub>FSM</sub> 800 Amps	8.3 ms, half sine T <sub>C</sub> = 55°C
Max peak forward voltage	V <sub>FM</sub> .975 Volts	I <sub>FM</sub> = 70A: T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> 1.18 Volts	I <sub>FM</sub> = 150A: T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> .84 Volts	I <sub>FM</sub> = 70A: T <sub>J</sub> = 150°C*
Max peak reverse current	I <sub>RM</sub> 25 μA	VRRM, T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> 30 mA	VRRM, T <sub>J</sub> = 150°C*
Max reverse recovery time	t <sub>RR</sub> 50 ns	I <sub>F</sub> = .5A, I <sub>R</sub> = 1A, I(REC) = .25A, di/dt = 85A/μs
Typical reverse recovery time	t <sub>RR</sub> 30 ns	I <sub>F</sub> = .5A, I <sub>R</sub> = 1A, I(REC) = .25A, di/dt = 85A/μs
Max reverse recovery time	t <sub>RR</sub> 60 ns	70A, 130A/μs, T <sub>J</sub> = 25°C
Max junction capacitance	C <sub>J</sub> 600 pF	V <sub>R</sub> = 10V, f = 1Mhz, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-65°C to 175°C
Operating junction temp range	T <sub>J</sub>	-65°C to 175°C
Max thermal resistance	R <sub>θJC</sub>	0.8°C/W Junction to case
Typical thermal resistance	R <sub>θJC</sub>	0.75°C/W Junction to case
Max mounting torque		30 inch pounds maximum
Weight		.54 ounces (15.3 grams) typical

**Microsemi Corp.**  
**Colorado**

# 1N6304 — 1N6306

Figure 1  
Typical Forward Characteristics

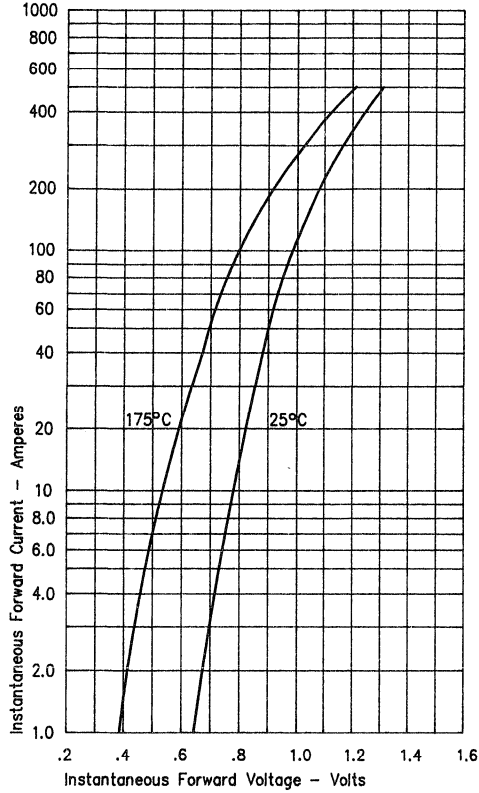


Figure 3  
Typical Junction Capacitance

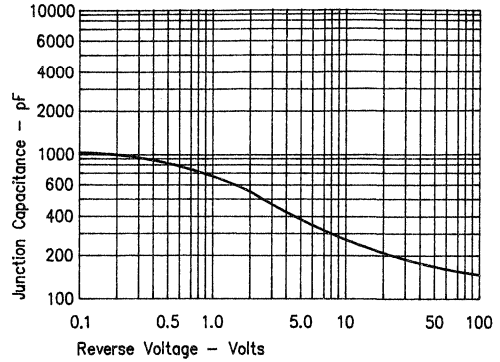


Figure 4  
Forward Current Derating

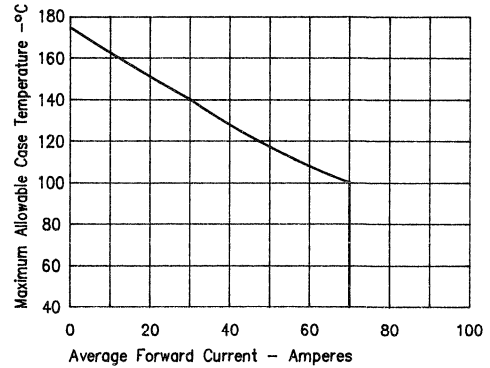
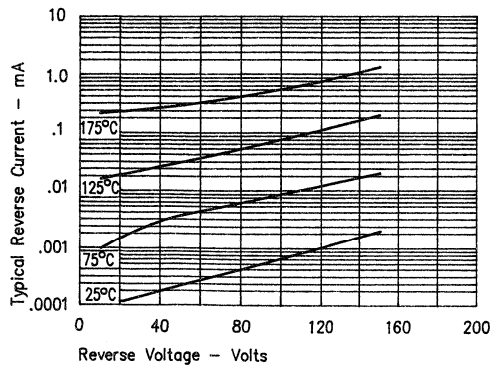
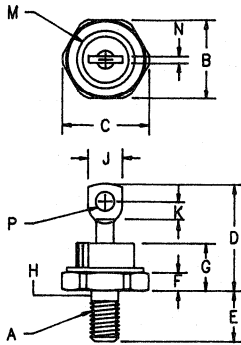


Figure 2  
Typical Reverse Characteristics



# Ultra Fast Recovery Rectifiers UFR70, 71 & 72



- Notes:
- 1/4-28
  - Full threads within 2 1/2 threads
  - For Reverse Polarity add R to Part Number  
Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.669	.688	16.99	17.48	
C	---	.793	---	20.14	
D	.750	1.00	19.05	25.40	
E	.422	.453	10.72	11.51	
F	.115	.200	2.92	5.08	
G	---	.450	---	11.43	
H	.220	.249	5.59	6.32	2
J	---	.375	---	9.53	
K	.156	---	3.97	---	
M	---	.667	---	16.94	Dia
N	---	.080	---	2.03	
P	.140	.175	3.56	4.45	Dia

DO203AB (D05)

Microsemi Catalog Number	Working Peak Reverse Voltage	Peak Reverse Voltage
UFR7005*	50V	50V
UFR7010*	100V	100V
UFR7015*	150V	150V
UFR7020*	200V	200V
UFR7120*	300V	300V
UFR7130*	400V	400V
UFR7140*	500V	500V
UFR7250*	600V	600V
UFR7260*	700V	700V
UFR7270*	800V	800V
UFR7280*		

\*Add Suffix R For Reverse Polarity

- Ultra Fast Recovery Rectifier
- 175°C Junction Temperature
- $V_{RRM}$  50 to 800V
- High Reliability
- 70 Amps current rating
- $t_{RR}$  50 to 75 nsec maximum

## Electrical Characteristics

	UFR70	UFR71	UFR72	
Average forward current	$I_{F(AV)}$ 70A	70A	70A	Square wave, $R_{\theta JC} = 0.8^\circ C/W$
Case Temperature	$T_C$ 125°C	110°C	105°C	
Maximum surge current	$I_{FSM}$ 1000A	800A	700A	8.3 ms, half sine, $T_C = 175^\circ C$
Max peak forward voltage	$V_{FM}$ .975V	1.25V	1.35V	$I_{FM} = 70A$ ; $T_J = 25^\circ C$ *
Max reverse recovery time	$t_{RR}$ 50 ns	60ns	75 ns	1/2A, 1A, 1/4A, $T_J = 25^\circ C$
Typical reverse recovery time	$t_{RR}$ 30 ns	45 ns	50 ns	1/2A, 1A, 1/4A, $T_J = 25^\circ C$
Max reverse recovery time	$t_{RR}$ 60 ns	70 ns	95 ns	70A, 130A/ $\mu s$ , $T_J = 25^\circ C$
Max peak reverse current	$I_{RM}$ ---	3.0 mA	---	$V_{RRM}$ , $T_J = 125^\circ C$
Max peak reverse current	$I_{RM}$ ---	25 $\mu A$	---	$V_{RRM}$ , $T_J = 25^\circ C$
Typical Junction Capacitance	$C_J$ 300 pF	150 pF	150 pF	$V_R = 10V$ , $f = 1Mhz$ , $T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu sec$ , Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	-65°C to 175°C
Operating junction temp range	$T_J$	-65°C to 175°C
Max thermal resistance	$R_{\theta JC}$	0.8°C/W Junction to case
Typical thermal resistance	$R_{\theta JC}$	0.75°C/W Junction to case
Typical thermal resistance	$R_{\theta CS}$	0.2°C/W Case to sink
Max mounting torque		30 inch pounds maximum
Weight		.54 ounces (15.3 grams) typical

# UFR70

Figure 1  
Typical Forward Characteristics

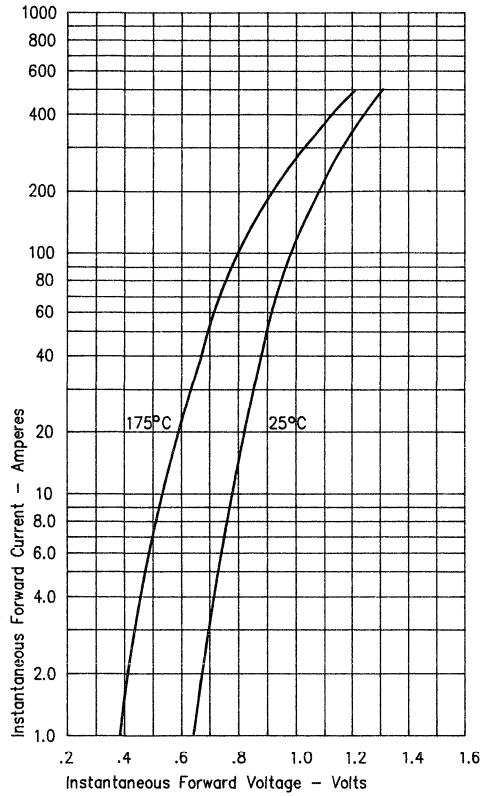


Figure 3  
Typical Junction Capacitance

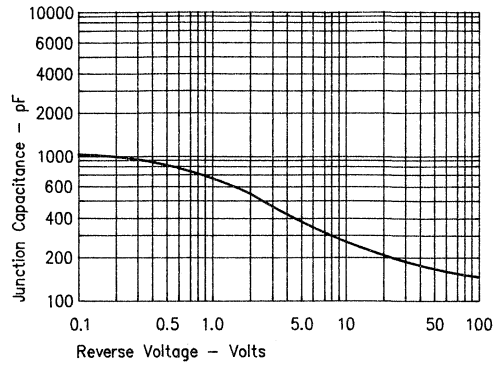


Figure 4  
Forward Current Derating

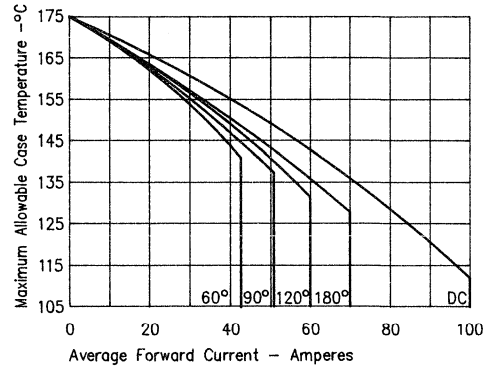


Figure 2  
Typical Reverse Characteristics

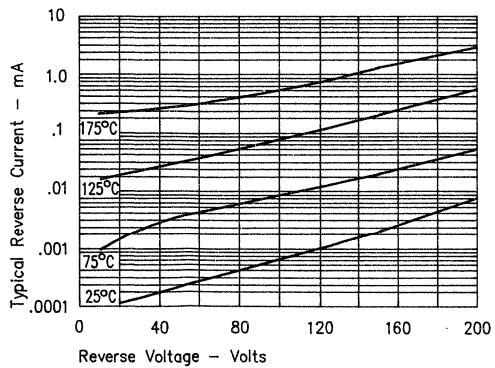
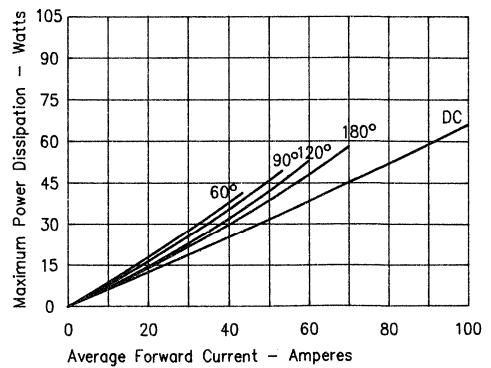


Figure 5  
Maximum Forward Power Dissipation





# UFR71

Figure 1  
Typical Forward Characteristics

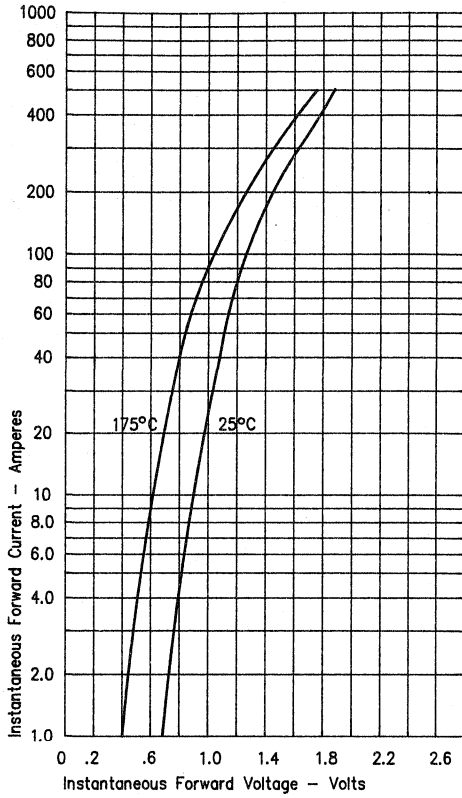


Figure 3  
Typical Junction Capacitance

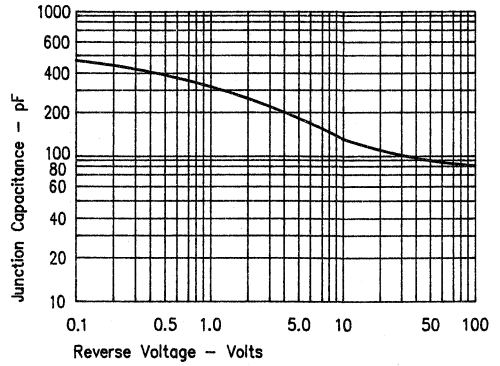


Figure 4  
Forward Current Derating

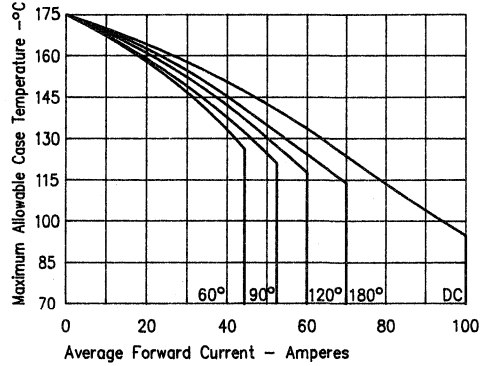


Figure 2  
Typical Reverse Characteristics

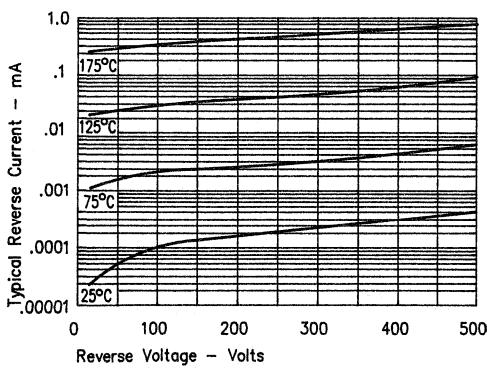
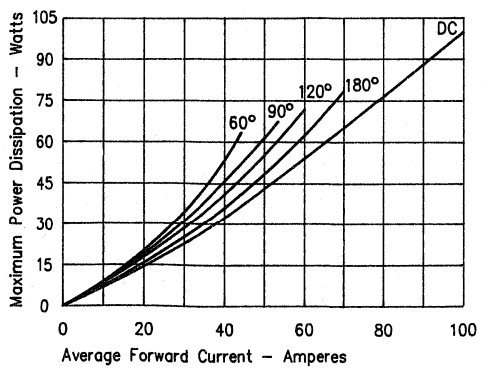


Figure 5  
Maximum Forward Power Dissipation



D

# UFR72

Figure 1  
Typical Forward Characteristics

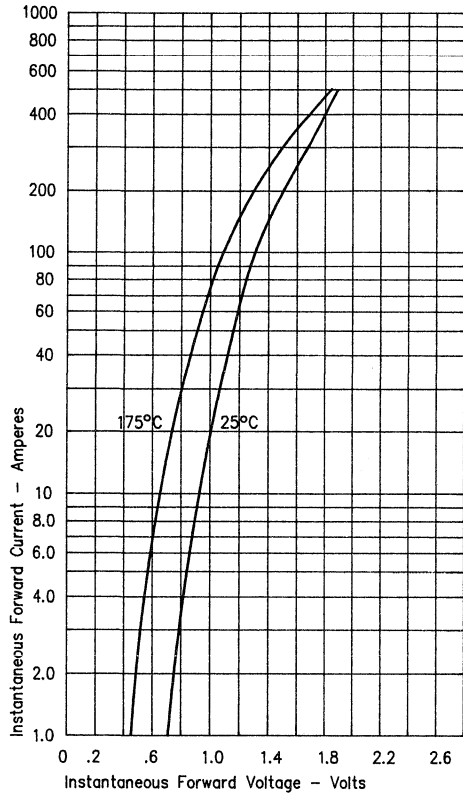


Figure 3  
Typical Junction Capacitance

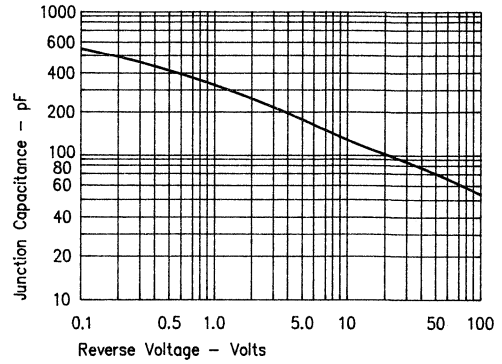


Figure 4  
Forward Current Derating

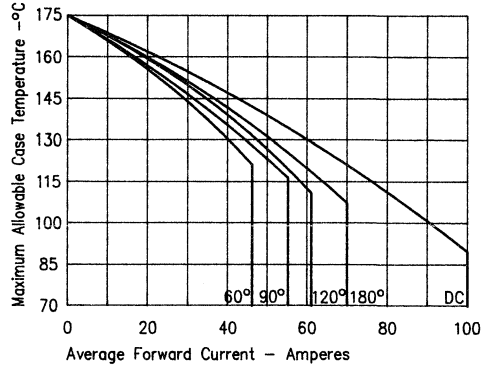


Figure 2  
Typical Reverse Characteristics

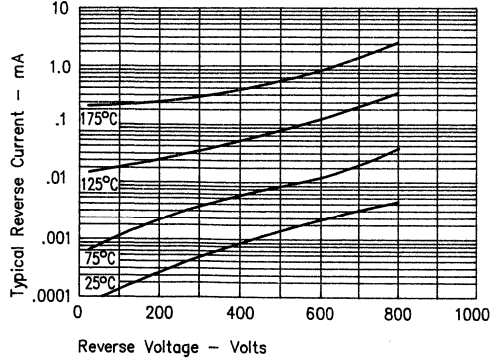
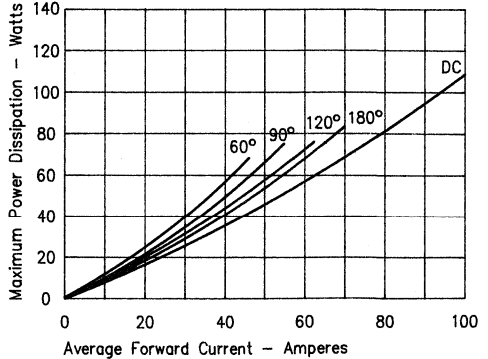
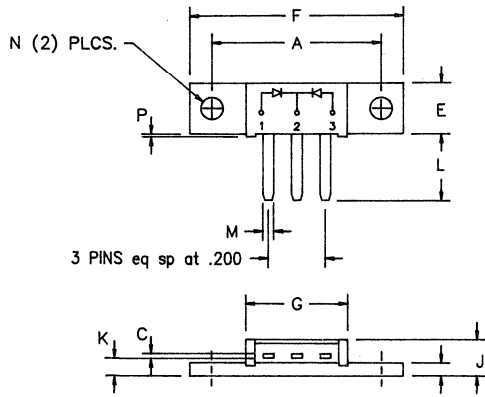


Figure 5  
Maximum Forward Power Dissipation



# Ultrafast Recovery Modules UFT70, 71 & 72



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	1.180	1.195	29.97	30.35	
C	.027	.037	0.69	0.94	
E	.350	.370	8.89	9.40	
F	1.490	1.510	37.85	38.35	
G	.695	.715	17.65	18.16	
H	.088	.098	2.24	2.49	
J	.240	.260	6.10	6.60	
K	.115	.135	2.92	3.43	
L	.460	.480	11.68	12.19	
M	.065	.085	1.65	2.16	
N	.151	.161	3.84	4.09	Dia.
P	.015	.025	0.38	0.64	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UFT7005*	50V	50V
UFT7010*	100V	100V
UFT7015*	150V	150V
UFT7020*	200V	200V
UFT7120*	200V	200V
UFT7130*	300V	300V
UFT7140*	400V	400V
UFT7250*	500V	500V
UFT7150*	500V	500V
UFT7260*	600V	600V
UFT7270*	700V	700V
UFT7280*	800V	800V

\*Add the Suffix A for Common Anode or D for Doubler

- Ultra Fast Recovery
- 175°C Junction Temperature
- V<sub>RRM</sub> 50 to 800 Volts
- Unique surface mount package
- 2 X 35 Amp current rating

Electrical Characteristics					
		UFT70	UFT71	UFT72	
Average forward current per pkg	I <sub>F(AV)</sub>	70A	70A	70A	Square Wave
Average forward current per leg	I <sub>F(AV)</sub>	35A	35A	35A	Square Wave
Case Temperature	T <sub>C</sub>	148°C	142°C	138°C	R <sub>θJC</sub> = 1.0°C/W
Maximum surge current per leg	I <sub>FSM</sub>	700A	600A	500A	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage per leg	V <sub>FM</sub>	.95V	1.20V	1.35V	I <sub>FM</sub> = 35A; T <sub>J</sub> = 25°C*
Max reverse recovery time per leg	t <sub>rr</sub>	50ns	60ns	75ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Typical reverse recovery time per leg	t <sub>rr</sub>	35ns	50ns	65ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Max peak reverse current per leg	I <sub>RM</sub>	—	3.0mA	—	V <sub>RRM</sub> , T <sub>J</sub> = 125°C
Max peak reverse current per leg	I <sub>RM</sub>	—	25μA	—	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical Junction capacitance	C <sub>J</sub>	300pF	120pF	115pF	VR = 10V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance per leg	R <sub>θJC</sub>	1.0°C/W Junction to case
per package	R <sub>θJC</sub>	0.5°C/W Junction to case
Typical thermal resistance per leg	R <sub>θJC</sub>	0.85°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.3°C/W Case to sink
Mounting torque		10 inch pounds maximum
Weight		0.3 ounce (8.4 grams) typical



# UFT70

Figure 1  
Typical Forward Characteristics - Per Leg

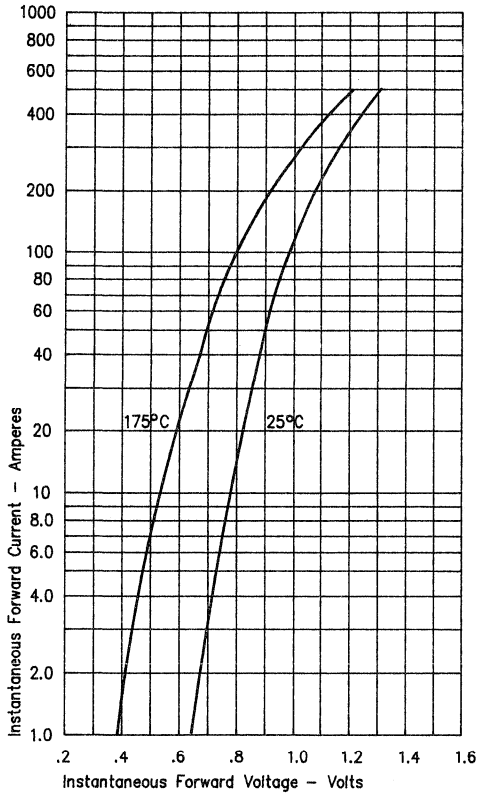


Figure 2  
Typical Reverse Characteristics - Per Leg

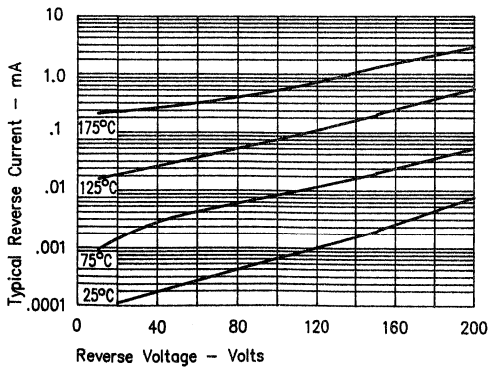


Figure 3  
Typical Junction Capacitance - Per Leg

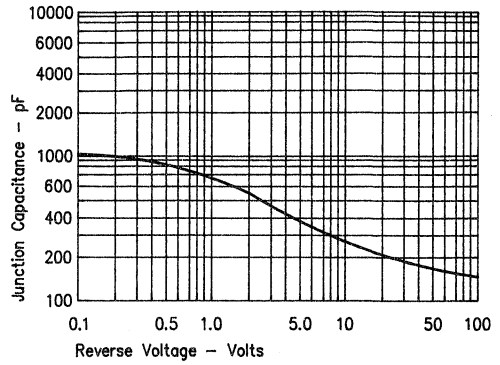


Figure 4  
Forward Current Derating - Per Leg

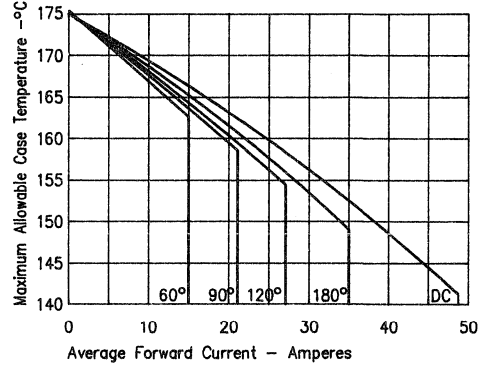
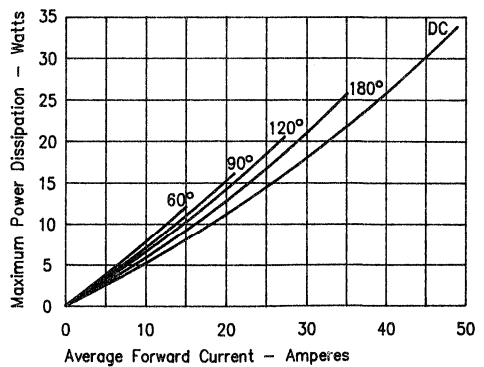


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# UFT71

Figure 1  
Typical Forward Characteristics - Per Leg

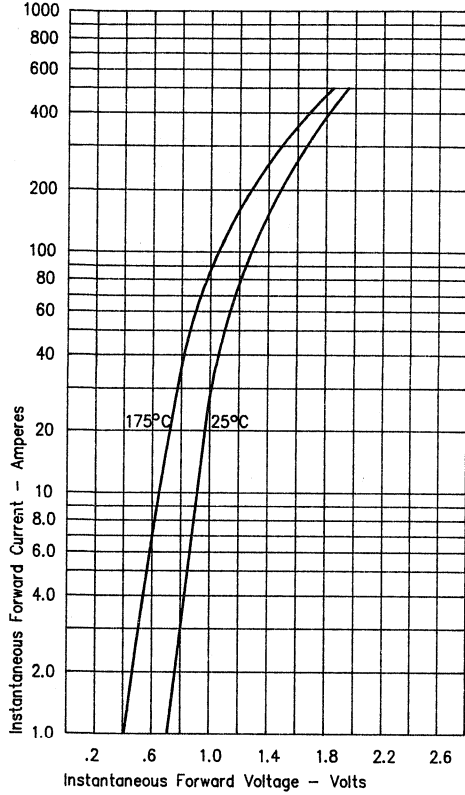


Figure 3  
Typical Junction Capacitance - Per Leg

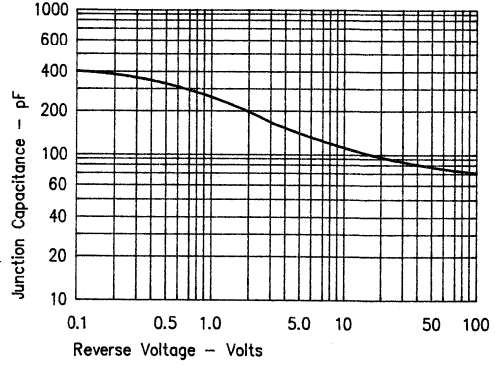


Figure 4  
Forward Current Derating - Per Leg

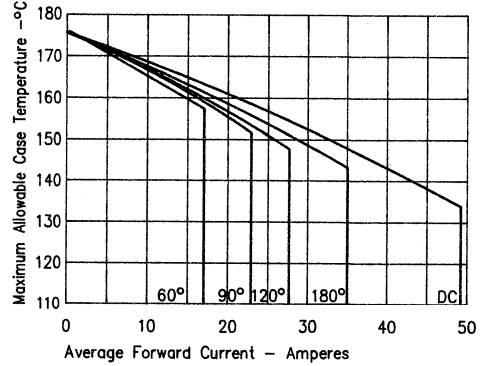


Figure 2  
Typical Reverse Characteristics - Per Leg

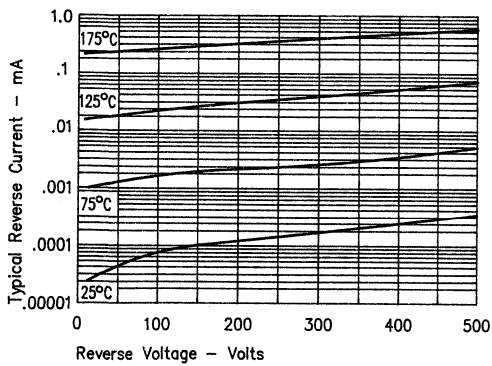
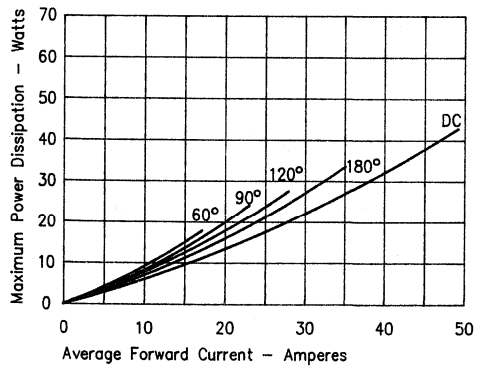


Figure 5  
Maximum Forward Power Dissipation - Per Leg



D

# UFT72

Figure 1  
Typical Forward Characteristics - Per Leg

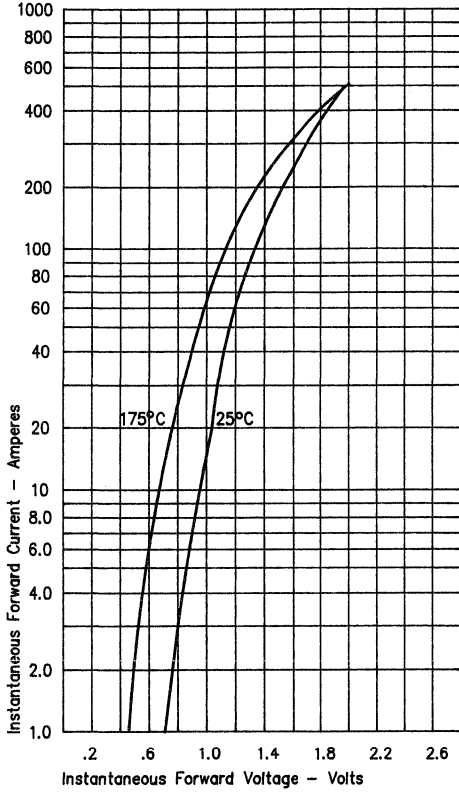


Figure 2  
Typical Reverse Characteristics - Per Leg

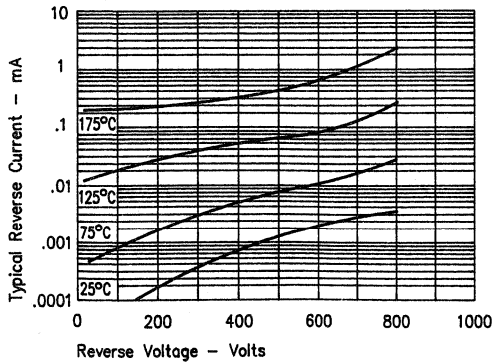


Figure 3  
Typical Junction Capacitance - Per Leg

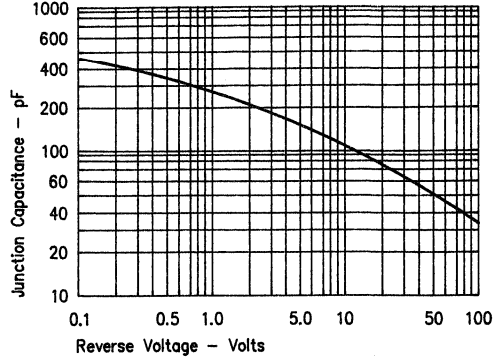


Figure 4  
Forward Current Derating - Per Leg

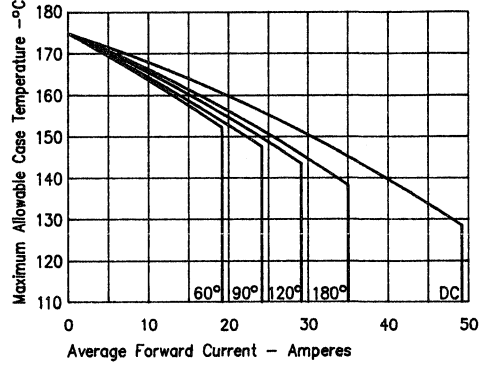
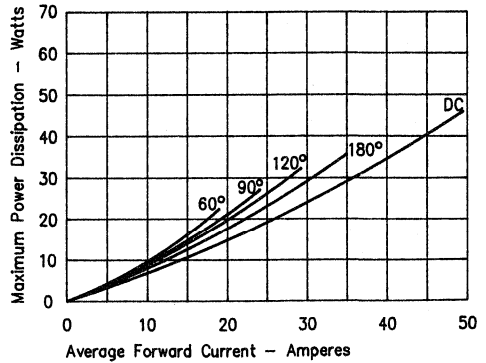
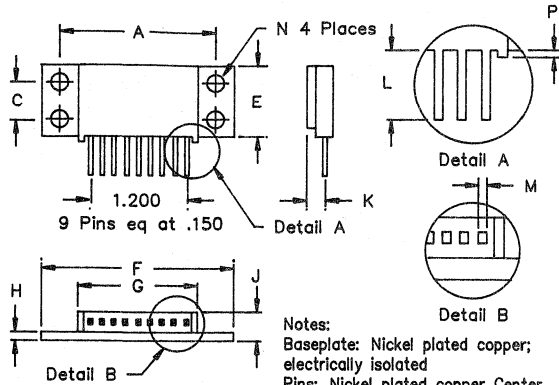


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Ultrafast Recovery Modules

## UFT 100, 101 & 102



Notes:  
 Baseplate: Nickel plated copper;  
 electrically isolated  
 Pins: Nickel plated copper Center  
 terminal: Common Cathode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	1.995	2.005	50.67	50.93	
C	0.495	0.506	12.57	12.83	
E	0.990	1.010	25.15	25.65	
F	2.390	2.410	60.71	61.21	
G	1.490	1.510	37.85	38.35	
H	0.120	0.130	3.05	3.30	
J	---	0.400	---	10.16	
K	0.240	0.260	6.10	6.60to	Lead CL
L	0.490	0.510	12.45	12.95	
M	0.040	.050	1.02	1.27	Square Dia
N	0.175	0.195	4.45	4.95	
P	0.032	0.052	0.81	1.32	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UFT10005*	50V	50V
UFT10010*	100V	100V
UFT10015*	150V	150V
UFT10020*	200V	200V
UFT10120*	200V	200V
UFT10130*	300V	300V
UFT10140*	400V	400V
UFT10250*	500V	500V
UFT10260*	600V	600V
UFT10270*	700V	700V
UFT10280*	800V	800V

Add Suffix A for Common Anode, D for Doubler

- Ultra Fast Recovery
- 175°C Junction Temperature
- V<sub>RRM</sub> 50 to 800 Volts
- Electrically isolated base
- 2 X 50 Amp current rating

Electrical Characteristics			
	UFT100	UFT101	UFT102
Average forward current per pkg	I <sub>F(AV)</sub> 100A	100A	100A
Average forward current per leg	I <sub>F(AV)</sub> 50A	50A	50A
Case Temperature	T <sub>C</sub> 135°C	124°C	118°C
Maximum surge current per leg	I <sub>FSM</sub> 1000A	800A	700A
Max peak forward voltage per leg	V <sub>FM</sub> .975V	1.25V	1.35V
Max reverse recovery time per leg	t <sub>rr</sub> 50ns	60ns	75ns
Typical reverse recovery time per leg	t <sub>rr</sub> 30ns	45ns	50ns
Max reverse recovery time per leg	t <sub>rr</sub> 60ns	70ns	95ns
Max peak reverse current per leg	I <sub>RM</sub> ---	3.0mA	---
Max peak reverse current per leg	I <sub>RM</sub> ---	25µA	---
Typical Junction capacitance	C <sub>J</sub> 300pF	150pF	150pF

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance per leg	R <sub>θJC</sub>	1.0°C/W Junction to case
per package	R <sub>θJC</sub>	0.5°C/W Junction to case
Typical thermal resistance per leg	R <sub>θJC</sub>	0.9°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.1°C/W Case to sink
Mounting Torque		15 inch pounds maximum
Weight		2.5 ounces (71 grams) typical

**Microsemi Corp.**  
6 **Colorado**

# UFT 100

Figure 1  
Typical Forward Characteristics - Per Leg

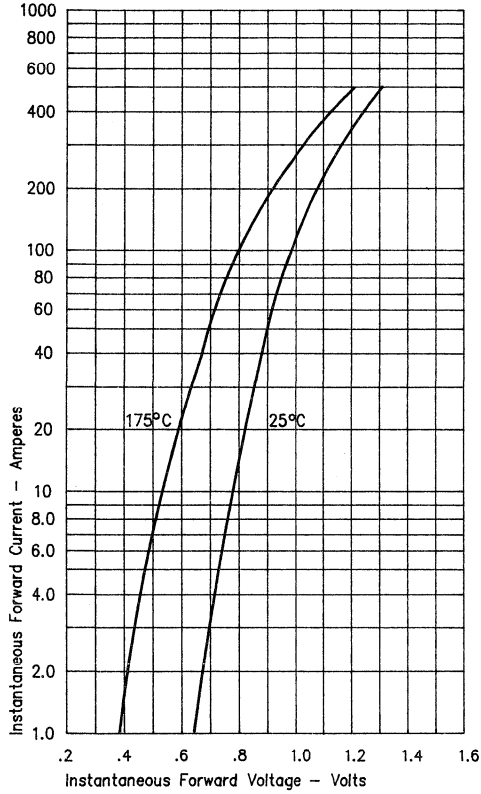


Figure 2  
Typical Reverse Characteristics - Per Leg

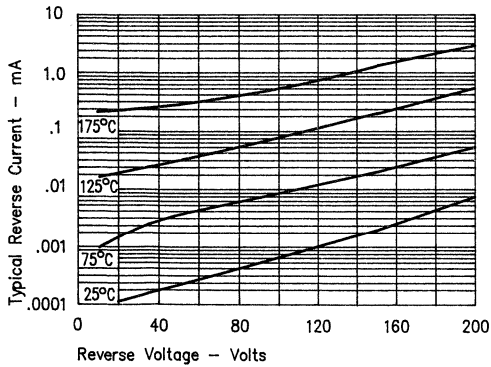


Figure 3  
Typical Junction Capacitance - Per Leg

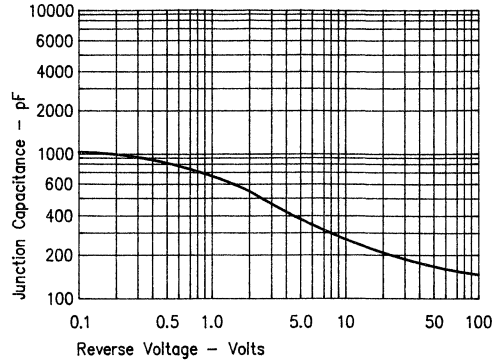


Figure 4  
Forward Current Derating - Per Leg

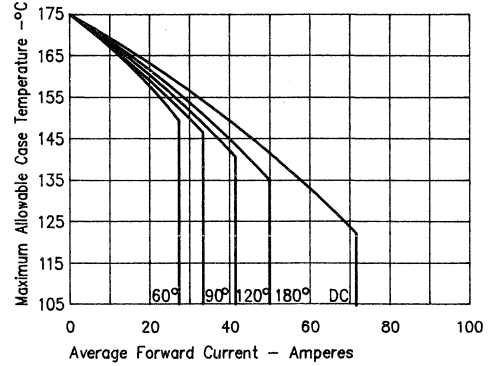
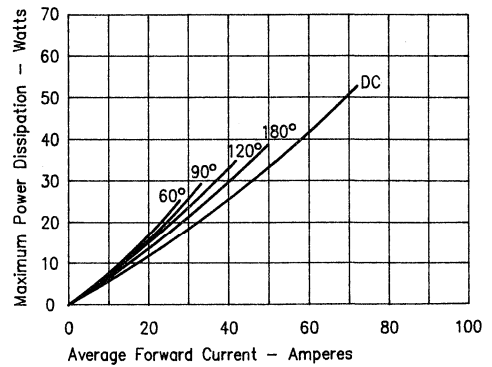


Figure 5  
Maximum Forward Power Dissipation - Per Leg





# UFT 101

Figure 1  
Typical Forward Characteristics - Per Leg

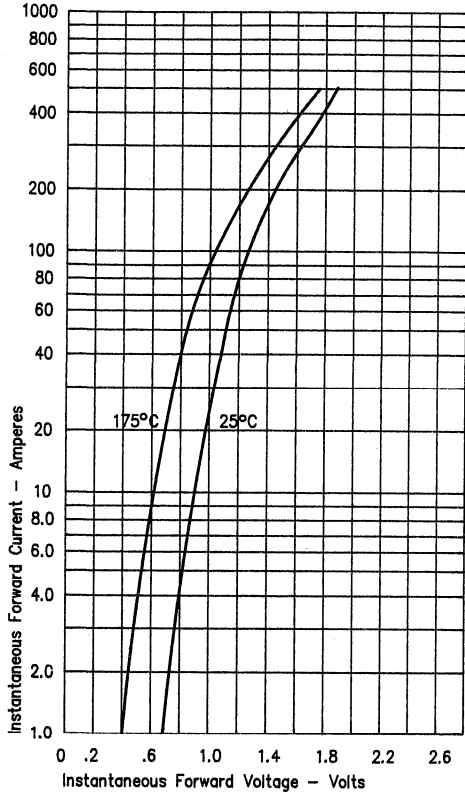


Figure 3  
Typical Junction Capacitance - Per Leg

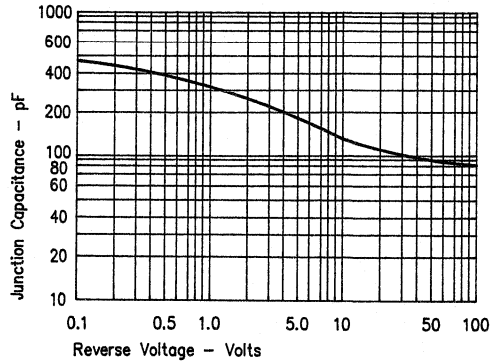


Figure 4  
Forward Current Derating - Per Leg

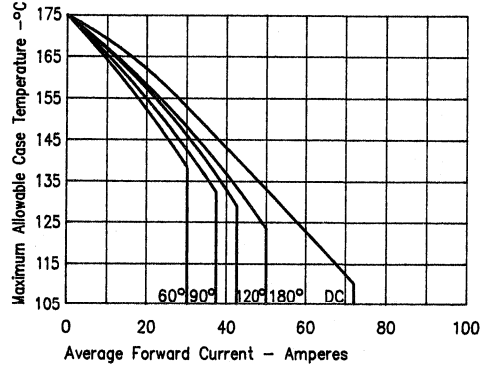


Figure 2  
Typical Reverse Characteristics - Per Leg

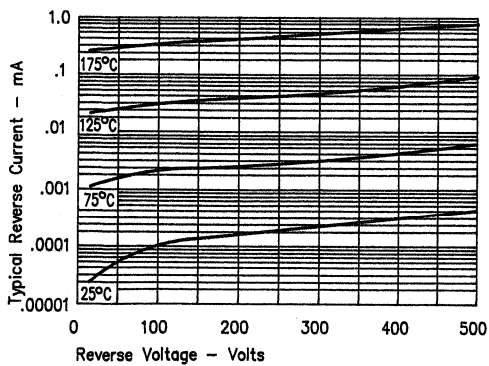
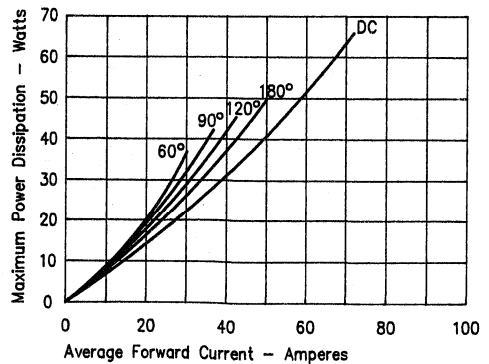


Figure 5  
Maximum Forward Power Dissipation - Per Leg



D

# UFT 102

Figure 1  
Typical Forward Characteristics - Per Leg

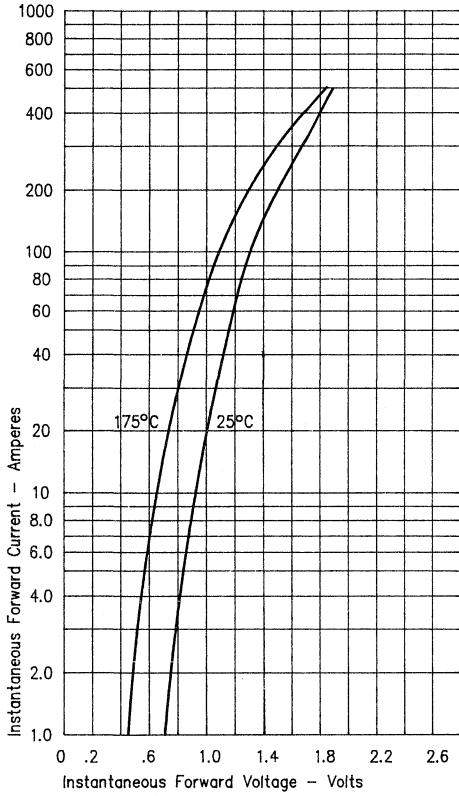


Figure 3  
Typical Junction Capacitance - Per Leg

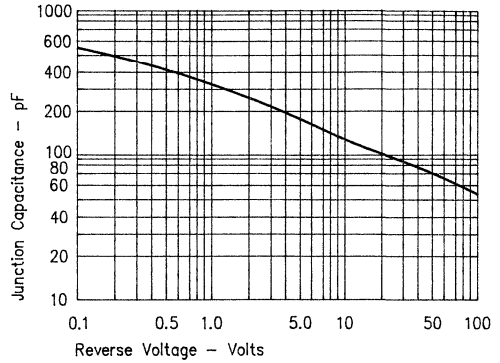


Figure 4  
Forward Current Derating - Per Leg

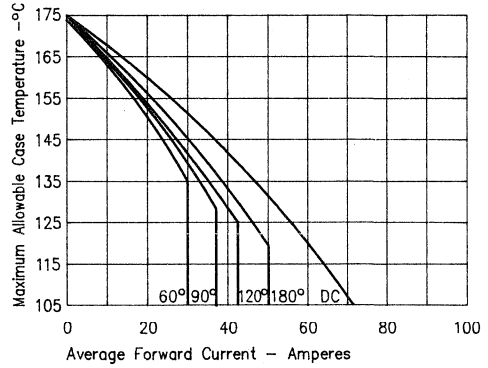


Figure 2  
Typical Reverse Characteristics - Per Leg

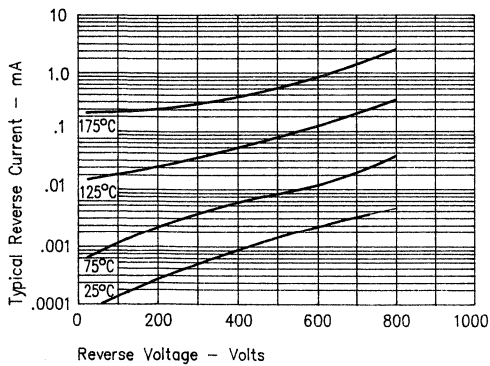
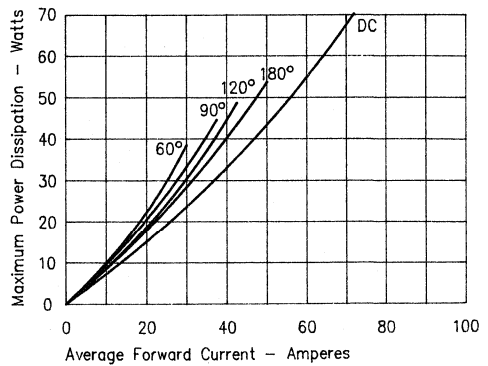
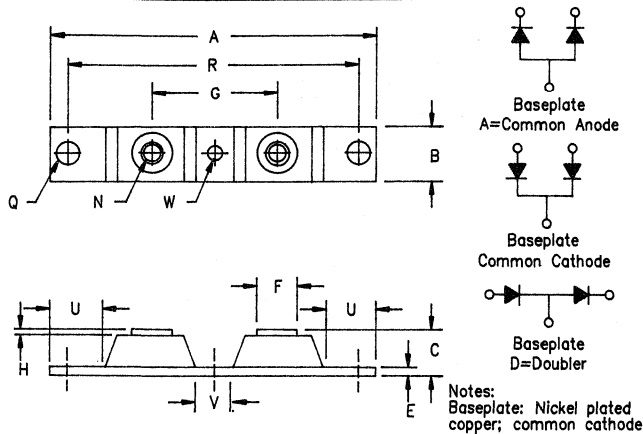


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Ultrafast Recovery Modules

## UFT 125, 126 & 127



Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20	
B	0.700	0.800	17.78	20.32	
C	---	0.625	---	15.87	
E	0.120	0.130	3.05	3.30	
F	0.490	0.510	12.45	12.95	
G	1.375 BSC		34.92 BSC		
H	---	0.050	---	1.27	
N	---	---	---	---	1/4-28
Q	0.280	0.310	6.86	7.11	Dia.
R	3.150 BSC		80.01 BSC		
U	0.600	---	15.24	---	
V	0.330	0.350	8.38	8.89	
W	0.170	0.190	4.32	4.82	Dia.
Y	46.10 BSC		1,815 BSC		

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UFT12505*	50V	50V
UFT12510*	100V	100V
UFT12515*	150V	150V
UFT12520*UFT12620*	200V	200V
UFT12630*	300V	300V
UFT12640*	400V	400V
UFT12750*UFT12650*	500V	500V
UFT12760*	600V	600V
UFT12770*	700V	700V
UFT12780*	800V	800V

Add Suffix A for Common Anode, D for Doubler

- Ultra Fast Recovery
- 175°C Junction Temperature
- $V_{RRM}$  50 to 800 Volts
- 120 Amps Current Rating
- 2 X 60 Amp current rating

Electrical Characteristics			
	UFT125	UFT126	UFT127
Average forward current per pkg	120A	120A	120A
Average forward current per leg	60A	60A	60A
Case Temperature	130°C	115°C	114°C
Maximum surge current per leg	800A	700A	600A
Max peak forward voltage per leg	VF <sub>M</sub>	1.25V	1.35V
Max reverse recovery time per leg	trr	40ns	60ns
Typical reverse recovery time per leg	trr	35ns	50ns
Max peak reverse current per leg	IRM	2.0ma	
Max peak reverse current per leg	IRM	30µa	
Typical Junction capacitance	C <sub>J</sub>	270pF	200pF

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance per leg	R <sub>θJC</sub>	0.85°C/W Junction to case
per package	R <sub>θJC</sub>	0.425°C/W Junction to case
Typical thermal resistance per leg	R <sub>θJC</sub>	0.8°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.08°C/W Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque - outside holes		40 inch pounds maximum
Mounting Base Torque - (center hole)		10 inch pounds maximum
Weight		2.8 ounces (75 grams) typical

# UFT 125

Figure 1  
Typical Forward Characteristics - Per Leg

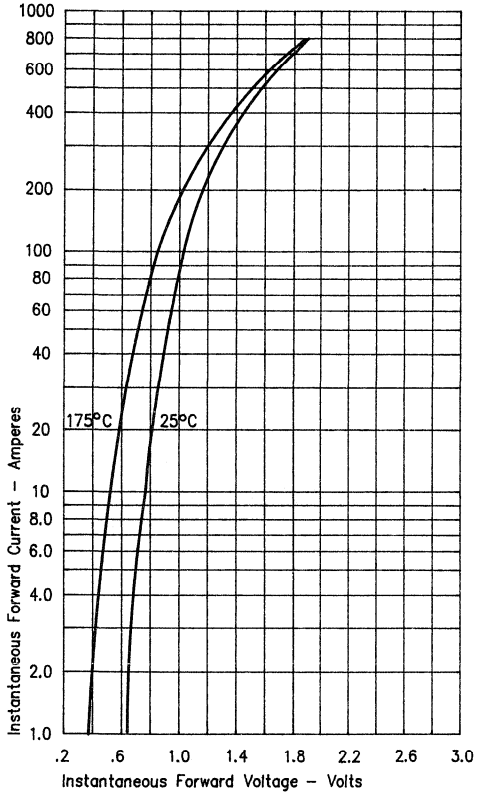


Figure 3  
Typical Junction Capacitance - Per Leg

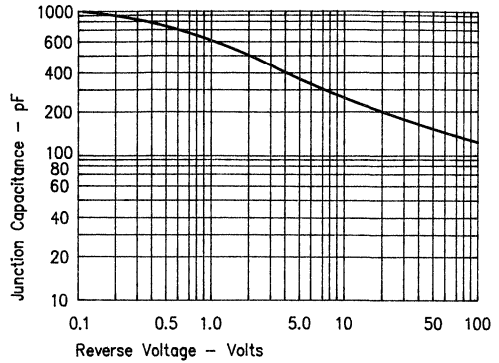


Figure 4  
Forward Current Derating - Per Leg

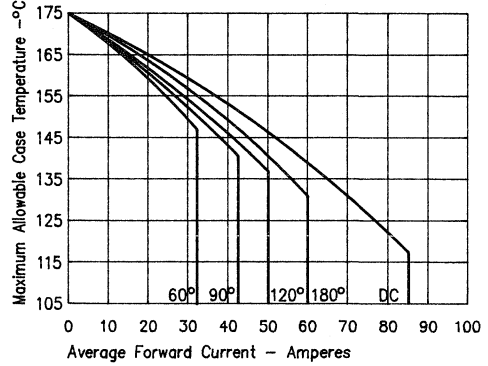


Figure 2  
Typical Reverse Characteristics - Per Leg

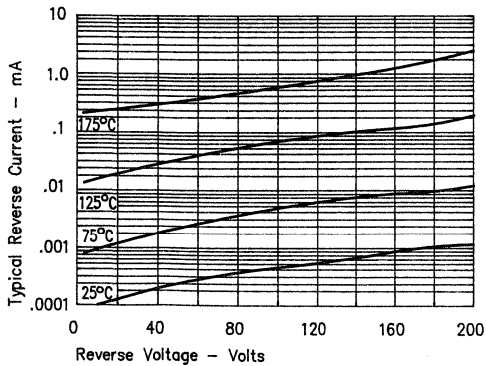
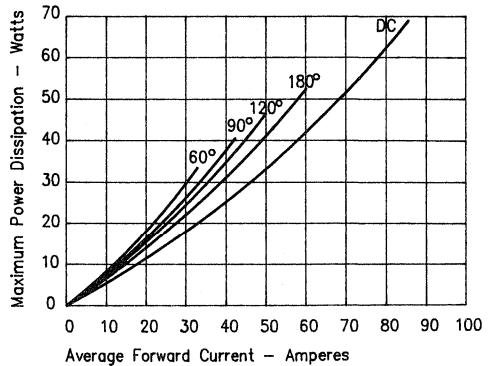


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# UFT 126

Figure 1  
Typical Forward Characteristics - Per Leg

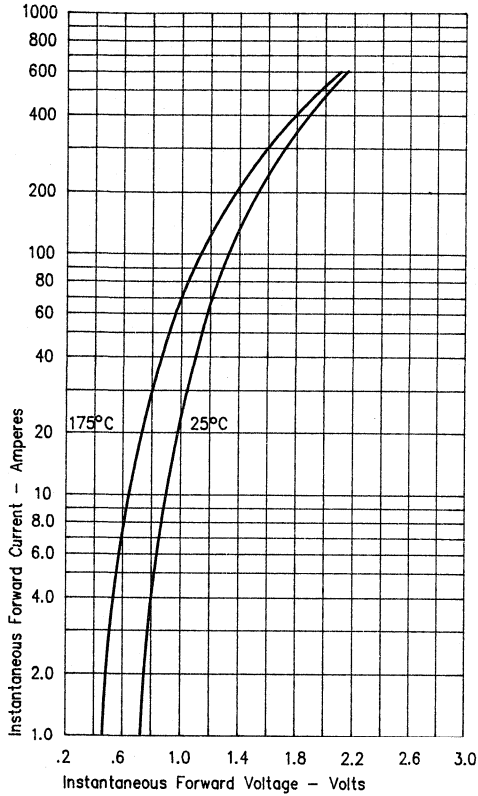


Figure 3  
Typical Junction Capacitance - Per Leg

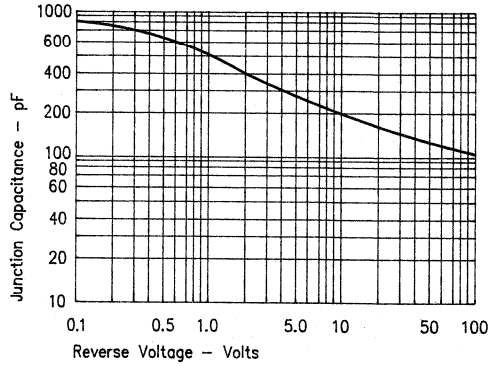


Figure 4  
Forward Current Derating - Per Leg

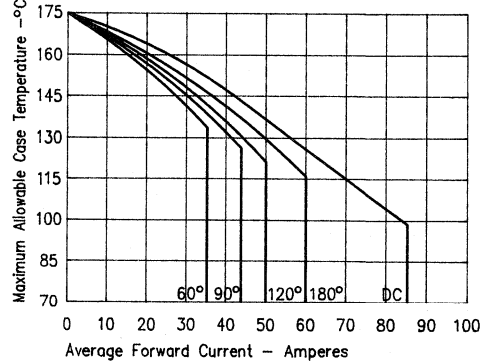


Figure 2  
Typical Reverse Characteristics - Per Leg

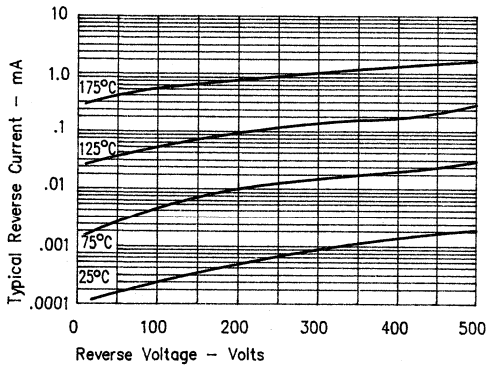
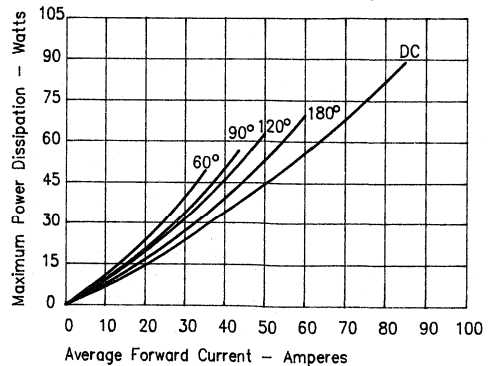


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# UFT 127

Figure 1  
Typical Forward Characteristics – Per Leg

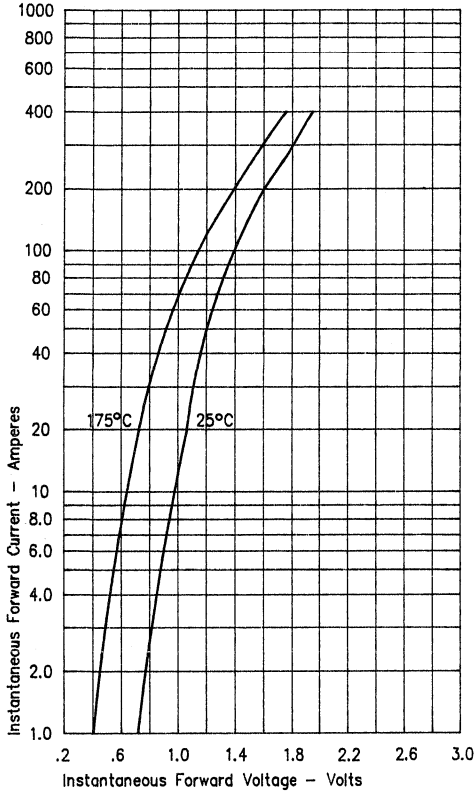


Figure 3  
Typical Junction Capacitance – Per Leg

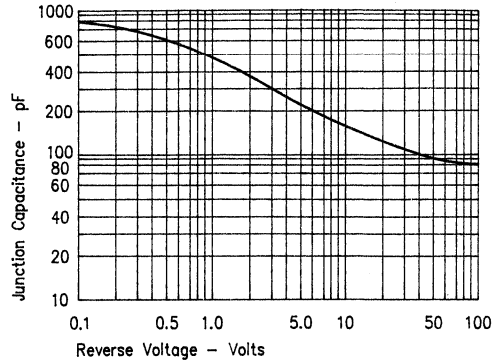


Figure 4  
Forward Current Derating – Per Leg

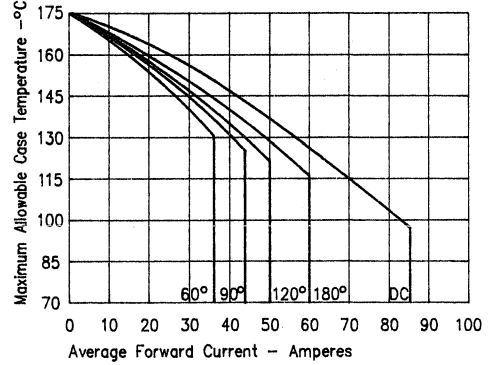


Figure 2  
Typical Reverse Characteristics – Per Leg

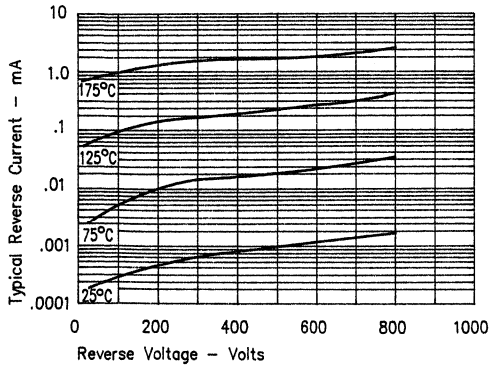
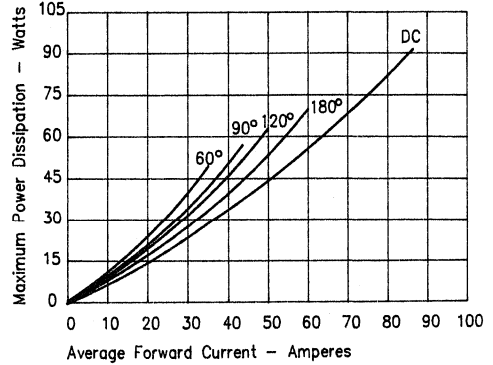
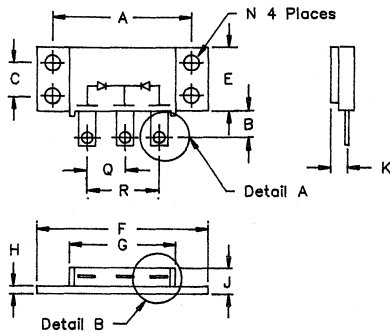


Figure 5  
Maximum Forward Power Dissipation – Per Leg



# Ultrafast Recovery Modules

## UFT 140, 141 & 142



TO-249

	Dim. Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	1.995	2.005	50.67	50.93	
B	0.300	0.325	7.62	8.26	
C	0.495	0.505	12.57	12.83	
D	0.182	0.192	4.62	4.88	Dia.
E	0.990	1.010	25.15	25.65	
F	2.390	2.410	60.71	61.21	
G	1.500	1.525	38.10	38.70	
H	0.120	0.130	3.05	3.30	
J	---	0.400	---	10.16	
K	0.240	0.260	6.10	6.60 to Lead CL	
L	0.490	0.510	12.45	12.95	
M	0.330	0.350	8.38	6.90	
N	0.175	0.195	4.45	4.95	Dia.
P	0.035	0.045	0.89	1.14	
Q	0.445	0.455	11.30	11.56	
R	0.890	0.910	22.61	23.11	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UFT14005*	50V	50V
UFT14010*	100V	100V
UFT14015	150V	150V
UFT14020*UFT14120*	200V	200V
UFT14130*	300V	300V
UFT14140*	400V	400V
UFT14250*UFT14150*	500V	500V
UFT14260*	600V	600V
UFT14270*	700V	700V
UFT14280*	800V	800V

Add Suffix A for Common Anode, D for Doubler

- Ultra Fast Recovery
- 175°C Junction Temperature
- $V_{RRM}$  50 to 800 Volts
- Electrically isolated base
- 2 X 70 Amp current rating

Electrical Characteristics			
	UFT140	UFT141	UFT142
Average forward current per pkg	IF(AV) 140A	140A	140A
Average forward current per leg	IF(AV) 70A	70A	70A
Case Temperature	TC 115°C	97°C	92°C
Maximum surge current per leg	IFSM 1000A	800A	700A
Max peak forward voltage per leg	VFM .975V	1.25V	1.35V
Max reverse recovery time per leg	t <sub>rr</sub> 50ns	60ns	75ns
Max reverse recovery time per leg	t <sub>rr</sub> 30ns	45ns	50ns
Typical reverse recovery time per leg	t <sub>rr</sub> 60ns	70ns	95ns
Max peak reverse current per leg	IRM 3.0mA	---	---
Max peak reverse current per leg	IRM 25μA	---	---
Typical junction capacitance	CJ 300pF	150pF	150pF

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance per leg	R <sub>θJC</sub>	1.0°C/W Junction to case
per package	R <sub>θJC</sub>	0.5°C/W Junction to case
Typical thermal resistance per leg	R <sub>θJC</sub>	0.9°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.1°C/W Case to sink
Mounting Torque		15 inch pounds maximum
Weight		2.5 ounces (71 grams) typical

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**Colorado**

# UFT 140

Figure 1  
Typical Forward Characteristics - Per Leg

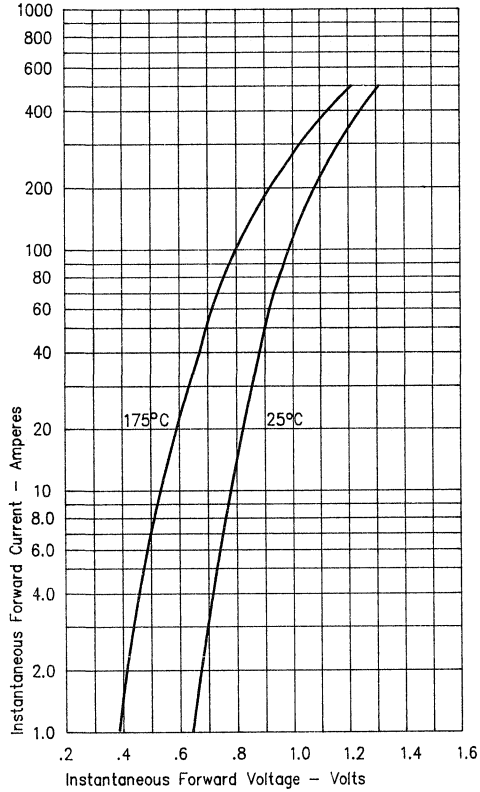


Figure 2  
Typical Reverse Characteristics - Per Leg

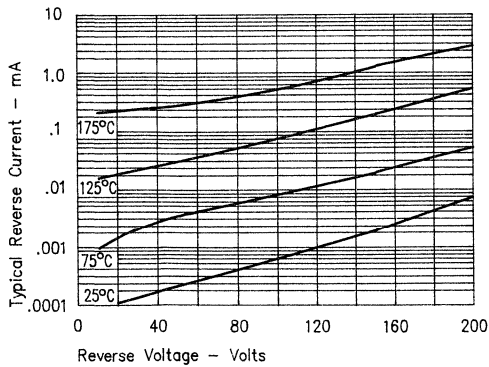


Figure 3  
Typical Junction Capacitance - Per Leg

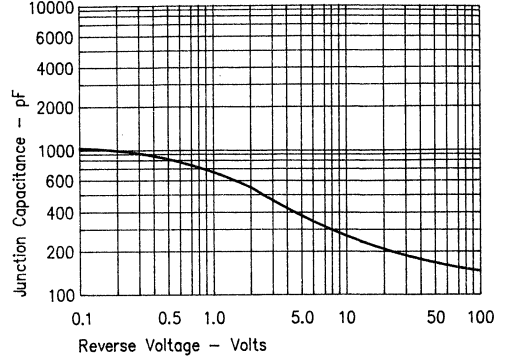


Figure 4  
Forward Current Derating - Per Leg

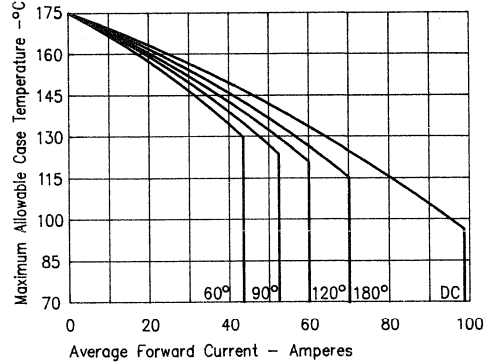
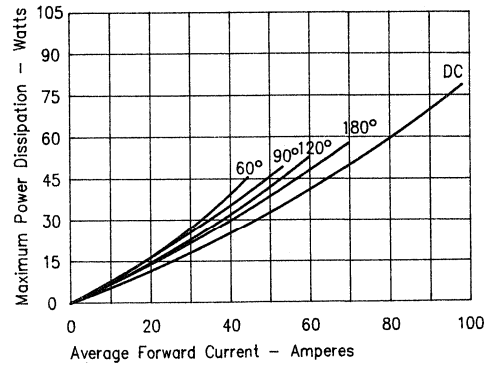


Figure 5  
Maximum Forward Power Dissipation - Per Leg





# UFT 141

Figure 1  
Typical Forward Characteristics - Per Leg

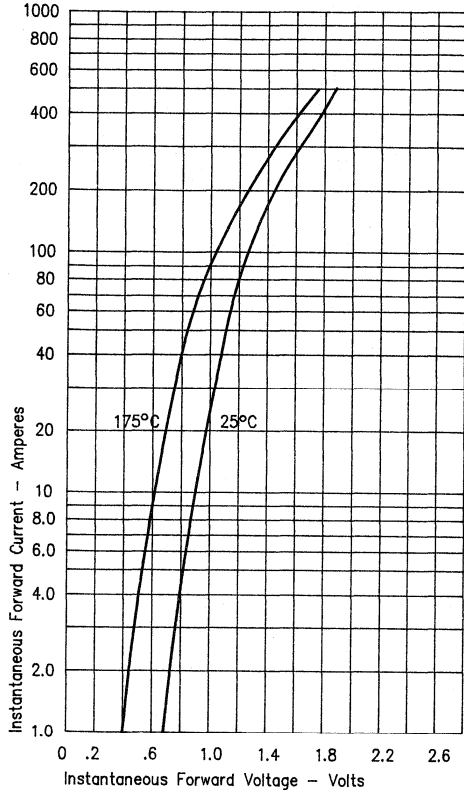


Figure 2  
Typical Reverse Characteristics - Per Leg

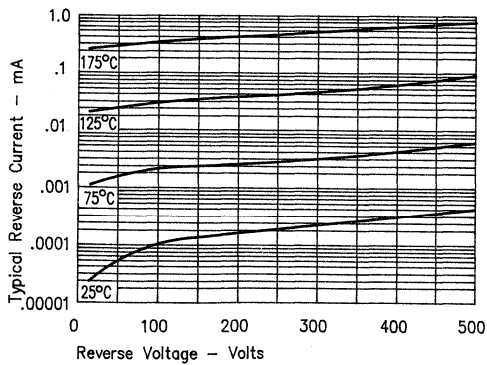


Figure 3  
Typical Junction Capacitance - Per Leg

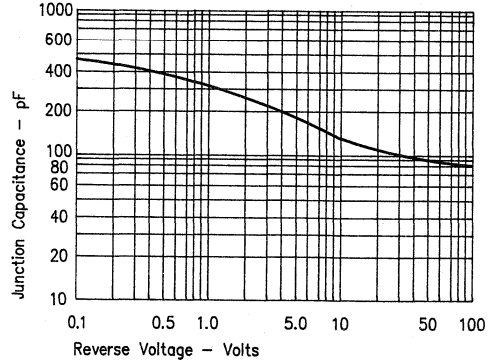


Figure 4  
Forward Current Derating - Per Leg

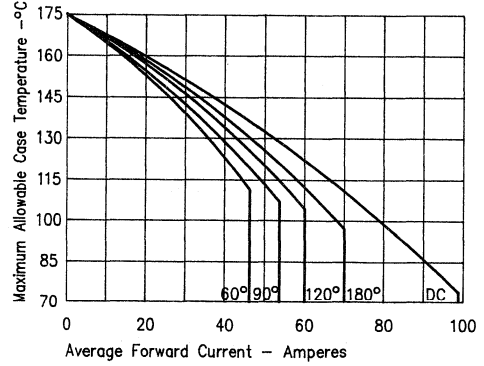
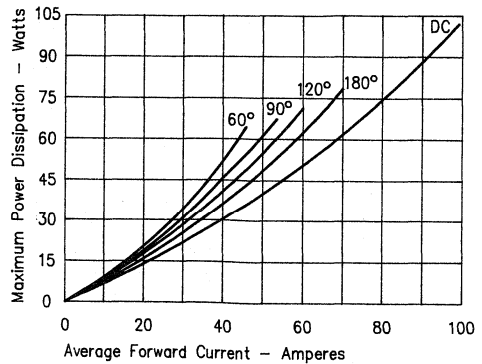


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# UFT 142

Figure 1  
Typical Forward Characteristics - Per Leg

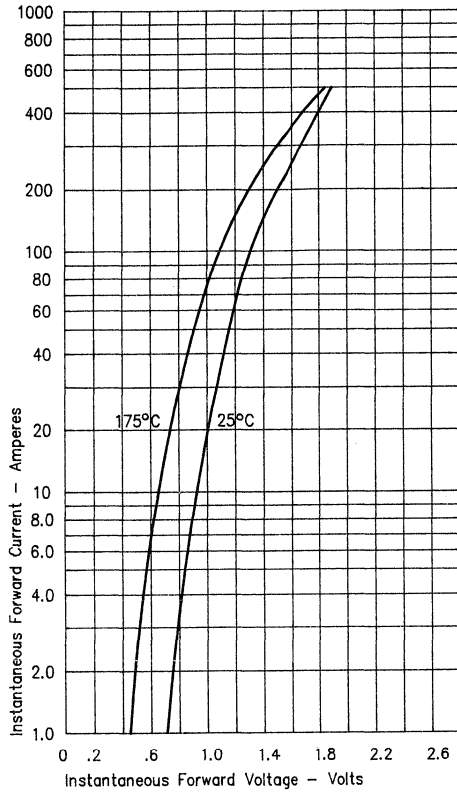


Figure 3  
Typical Junction Capacitance - Per Leg

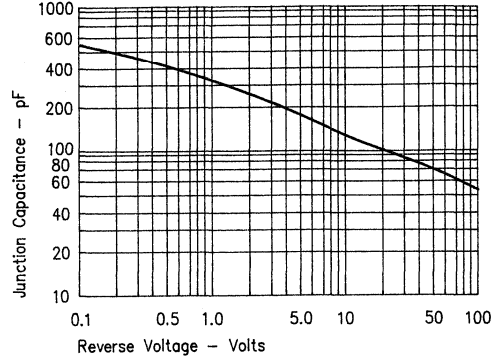


Figure 4  
Forward Current Derating - Per Leg

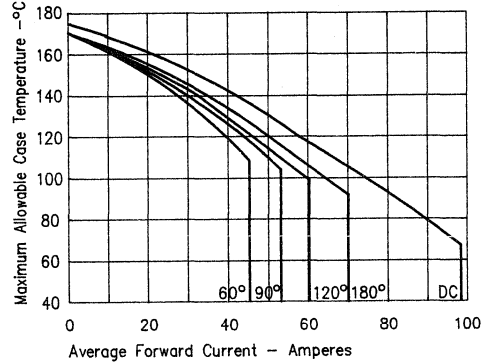


Figure 2  
Typical Reverse Characteristics - Per Leg

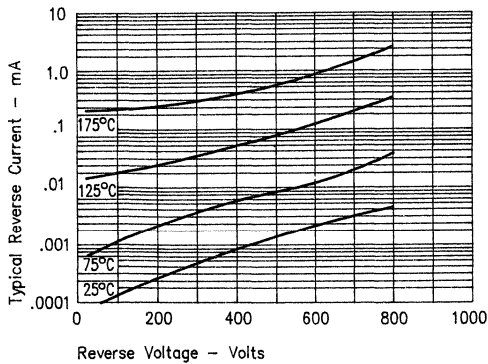
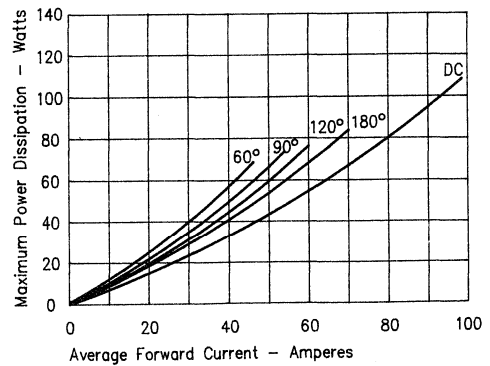
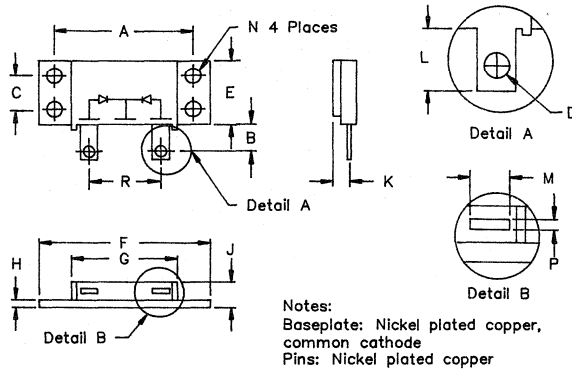


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Ultrafast Recovery Modules

## UFT 150, 151 & 152



Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	1.995	2.005	50.67	50.93	
B	0.300	0.325	7.62	8.26	
C	0.495	0.505	12.57	12.83	
D	0.182	0.192	4.62	4.88	Dia.
E	0.990	1.010	25.15	25.65	
F	2.390	2.410	60.71	61.21	
G	1.490	1.510	37.85	38.35	
H	0.120	0.130	3.05	3.30	
J	---	0.400	---	10.16	
K	0.240	0.260	6.10	6.60	to Lead CL
L	0.490	0.510	12.45	12.95	
M	0.330	0.350	8.38	8.90	
N	0.175	0.195	4.45	4.95	Dia.
P	0.035	0.045	0.89	1.14	
R	0.890	0.910	22.61	23.11	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UFT15005*	50V	50V
UFT15010*	100V	100V
UFT15015*	150V	150V
UFT15020*UFT15120*	200V	200V
UFT15130*	300V	300V
UFT15140*	400V	400V
UFT15250*UFT15150*	500V	500V
UFT15260*	600V	600V
UFT15270*	700V	700V
UFT15280*	800V	800V

Add Suffix A for Common Anode, D for Doubler

- Ultra Fast Recovery
- 175°C Junction Temperature
- $V_{RRM}$  50 to 800 Volts
- High surge capacity
- 2 X 75 Amp current rating

Electrical Characteristics					
	UFT150	UFT151	UFT152		
Average forward current per pkg	$I_F(AV)$ 150A	150A	150A	Square Wave	
Average forward current per leg	$I_F(AV)$ 75A	75A	75A	Square Wave	
Case Temperature	TC 120°C	100°C	95°C	$R_{\theta JC} = 0.85^\circ C/W$	
Maximum surge current per leg	$I_{FSM}$ 1000A	800A	700A	8.3ms, half sine, $T_J = 175^\circ C$	
Max peak forward voltage per leg	$V_{FM}$ .975V	1.25V	1.35V	$I_{FM} = 70A; T_J = 25^\circ C^*$	
Max reverse recovery time per leg	$t_{rr}$ 50ns	60ns	75ns	1/2A, 1A, 1/4A, $T_J = 25^\circ C$	
Typical reverse recovery time per leg	$t_{rr}$ 30ns	45ns	50ns	1/2A, 1A, 1/4A, $T_J = 25^\circ C$	
Max reverse recovery time per leg	$t_{rr}$ 60ns	70ns	95ns	70A, 130A/us, $T_J = 25^\circ C$	
Max peak reverse current per leg	$I_{RM}$ -----	3.0mA	-----	$V_{RRM, T_J} = 125^\circ C^*$	
Max peak reverse current per leg	$I_{RM}$ -----	25μA	-----	$V_{RRM, T_J} = 25^\circ C$	
Typical Junction capacitance	C <sub>J</sub> 300pF	150pF	150pF	$VR = 10V, T_J = 25^\circ C$	

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	$T_{STG}$	-40°C to 175°C
Operating junction temp range	$T_J$	-40°C to 175°C
Max thermal resistance per leg	$R_{\theta JC}$	0.85°C/W Junction to case
per package	$R_{\theta JC}$	0.425°C/W Junction to case
Typical thermal resistance per leg	$R_{\theta JC}$	0.8°C/W Junction to case
Typical thermal resistance	$R_{\theta CS}$	0.1°C/W Case to sink
Mounting Torque		15 inch pounds maximum
Weight		2.5 ounces (71 grams) typical

**Microsemi Corp.**  
**Colorado**

# UFT 150

Figure 1  
Typical Forward Characteristics - Per Leg

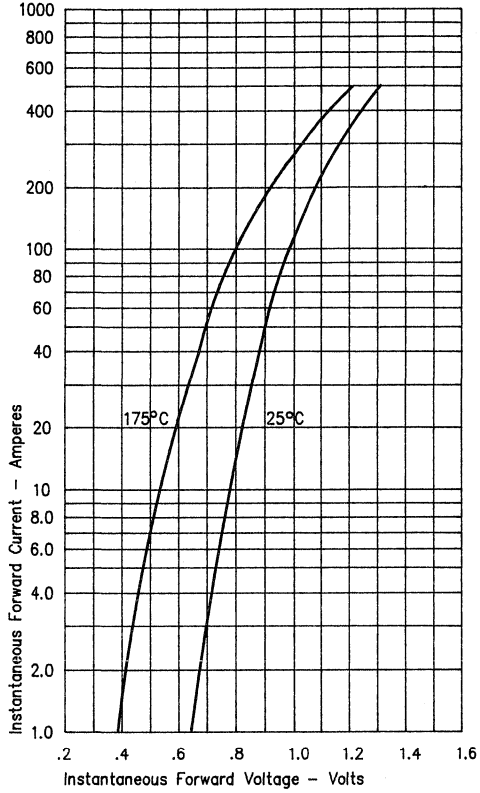


Figure 2  
Typical Reverse Characteristics - Per Leg

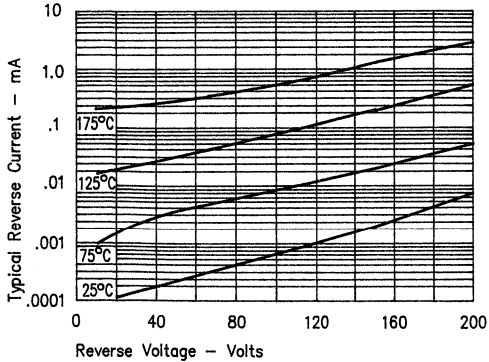


Figure 3  
Typical Junction Capacitance - Per Leg

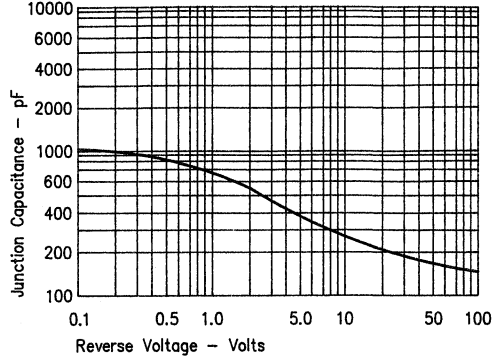


Figure 4  
Forward Current Derating - Per Leg

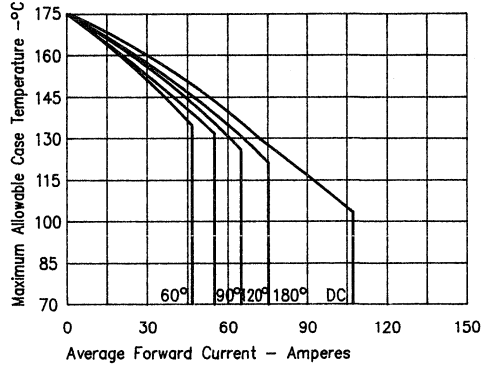
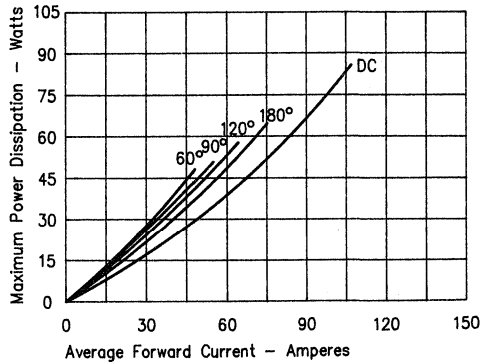


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# UFT 151

Figure 1  
Typical Forward Characteristics - Per Leg

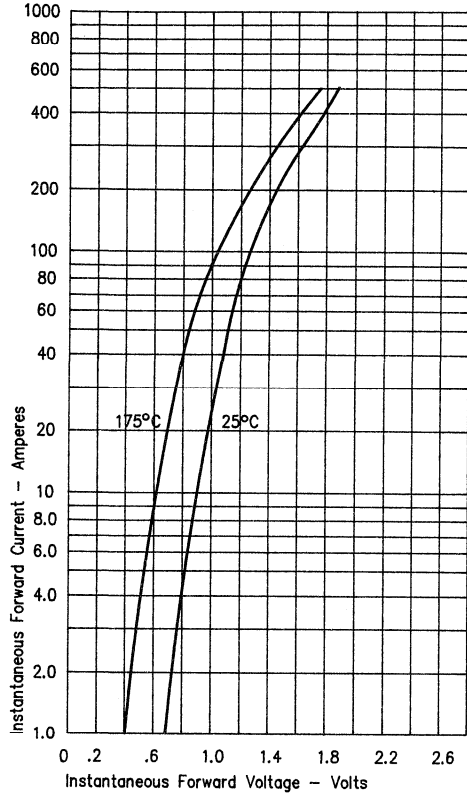


Figure 2  
Typical Reverse Characteristics - Per Leg

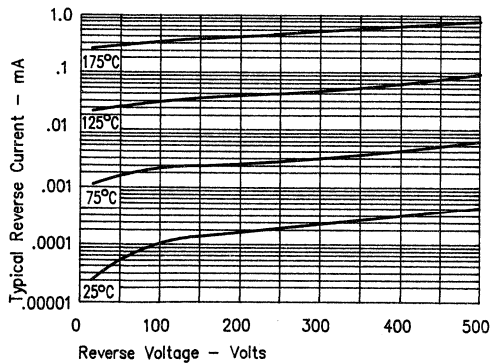


Figure 3  
Typical Junction Capacitance - Per Leg

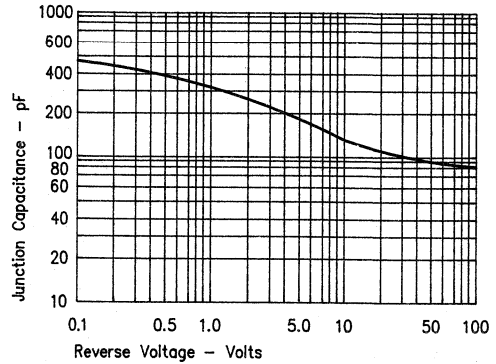


Figure 4  
Forward Current Derating - Per Leg

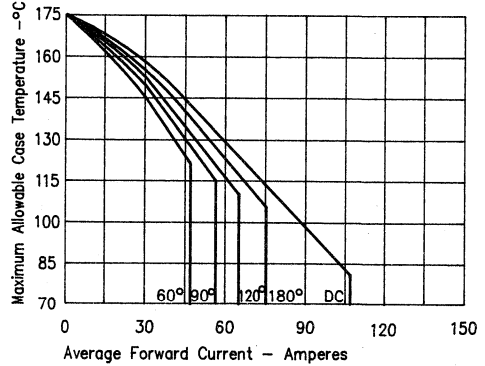
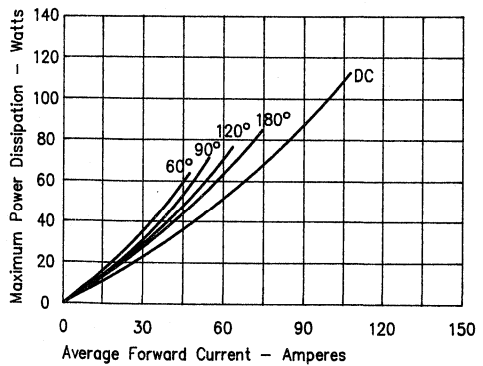


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# UFT 152

Figure 1  
Typical Forward Characteristics - Per Leg

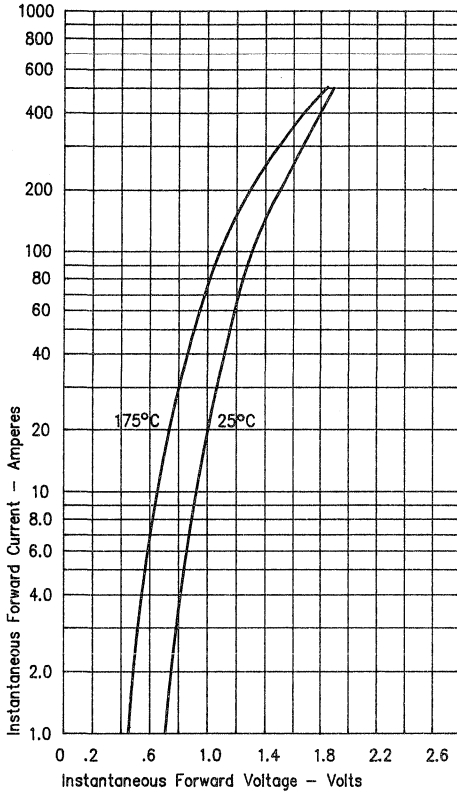


Figure 3  
Typical Junction Capacitance - Per Leg

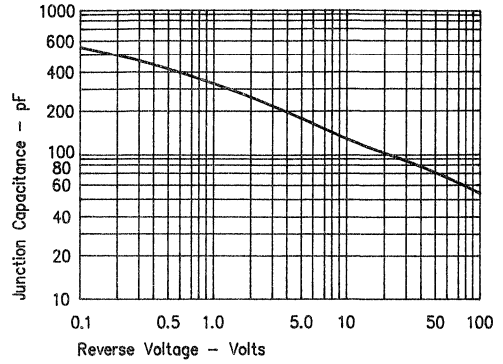


Figure 4  
Forward Current Derating - Per Leg

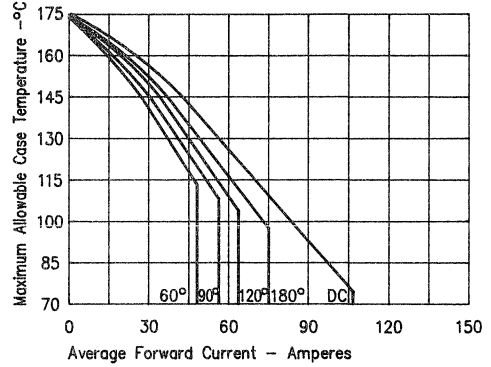


Figure 2  
Typical Reverse Characteristics - Per Leg

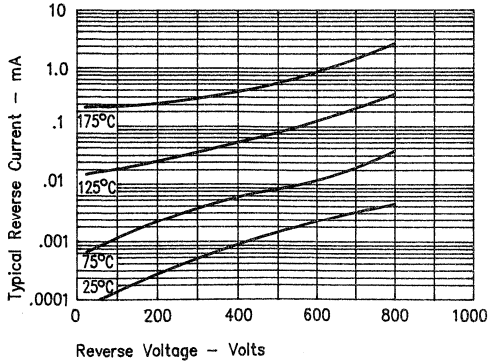
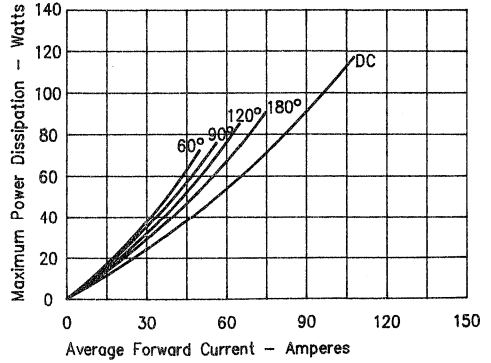
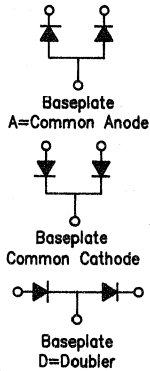
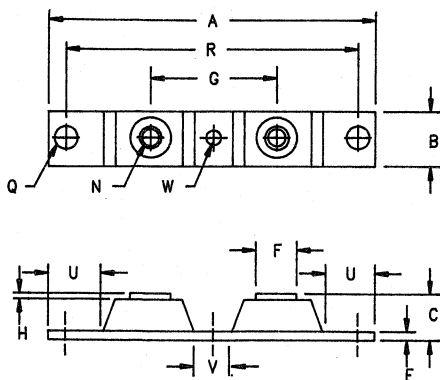


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# Ultrafast Recovery Modules

## UFT 200, 201 & 202



Notes:  
Baseplate: Nickel plated copper; common cathode

	Dim. Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20	
B	0.700	0.800	17.78	20.32	
C	---	0.625	---	15.87	
E	0.120	0.130	3.05	3.30	
F	0.490	0.510	12.45	12.95	
G	1.375 BSC		34.92 BSC		
H	---	0.050	---	1.27	
N	---	---	---	---	1/4-28 Dia.
Q	0.280	0.310	6.86	7.11	
R	3.150 BSC		80.01 BSC		
U	0.600	---	15.24	---	
V	0.330	0.350	8.38	8.89	
W	0.170	0.190	4.32	4.82	Dia.
Y	46.10 BSC		1.815 BSC		

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UFT20005*	50V	50V
UFT20010*	100V	100V
UFT20015*	150V	150V
UFT20020*UFT20120*	200V	200V
UFT20130*	300V	300V
UFT20140*	400V	400V
UFT20250*UFT20150*	500V	500V
UFT20260*	600V	600V
UFT20270*	700V	700V
UFT20280*	800V	800V

Add Suffix A for Common Anode, D for Doubler

- Ultra Fast Recovery
- 175°C Junction Temperature
- V<sub>RRM</sub> 50 to 800 Volts
- High surge capacity
- 2 X 100 Amp current rating

Electrical Characteristics					
	UFT200	UFT201	UFT202		
Average forward current per pkg	I <sub>F(AV)</sub> 200A	200A	200A	Square Wave	
Average forward current per leg	I <sub>F(AV)</sub> 100A	100A	100A	Square Wave	
Case Temperature	T <sub>C</sub> 135°C	120°C	115°C	R <sub>θJC</sub> = 0.5°C/W	
Maximum surge current per leg	I <sub>FSM</sub> 1500A	1400A	1200A	8.3ms, half sine, T <sub>J</sub> = 175°C	
Max peak forward voltage per leg	V <sub>FM</sub> .975V	1.25V	1.35V	I <sub>FM</sub> = 100A; T <sub>J</sub> = 25°C*	
Max reverse recovery time per leg	t <sub>rr</sub> 50ns	70ns	90ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C	
Typical reverse recovery time per leg	t <sub>rr</sub> 40ns	55ns	75ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C	
Max reverse recovery time per leg	t <sub>rr</sub> 75ns	90ns	110ns	70A, 130A/us, T <sub>J</sub> = 25°C	
Max peak reverse current per leg	I <sub>RM</sub> ---	6.0mA	---	V <sub>RRM</sub> , T <sub>J</sub> = 125°C	
Max peak reverse current per leg	I <sub>RM</sub> ---	50μA	---	V <sub>RRM</sub> , T <sub>J</sub> = 25°C	
Typical Junction capacitance	C <sub>J</sub> 575pF	300pF	275pF	V <sub>R</sub> = 10V, T <sub>J</sub> = 25°C	

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance per leg	R <sub>θJC</sub>	0.5°C/W Junction to case
per package	R <sub>θJC</sub>	0.25°C/W Junction to case
Typical thermal resistance per leg	R <sub>θJC</sub>	0.4°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.08°C/W Case to sink
Terminal Torque		50 inch pounds maximum
Mounting base torque - (outside holes)		40 inch pounds maximum
Mounting base torque - (center hole)		10 inch pounds maximum
center bolt must be torqued first		
Weight		2.8 ounces (75 grams) typical

**Microsemi Corp.**  
**Colorado**

# UFT 200

Figure 1  
Typical Forward Characteristics – Per Leg

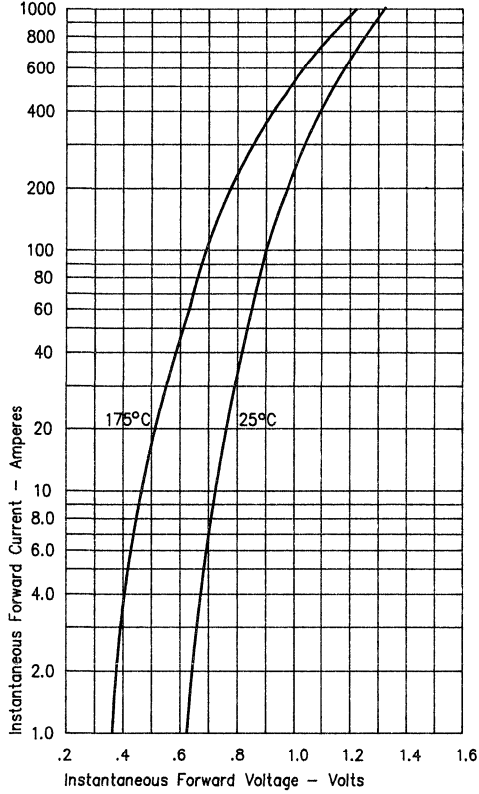


Figure 3  
Typical Junction Capacitance – Per Leg

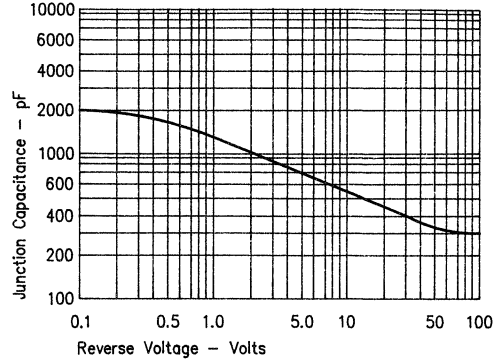


Figure 4  
Forward Current Derating – Per Leg

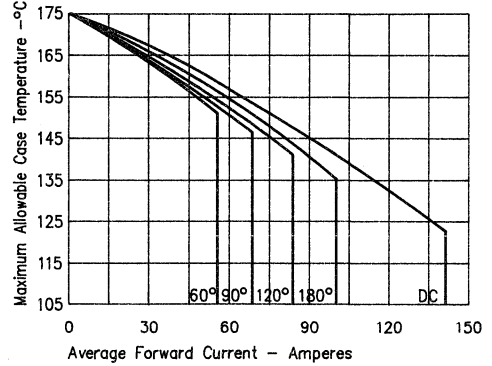


Figure 2  
Typical Reverse Characteristics – Per Leg

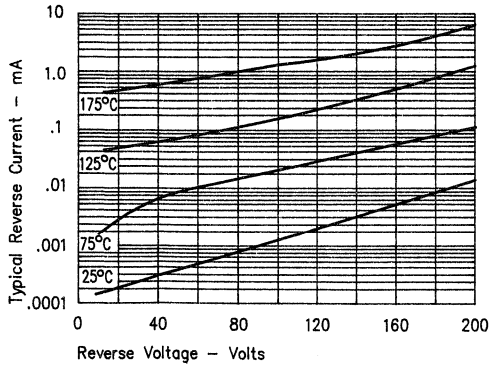
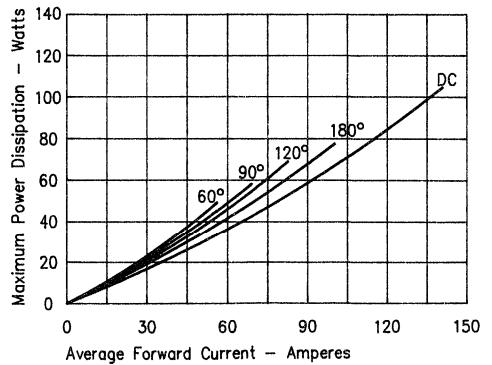


Figure 5  
Maximum Forward Power Dissipation – Per Leg





# UFT 201

Figure 1  
Typical Forward Characteristics - Per Leg

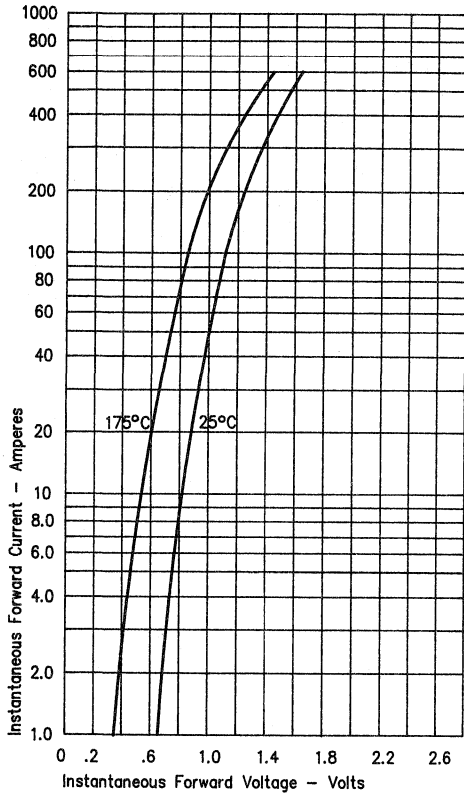


Figure 2  
Typical Reverse Characteristics - Per Leg

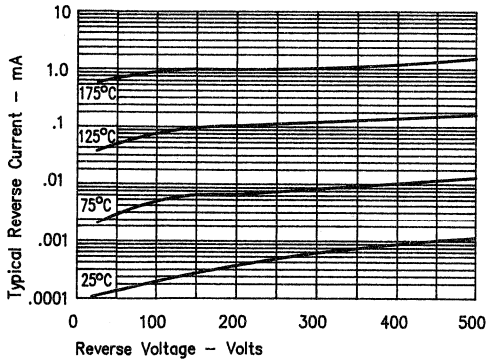


Figure 3  
Typical Junction Capacitance - Per Leg

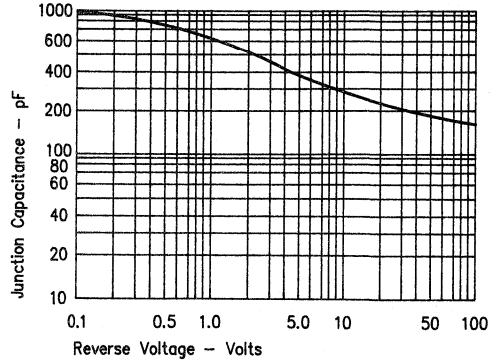


Figure 4  
Forward Current Derating - Per Leg

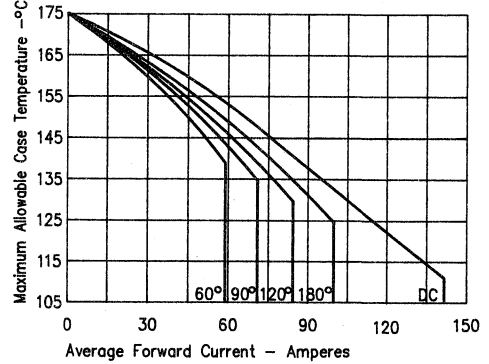
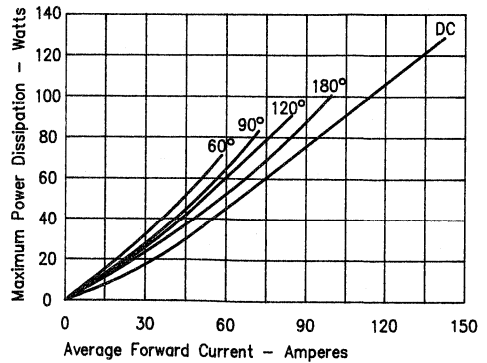


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# UFT 202

Figure 1  
Typical Forward Characteristics - Per Leg

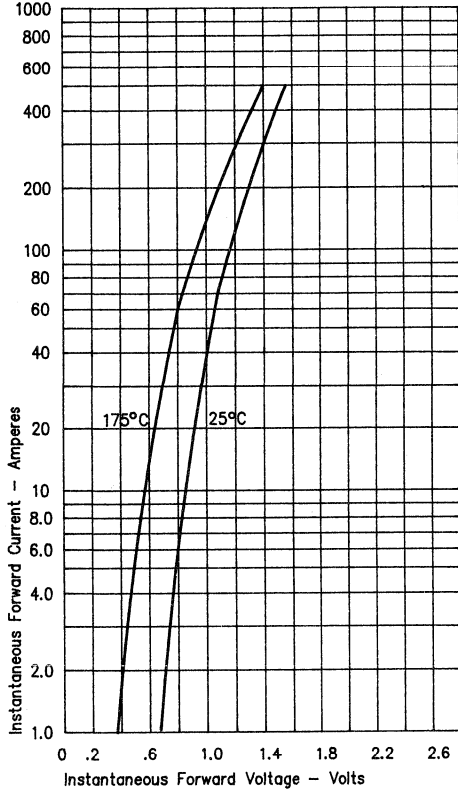


Figure 3  
Typical Junction Capacitance - Per Leg

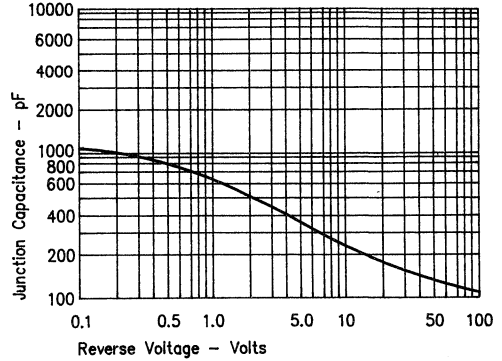


Figure 4  
Forward Current Derating - Per Leg

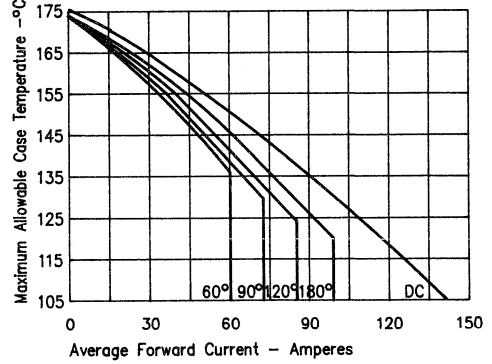


Figure 2  
Typical Reverse Characteristics - Per Leg

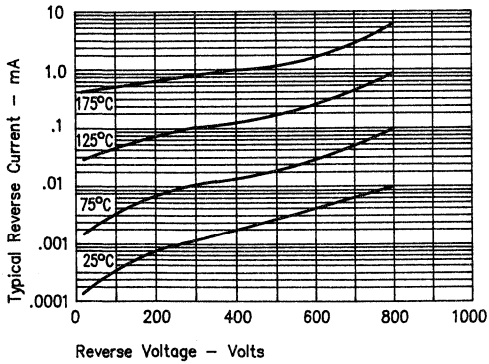
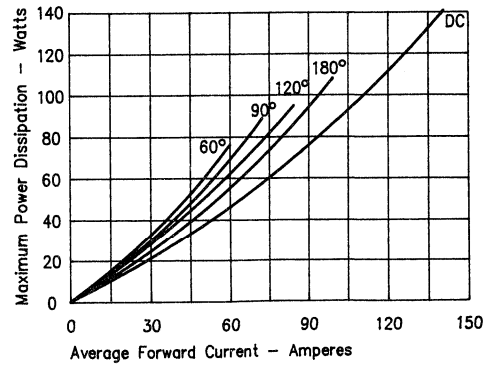


Figure 5  
Maximum Forward Power Dissipation - Per Leg



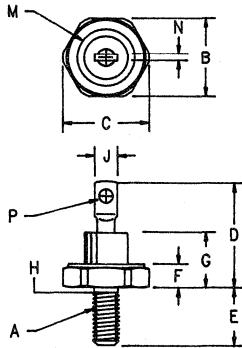
# *Section E*

## *Phase Control Rectifiers*

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# Military Silicon Power Rectifier

## 1N1202A-1N1206A, 1N3671A-1N3673A



- Notes:
- 10-32 UNF3A
  - Full threads within 2 1/2 threads
  - Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.424	.437	10.77	11.10	
C	---	.505	---	12.82	
D	.600	.800	15.24	20.32	
E	.422	.453	10.72	11.50	
F	.075	.175	1.91	4.44	
G	---	.405	---	10.29	
H	.163	.189	4.15	4.80	2
J	.100	.140	2.54	3.56	
M	---	.350	---	8.89	Dia
N	.020	.065	.510	1.65	
P	.070	.100	1.78	2.54	Dia

### DO203AA (DO4)

Microsemi Catalog Number		Peak Reverse Voltage
Standard	Reverse	
1N1202A	1N1202RA	200V
1N1204A	1N1204RA	400V
1N1206A	1N1206RA	600V
1N3671A	1N3671RA	800V
1N3673A	1N3673RA	1000V

- Available in JAN, JANTX, JANTXV
- Mil-S-19500/260
- Glass Passivated Die
- Glass to metal construction
- 240 Amps surge rating
- $V_{RRM}$  to 1000V

### Electrical Characteristics

Average forward current	$I_F(AV)$ 12 Amps	$T_C = 150^\circ C$ , half sine wave, $R_{\theta JC} = 2.0^\circ C/W$ 8.3ms, half sine, $T_J = 200^\circ C$
Maximum surge current	$I_{FSM}$ 240 Amps	
Max $I^2t$ for fusing	$I^2t$ 240 A <sup>2</sup> s	
Max peak forward voltage	$V_{FM}$ 1.35 Volts	$I_{FM} = 38A: 25^\circ C^*$
Max peak forward voltage	$V_{FM}$ 2.30 Volts	$I_{FM} = 240A: 25^\circ C$
Max peak reverse current	$I_{RM}$ 5 $\mu A$	$V_{RRM}, T_J = 25^\circ C$
Max peak reverse current	$I_{RM}$ 1.0 mA	$V_{RRM}, T_J = 150^\circ C$
Max Recommended Operating Frequency	10 kHz	

\*Pulse test: Pulse width 300  $\mu sec$ , Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	-65°C to 200°C
Operating junction temp range	$T_J$	-65°C to 200°C
Max thermal resistance	$R_{\theta JC}$	2.0°C/W Junction to Case
Typical thermal resistance	$R_{\theta JC}$	1.0°C/W Junction to Case
Max mounting torque		30 inch pounds maximum
Typical Weight		.16 ounces (5.0 grams) typical

# 1N1202A-1N1206A, 1N3671A-1N3673A

Figure 1  
Typical Forward Characteristics

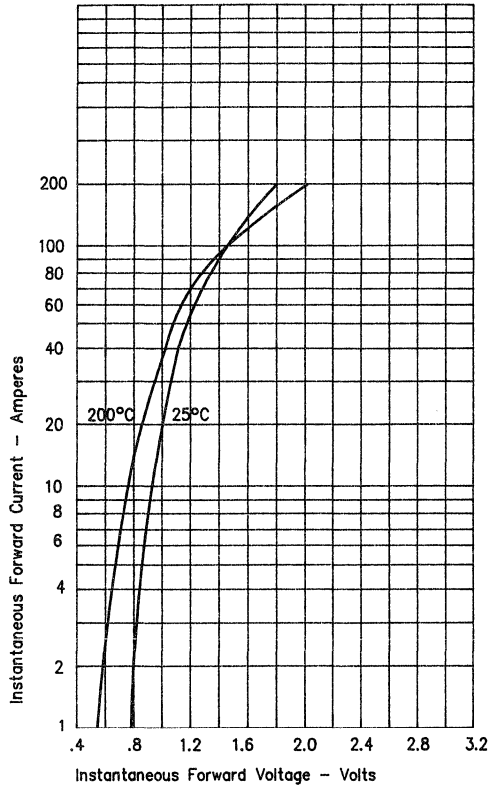


Figure 3  
Forward Current Derating

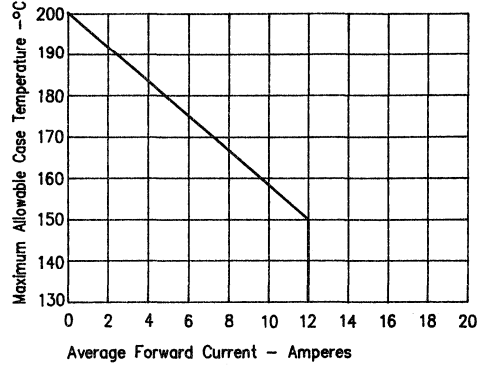


Figure 4  
Transient Thermal Impedance

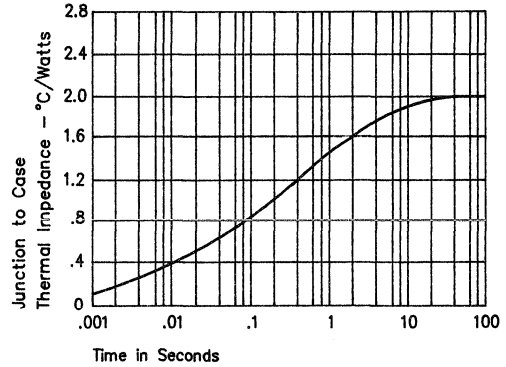


Figure 2  
Typical Reverse Characteristics

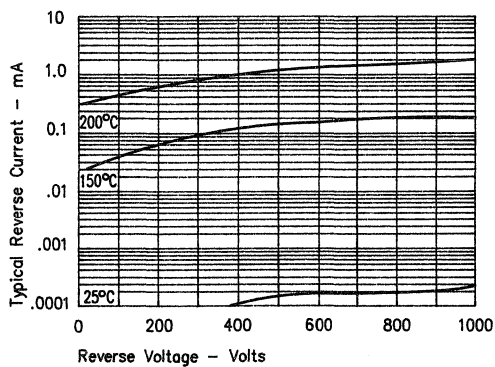
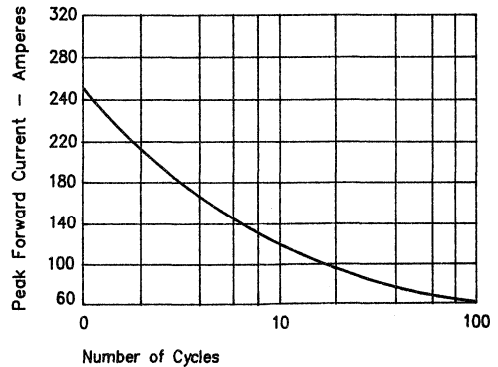
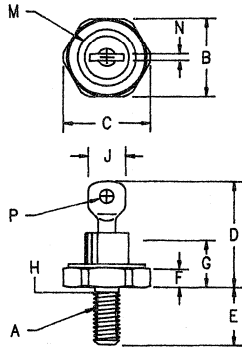


Figure 5  
Maximum Nonrepetitive Surge Current



# Silicon Power Rectifier S/R204 Series



**Notes:**

- 10-32 UNF3A
- Full threads within 2 1/2 threads
- Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.424	.437	10.77	11.10	
C	---	.505	---	12.82	
D	.600	.800	15.24	20.32	
E	.422	.453	10.72	11.50	
F	.075	.175	1.91	4.44	
G	---	.405	---	10.29	
H	.163	.189	4.15	4.80	2
J	---	.310	---	7.87	
M	---	.350	---	8.89	Dia
N	.020	.065	.510	1.65	
P	.070	.100	1.78	2.54	Dia

## D0203AA (D04)

Microsemi Catalog Number Standard	JEDEC Numbers	Peak Reverse Voltage
*S20410	1N1200, 1N1200A	100V
*S20420	1N1202, 1N1202A	200V
*S20440	1N1204, 1N1204A	400V
*S20460	1N1206, 1N1206A	600V
*S20480		800V
*S204100		1000V
*S204120		1200V

\*Change S to R in part number for Reverse Polarity

- Glass Passivated Die
- Low Forward Voltage
- 250A Surge Rating
- Glass to metal construction
- $V_{RRM}$  to 1200V
- Excellent reliability

### Electrical Characteristics

Average forward current	IF(AV) 12 Amps	$T_C = 170^\circ\text{C}$ , half sine wave, $R_{\theta JC} = 2.5^\circ\text{C/W}$
Maximum surge current	IFSM 250 Amps	8.3ms, half sine, $T_J = 200^\circ\text{C}$
Max $I^2 t$ for fusing	$I^2 t$ 260 $\text{A}^2\text{s}$	
Max peak forward voltage	$V_{FM}$ 1.2 Volts	$I_{FM} = 30\text{A}; T_J = 25^\circ\text{C} *$
Max peak reverse current	$I_{RM}$ 10 $\mu\text{A}$	$V_{RRM}, T_J = 25^\circ\text{C}$
Max peak reverse current	$I_{RM}$ 1.0 mA	$V_{RRM}, T_J = 150^\circ\text{C}$
Max Recommended Operating Frequency	10kHz	

\*Pulse test: Pulse width 300  $\mu\text{sec}$ . Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temperature range	$T_{STG}$	$-65^\circ\text{C}$ to $200^\circ\text{C}$
Operating junction temp range	$T_J$	$-65^\circ\text{C}$ to $200^\circ\text{C}$
Maximum thermal resistance	$R_{\theta JC}$	$2.5^\circ\text{C/W}$ Junction to Case
Typical thermal resistance	$R_{\theta JC}$	$2.0^\circ\text{C/W}$ Junction to Case
Mounting torque		30 inch pounds maximum
Weight		.16 ounces (5.0 grams) typical

**Microsemi Corp.**  
**Colorado**

# S/R204

Figure 1  
Typical Forward Characteristics

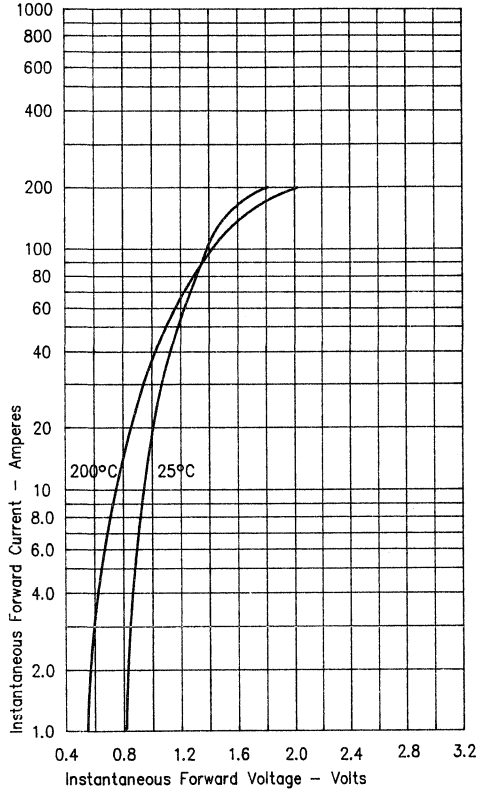


Figure 3  
Forward Current Derating

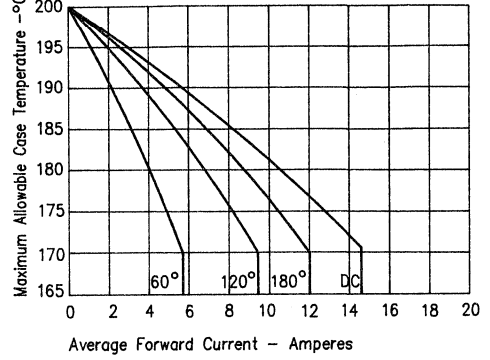


Figure 4  
Maximum Forward Power Dissipation

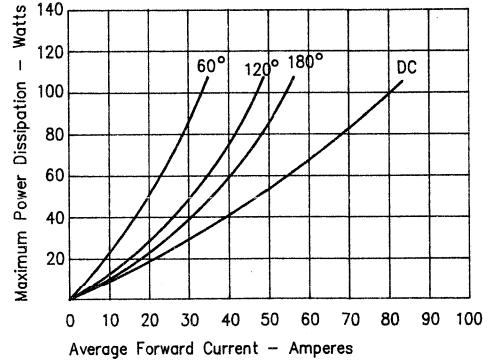


Figure 2  
Typical Reverse Characteristics

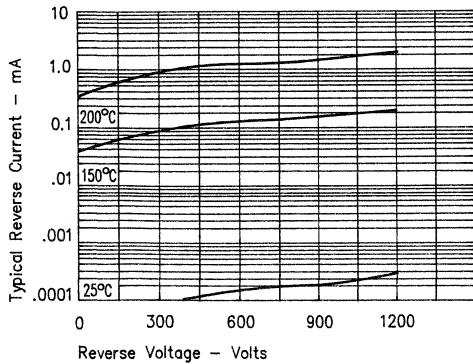
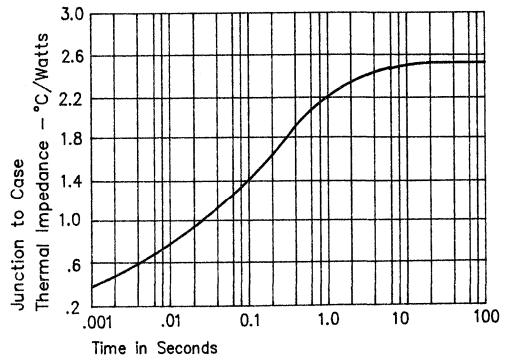
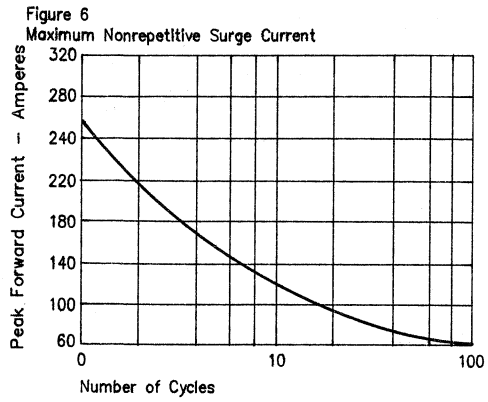


Figure 5  
Transient Thermal Impedance



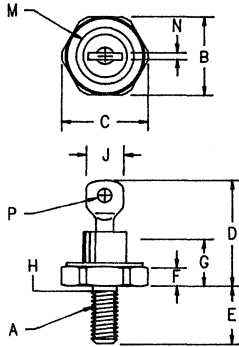


# S/R204



E

# Silicon Power Rectifier S/R20 Series



**Notes:**

1. 10-32 UNF3A
2. Full threads within 2 1/2 threads
3. Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.424	.437	10.77	11.10	
C	---	.505	---	12.82	
D	.600	.800	15.24	20.32	
E	.422	.453	10.72	11.50	
F	.075	.175	1.91	4.44	
G	---	.405	---	10.29	
H	.163	.189	4.15	4.80	2
J	---	.310	---	7.87	
M	---	.350	---	8.89	Dia
N	.020	.065	.510	1.65	
P	.070	.100	1.78	2.54	Dia

## DO203AA (DO4)

Microsemi Catalog Number Standard	JEDEC Numbers	Peak Reverse Voltage
*S2020		200V
*S2040	1N1126, 1N1346, 1N1346A, 1N1345B	400V
*S2060	1N1128, 1N1348, 1N1348A, 1N1348B, 1N1587, 1N1616, 1N2238, 1N2497	600V
*S2080	1N2240	800V
*S20100		1000V
*S20120		1200V

\*Change S to R in part number for Reverse Polarity

- Glass Passivated Die
- Low Forward Voltage
- 200A Surge Rating
- Glass to metal construction
- $V_{RRM}$  to 1200V
- Excellent reliability

### Electrical Characteristics

Average forward current	IF(AV) 16 Amps	$T_C = 153^\circ\text{C}$ , half sine wave, $R_{\theta JC} = 2.5^\circ\text{C/W}$
Maximum surge current	IFSM 200 Amps	8.3ms, half sine, $T_J = 200^\circ\text{C}$
Max $I^2 t$ for fusing	$I^2 t$ 165 A <sup>2</sup> s	
Max peak forward voltage	V <sub>FM</sub> 1.3 Volts	IFM = 30A; T <sub>J</sub> = 25°C *
Max peak reverse current	I <sub>RM</sub> 10 $\mu$ A	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> 1.0 mA	V <sub>RRM</sub> , T <sub>J</sub> = 150°C
Max Recommended Operating Frequency	10kHz	

\*Pulse test: Pulse width 300  $\mu$ sec. Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temperature range	T <sub>STG</sub>	-65°C to 200°C
Operating junction temp range	T <sub>J</sub>	-65°C to 200°C
Maximum thermal resistance	R <sub><math>\theta</math>JC</sub>	2.5°C/W Junction to Case
Typical thermal resistance	R <sub><math>\theta</math>C</sub>	2.0°C/W Junction to Case
Mounting torque		30 inch pounds maximum
Weight		.16 ounces (5.0 grams) typical

# S/R20

Figure 1  
Typical Forward Characteristics

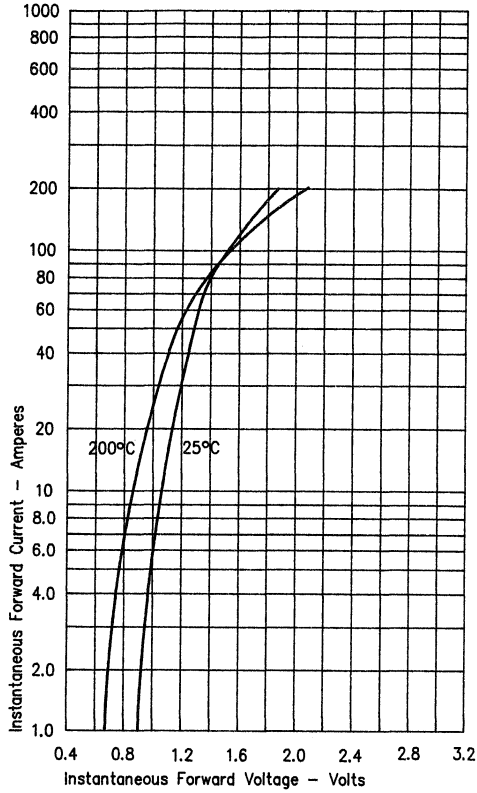


Figure 2  
Typical Reverse Characteristics

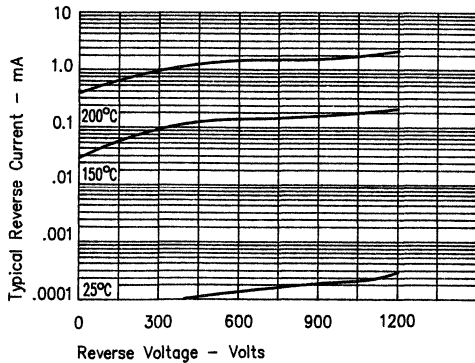


Figure 3  
Forward Current Derating

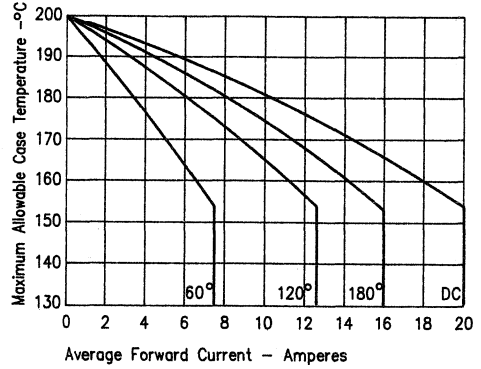


Figure 4  
Maximum Forward Power Dissipation

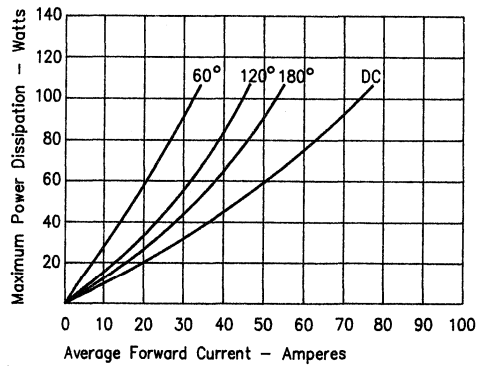
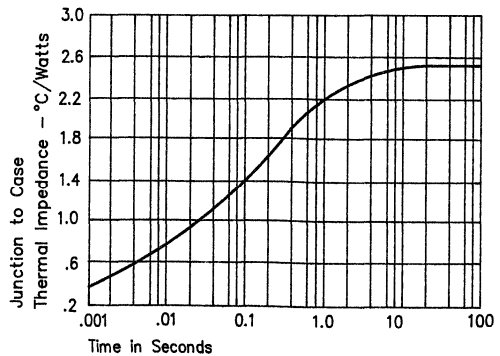
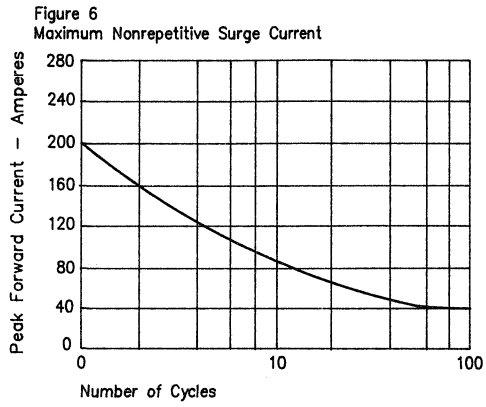


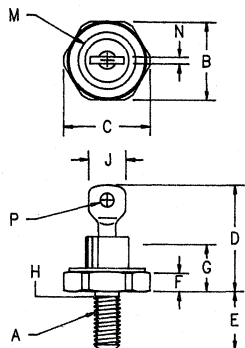
Figure 5  
Transient Thermal Impedance



# S/R20



# Silicon Power Rectifier S/R21 Series



- Notes:
1. 10-32 UNF3A
  2. Full threads within 2 1/2 threads
  3. Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.424	.437	10.77	11.10	
C	---	.505	---	12.82	
D	.600	.800	15.24	20.32	
E	.422	.453	10.72	11.50	
F	.075	.175	1.91	4.44	
G	---	.405	---	10.29	
H	.163	.189	4.15	4.80	2
J	---	.310	---	7.87	
M	---	.350	---	8.89	Dia
N	.020	.065	.510	1.65	
P	.070	.100	1.78	2.54	Dia

## D0203AA (D04)

Microsemi Catalog Number Standard	JEDEC Numbers	Peak Reverse Voltage
*S2120		200V
*S2140	1N1204, 1N1204A, 1N2254, 1N2785, 1N3620, 1N3965, 1N4507	400V
*S2160	1N1206, 1N1206A, 1N2258, 1N3622, 1N3966, 1N4508	600V
*S2180	1N2260, 1N3623, 1N3671, 1N3671A, 1N3967, 1N4509	800V
*S21100	1N2262, 1N3624, 1N3673, 1N3673A,	1000V
*S21120	1N4511, 1N5331	1200V
*S21140		1400V
*S21160		1600V

\*Change S to R in part number for Reverse Polarity

- Glass Passivated Die
- Low Forward Voltage
- 250A Surge Rating
- Glass to metal construction
- $V_{RRM}$  to 1600V
- Excellent reliability



Electrical Characteristics		
Average forward current	IF(AV) 22 Amps	$T_C = 134^\circ\text{C}$ , half sine wave, $R_{\theta JC} = 2.5^\circ\text{C/W}$ 8.3ms, half sine, $T_J = 200^\circ\text{C}$
Maximum surge current	IFSM 250 Amps	
Max I <sup>2</sup> t for fusing	I <sup>2</sup> t 260 A <sup>2</sup> s	$I_{FM} = 30A$ ; $T_J = 25^\circ\text{C}$ * $V_{RRM, T_J = 25^\circ\text{C}}$ $V_{RRM, T_J = 150^\circ\text{C}}$
Max peak forward voltage	V <sub>FM</sub> 1.2 Volts	
Max peak reverse current	I <sub>RM</sub> 10 $\mu\text{A}$	
Max peak reverse current	I <sub>RM</sub> 1.0 mA	
Max Recommended Operating Frequency	10kHz	

\*Pulse test: Pulse width 300  $\mu\text{sec}$ . Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-65°C to 200°C
Operating junction temp range	T <sub>J</sub>	-65°C to 200°C
Maximum thermal resistance	R <sub><math>\theta</math>JC</sub>	2.5°C/W Junction to Case
Typical thermal resistance	R <sub><math>\theta</math>C</sub>	2.0°C/W Junction to Case
Mounting torque		30 inch pounds maximum
Weight		.16 ounces (5.0 grams) typical



# S/R21

Figure 1  
Typical Forward Characteristics

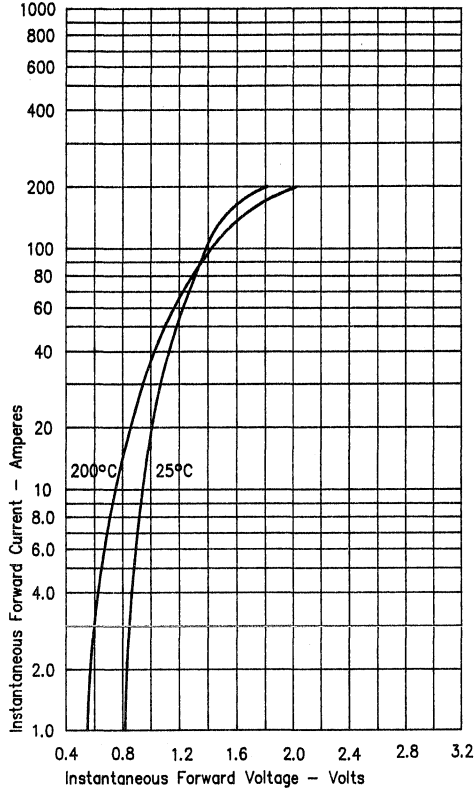


Figure 3  
Forward Current Derating

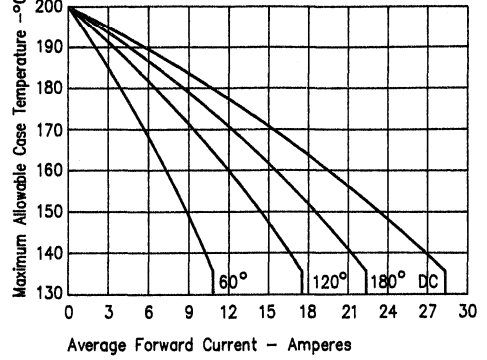


Figure 4  
Maximum Forward Power Dissipation

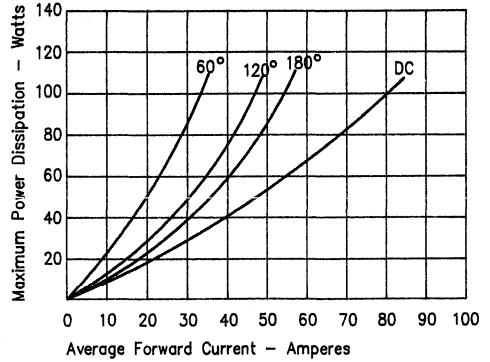


Figure 2  
Typical Reverse Characteristics

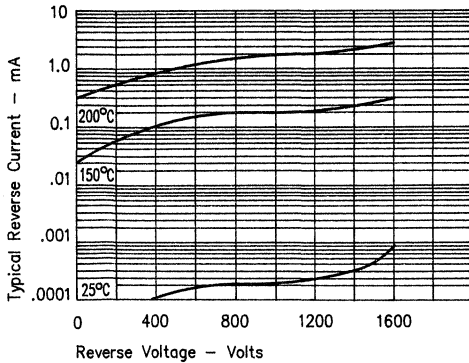
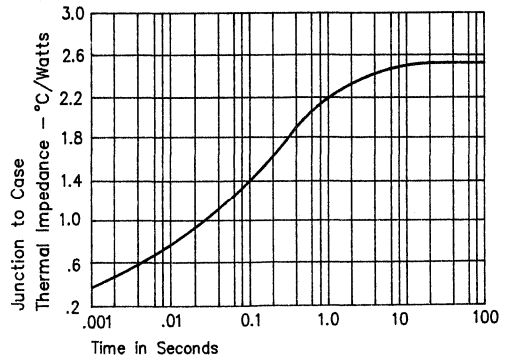
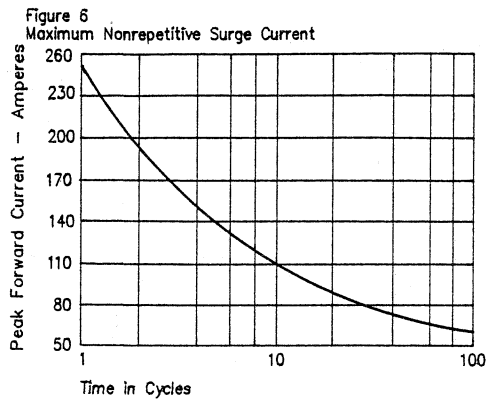


Figure 5  
Transient Thermal Impedance



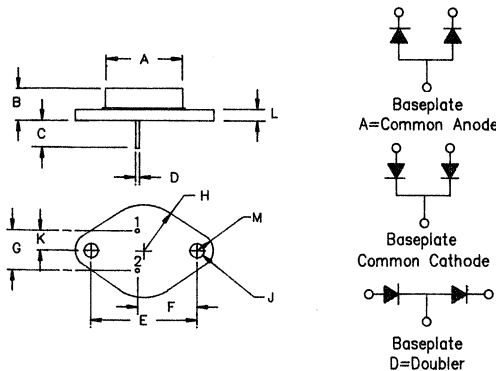
# S/R21



E

# Silicon Dual Power Rectifier

## ST3020 — ST30100



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	—	.875	—	22.23	Dia.
B	.250	.450	6.35	11.43	
C	.312	—	7.92	—	
D	.038	.043	.97	1.09	Dia.
E	1.177	1.197	29.90	30.40	
F	.655	.675	16.64	17.15	
G	.420	.440	10.67	11.18	
H	—	.525	—	13.34	Rad.
J	.151	.161	3.84	4.09	Dia.
K	.205	.225	5.21	5.72	
L	—	.135	—	3.43	
M	—	.188	—	4.78	Rad.

### TO-204AA (TO-3)

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
ST3020*	200V	200V
ST3040*	400V	400V
ST3060*	600V	600V
ST3080*	800V	800V
ST30100*	1000V	1000V

\*Add D, C, or A

- Glass Passivated Die
- Excellent Reliability
- Glass to Metal Construction
- VRRM 200 to 1000V
- 250A Surge Rating
- Available as Common Anode, Common Cathode, or Doubler

#### Electrical Characteristics

Average forward current (standard)	IF(AV) 30 Amps	TC = 125°C, half sine wave, R <sub>θJC</sub> = 1.4°C/W
Average forward current (reverse)	IF(AV) 30 Amps	
Maximum surge current	IFSM 250 Amps	TC = 82°C, half sine wave, R <sub>θJC</sub> = 2.2°C/W 8.3rms, half sine, T <sub>J</sub> = 200°C
Max I <sup>2</sup> t for fusing	I <sup>2</sup> t 260 A <sup>2</sup> s	
Max peak forward voltage	VFM 1.2 Volts	IFM = 15A; T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> 25 μA	
Max peak reverse current	I <sub>RM</sub> 1.0 mA	VRRM, T <sub>J</sub> = 150°C
Typical reverse current	I <sub>RM</sub> .2 μA	
Max Recommended Operating Frequency	10kHz	VRRM, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec. Duty cycle 2%

#### Thermal and Mechanical Characteristics

Storage temperature range	TSTG	-65°C to 200°C
Operating junction temp range	T <sub>J</sub>	-65°C to 200°C
Maximum thermal resistance (standard polarity)	R <sub>θJC</sub>	1.4°C/W Junction to Case
Typical thermal resistance (standard polarity)	R <sub>θJC</sub>	1.2°C/W Junction to Case
Maximum thermal resistance (reverse polarity)	R <sub>θJC</sub>	2.2°C/W Junction to Case
Typical thermal resistance (reverse polarity)	R <sub>θJC</sub>	2.0°C/W Junction to Case
Typical thermal resistance	R <sub>θCS</sub>	0.5°C/W Case to sink
Weight		1.0 ounces (28 grams) typical

**Microsemi Corp.**  
**Colorado**



# ST3020 — ST30100

Figure 1  
Typical Forward Characteristics — Per Leg

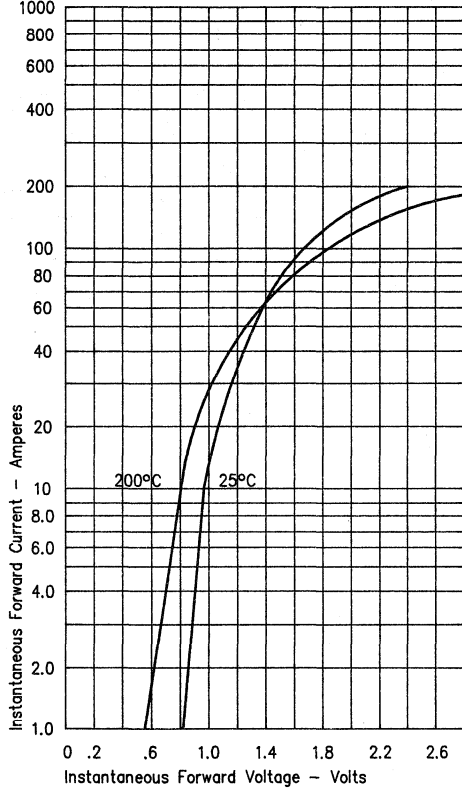


Figure 2  
Typical Reverse Characteristics — Per Leg

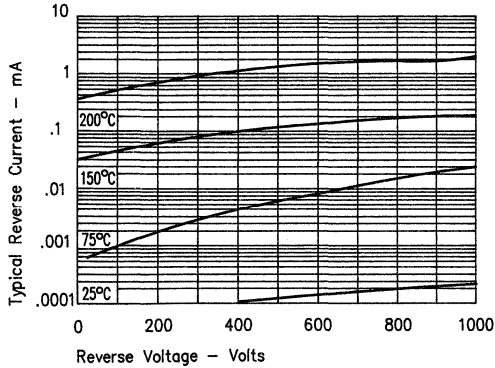


Figure 3  
Forward Current Derating — Per Leg — Standard Polarity

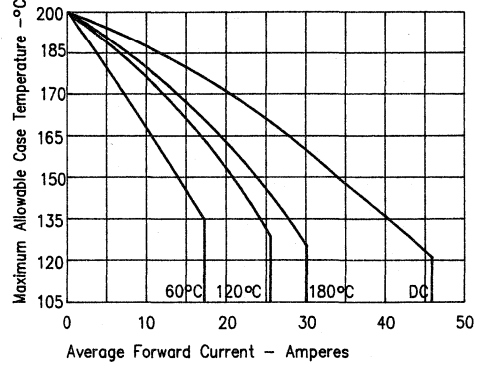


Figure 4  
Maximum Forward Power Dissipation — Per Leg — Standard Polarity

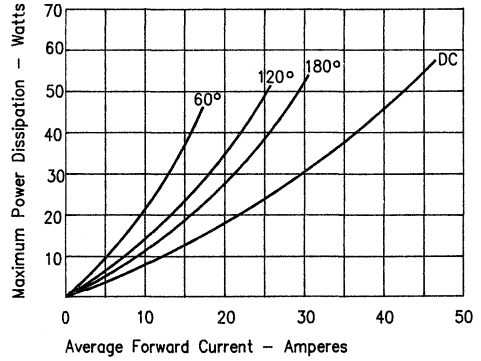
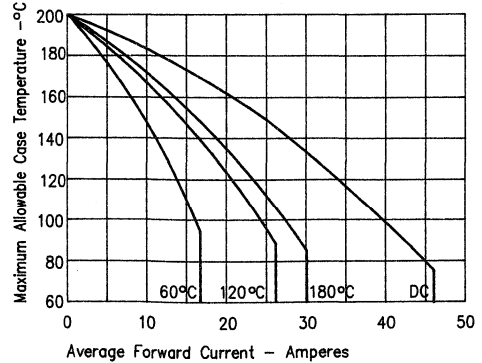


Figure 5  
Forward Current Derating — Per Leg — Reverse Polarity



# ST3020 – ST30100

Figure 6  
Maximum Forward Power Dissipation – Per Leg – Reverse Polarity

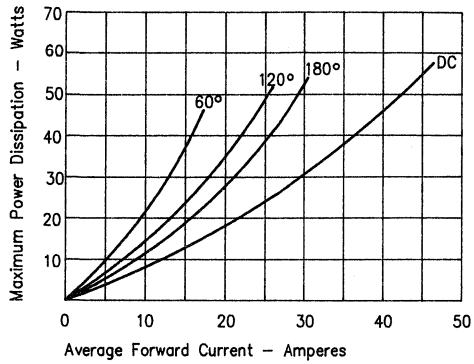


Figure 8  
Transient Thermal Impedance – Per Leg – Reverse Polarity

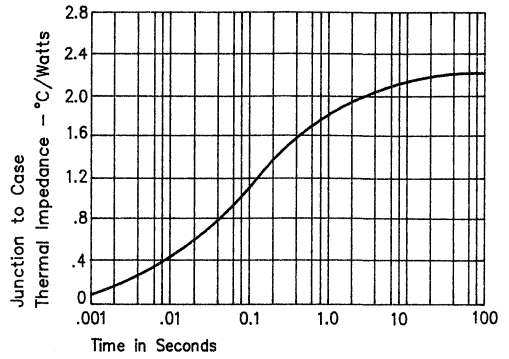


Figure 7  
Transient Thermal Impedance – Per Leg – Standard Polarity

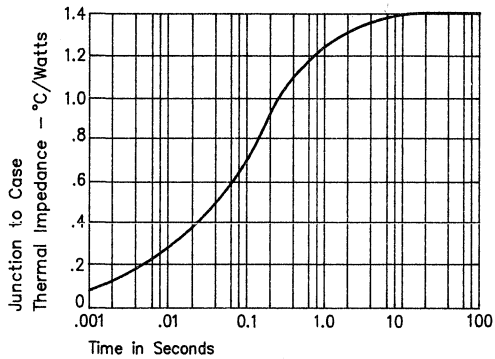
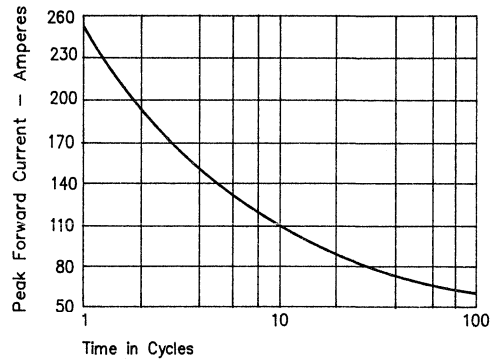
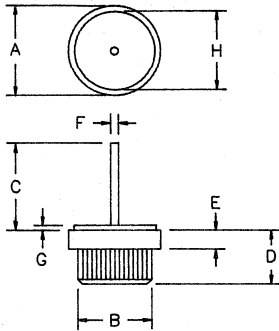


Figure 9  
Maximum Nonrepetitive Surge Current – Per Leg



# Silicon Power Rectifier S/R35PF Series



Dim. Inches	Millimeter			
	Minimum	Maximum	Minimum	Maximum Notes
A	.590	.630	15.0	16.0 Dia.
B	.499	.510	12.6	13.0 Dia.
C	.600	—	15.2	—
D	.350	.370	8.90	9.40
E	.090	.130	2.28	3.30
F	.045	.053	1.14	1.35 Dia.
G	.030	.035	.762	.900
H	.500	.510	12.7	13.0 Dia.

Microsemi Catalog Number	Reverse	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
Standard	Reverse		
S3520PF	R3520PF	200V	300V
S3540PF	R3540PF	400V	500V
S3560PF	R3560PF	600V	700V

- High Voltage, Low Leakage Current
- Glass Passivated Die
- Economical Design
- Soft Recovery
- 400 Amps Surge Rating
- $V_{RRM}$  to 600V



Electrical Characteristics		
Average Forward Current (standard polarity)	$I_{F(AV)}$ 35 Amps	$T_C = 133^\circ\text{C}$ , half sine wave, $R_{\theta JC} = 1.0^\circ\text{C/W}$
Average Forward Current (reverse polarity)	$I_{F(AV)}$ 35 Amps	$T_C = 92^\circ\text{C}$ , half sine wave, $R_{\theta JC} = 2.0^\circ\text{C/W}$
Maximum Surge Current	$I_{FSM}$ 400 Amps	8.3ms, half sine, $T_J = 175^\circ\text{C}$
Maximum $I^2t$ For Fusing	$I^2t$ 665 A <sup>2</sup> s	
Max. Peak Forward Voltage	$V_{FM}$ 1.1 Volts	$I_{FM} = 35A; T_J = 25^\circ\text{C}^*$
Max. Peak Reverse Current	$I_{RM}$ 10 $\mu\text{A}$	$V_{RRM}, T_J = 25^\circ\text{C}$
Max. Peak Reverse Current	$I_{RM}$ 2.0 mA	$V_{RRM}, T_J = 150^\circ\text{C}$
Max. Recommended Operating Frequency	10kHz	
*Pulse test: Pulse width 300 $\mu\text{sec}$ . Duty cycle 2%		

Thermal and Mechanical Characteristics		
Storage temp range	$T_{STG}$	$-40^\circ\text{C}$ to $175^\circ\text{C}$
Operating junction temp range	$T_J$	$-40^\circ\text{C}$ to $175^\circ\text{C}$
Max thermal resistance (standard polarity)	$R_{\theta JC}$	$1.0^\circ\text{C/W}$ Junction to case
Max thermal resistance (reverse polarity)	$R_{\theta JC}$	$2.0^\circ\text{C/W}$ Junction to case
Typical thermal resistance	$R_{\theta CS}$	$0.2^\circ\text{C/W}$ Case to sink
Typical Weight		0.3 ounce (9.0 grams) typical

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**Colorado**

# S/R35PF

Figure 1  
Typical Forward Characteristics

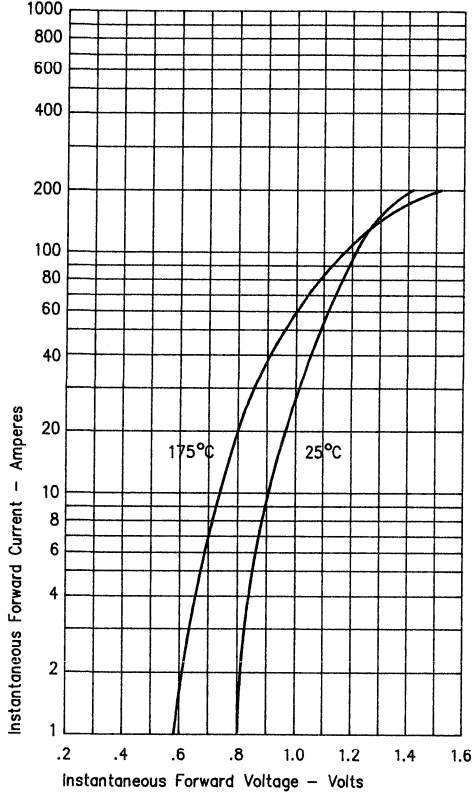


Figure 2  
Typical Reverse Characteristics

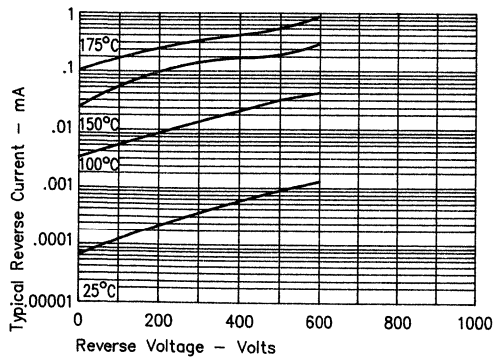


Figure 3  
Forward Current Derating - Standard Polarity

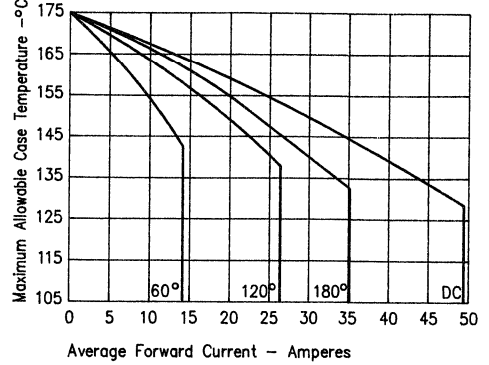


Figure 4  
Maximum Forward Power Dissipation - Standard Polarity

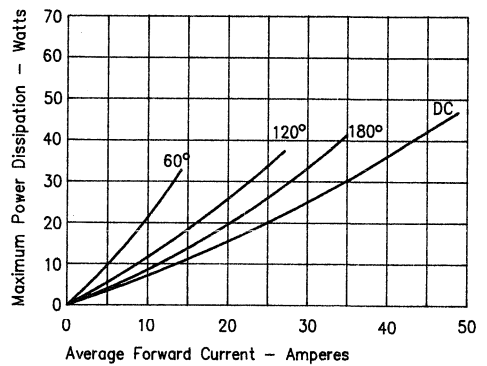
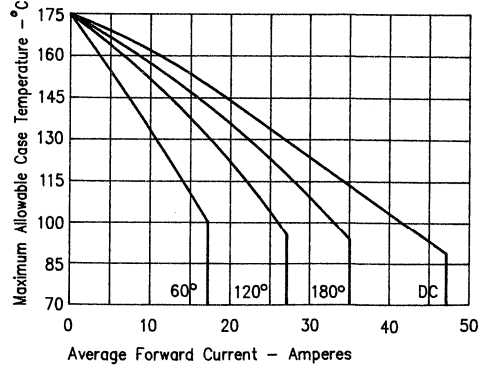


Figure 5  
Forward Current Derating - Reverse Polarity



# S/R35PF

Figure 6  
Maximum Forward Power Dissipation - Reverse Polarity

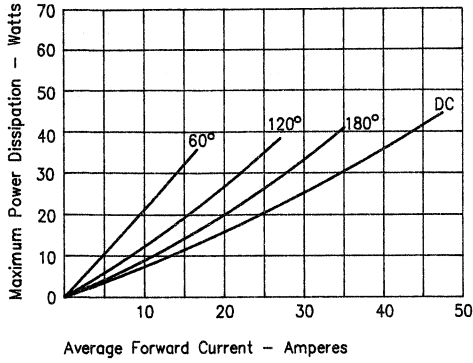


Figure 8  
Transient Thermal Impedance - Reverse Polarity

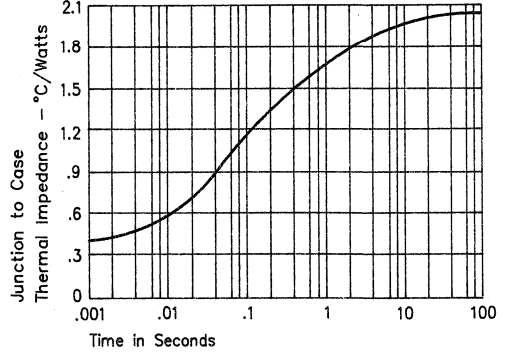


Figure 7  
Transient Thermal Impedance - Standard Polarity

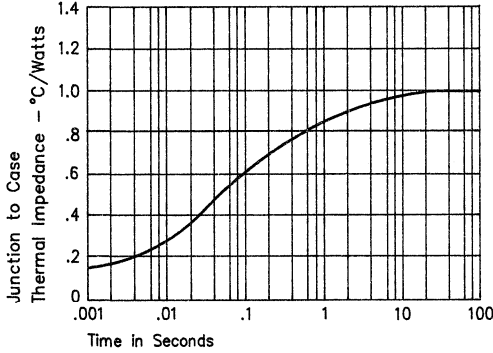
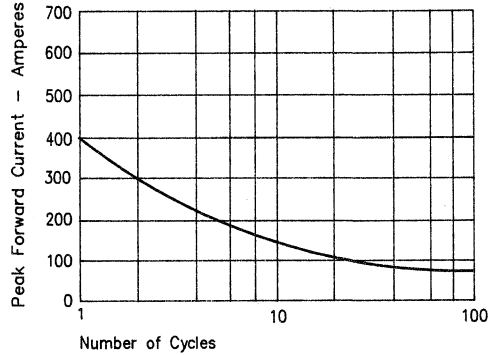
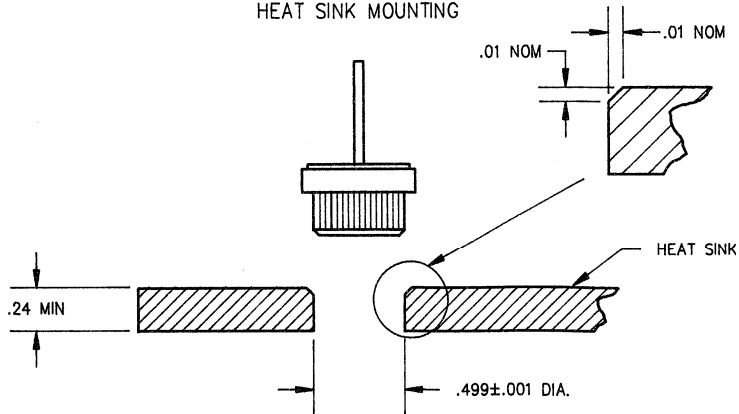


Figure 9  
Maximum Nonrepetitive Surge Current

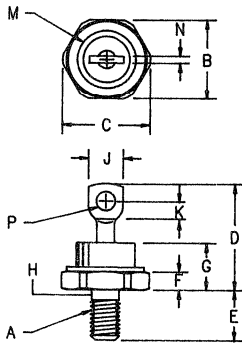


## HEAT SINK MOUNTING



# Military Silicon Power Rectifier

## 1N1184-1N1190, 1N3766-1N3768



- Notes:
1. 1/4-28 UNF-3A
  2. Full threads within 2 1/2 threads
  3. For Reverse Polarity add R to Part Number
- Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.667	.687	16.95	17.44	
C	---	.793	---	20.14	
D	---	1.00	---	25.40	
E	.422	.453	10.72	11.50	
F	.115	.200	2.93	5.08	
G	---	.450	---	11.43	
H	.220	.249	5.59	6.32	2
J	.250	.375	6.35	9.52	
K	.156	---	3.97	---	
M	---	.667	---	16.94	Dia
N	---	.080	---	2.03	
P	.140	.175	3.56	4.44	Dia

D0203AB (D05)

Microsemi Catalog Number		Peak Reverse Voltage
Standard	Reverse	
1N1184	1N1184R	100V
1N1186	1N1186R	200V
1N1188	1N1188R	400V
1N1190	1N1190R	600V
1N3766	1N3766R	800V
1N3768	1N3768R	1000V

- Available in JAN, JANTX, JANTXV
- Mil-S-19500/297
- Glass Passivated Die
- Glass to metal construction
- 500 Amps surge rating
- $V_{RRM}$  to 1000V

Electrical Characteristics		
Average forward current	$I_F(AV)$ 35 Amps	$T_C = 150^\circ C$ , half sine wave, $R_{\theta JC} = 0.8^\circ C/W$
Maximum surge current	$I_{FSM}$ 500 Amps	8.3ms, half sine, $T_J = 150^\circ C$
Max $I^2t$ for fusing	$I^2t$ 1100 $A^2s$	
Max peak forward voltage	$V_{FM}$ 1.40 Volts	$I_{FM} = 110A: 25^\circ C^*$
Max peak forward voltage	$V_{FM}$ 2.3 Volts	$I_{FM} = 500A: 25^\circ C$
Max peak reverse current	$I_{RM}$ 10 $\mu A$	$V_{RRM}, T_J = 25^\circ C$
Max peak reverse current	$I_{RM}$ 1.0 mA	$V_{RRM}, T_J = 150^\circ C^*$
Max Recommended Operating Frequency	10 kHz	

\*Pulse test: Pulse width 300  $\mu sec$ , Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	$T_{STG}$	-65°C to 175°C
Operating junction temp range	$T_J$	-65°C to 175°C
Max thermal resistance	$R_{\theta JC}$	0.8°C/W Junction to Case
Typical thermal resistance	$R_{\theta JC}$	0.7°C/W Junction to Case
Max mounting torque		30 inch pounds maximum
Typical Weight		.5 ounces (14 grams) typical



# 1N1184-1N1190, 1N3766-1N3768

Figure 1  
Typical Forward Characteristics

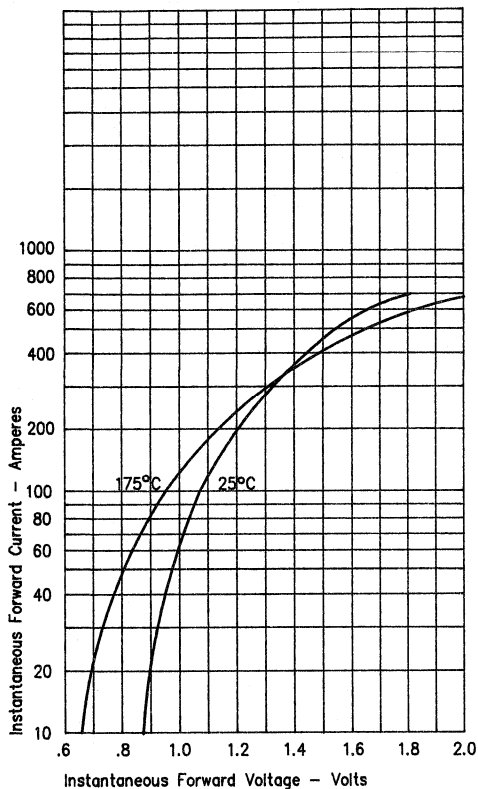


Figure 2  
Typical Reverse Characteristics

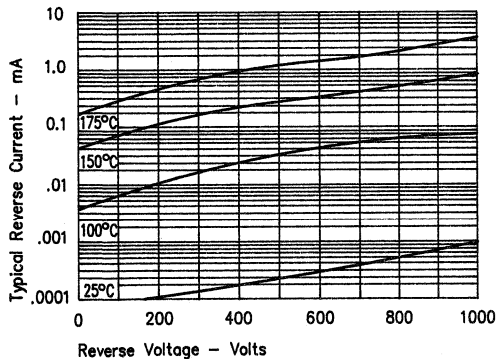


Figure 3  
Forward Current Derating

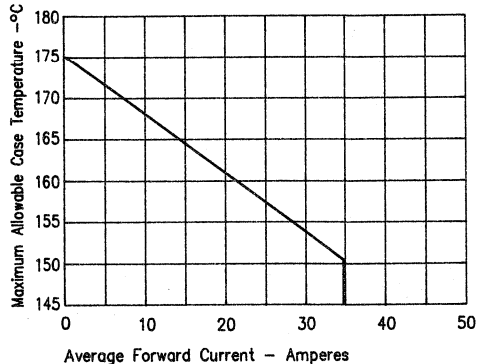


Figure 4  
Transient Thermal Impedance

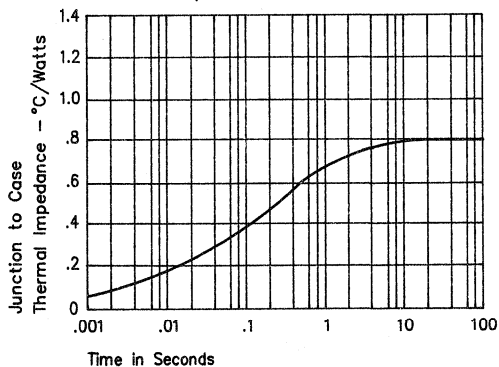
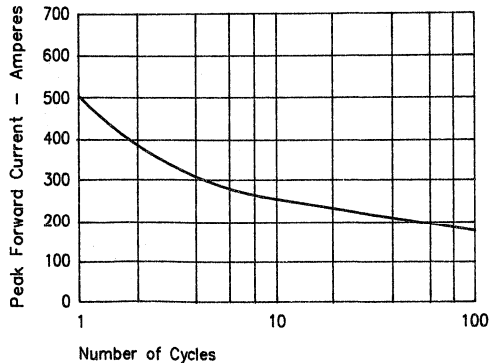
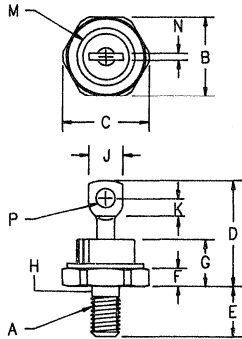


Figure 5  
Maximum Nonrepetitive Surge Current



E

# Silicon Power Rectifier S/R304 Series



- Notes:
1. Full threads within 2 1/2 threads
  2. Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1/4-28
B	.667	.687	16.95	17.44	
C	---	.793	---	20.14	
D	---	1.00	---	25.40	
E	.422	.453	10.72	11.50	
F	.115	.200	2.92	5.08	
G	---	.450	---	11.43	
H	.220	.249	5.59	6.32	1
J	.250	.375	6.35	9.52	
K	.156	---	3.97	---	
M	---	.667	---	16.94	Dia
N	---	.080	---	2.03	
P	.140	.175	3.56	4.44	Dia

**D0203AB (D05)**

Microsemi Catalog Number Standard	JEDEC Numbers	Peak Reverse Voltage
* S30420	1N1186, 1N1186A	200V
* S30440	1N1188, 1N1188A	400V
* S30460	1N1190, 1N1190A	600V
* S304080		800V
* S304100		1000V
* S304120		1200V

\* Change S to R in Part Number for Reverse Polarity

- Glass Passivated Die
- 800A surge rating
- Glass to metal construction
- $V_{RRM}$  to 1200V
- Excellent reliability

Electrical Characteristics		
Average forward current	IF(AV) 40 Amps	$T_C = 152^\circ\text{C}$ , half sine wave, $R_{\theta JC} = 1.25^\circ\text{C/W}$
Maximum surge current	IFSM 800 Amps	8.3ms, half sine, $T_J = 200^\circ\text{C}$
Max $I^2t$ for fusing	$1^2t \leq 2600 \text{ A}^2\text{s}$	
Max peak forward voltage	$V_{FM} 1.19 \text{ Volts}$	$I_{FM} = 90\text{A}; T_J = 25^\circ\text{C}^*$
Max peak reverse current	$I_{RM} 40 \mu\text{A}$	$V_{RRM}, T_J = 25^\circ\text{C}$
Max peak reverse current	$I_{RM} 2.0 \text{ mA}$	$V_{RRM}, T_J = 150^\circ\text{C}$
Max Recommended Operating Frequency	10kHz	

\*Pulse test: Pulse width 300  $\mu\text{sec}$ . Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	$T_{STG}$	$-65^\circ\text{C}$ to $200^\circ\text{C}$
Operating junction temp range	$T_J$	$-65^\circ\text{C}$ to $200^\circ\text{C}$
Maximum thermal resistance	$R_{\theta JC}$	1.25 $^\circ\text{C/W}$ Junction to Case
Typical thermal resistance	$R_{\theta JC}$	1.1 $^\circ\text{C/W}$ Junction to Case
Mounting torque		30 inch pounds maximum
Weight		.5 ounces (14 grams) typical

**Microsemi Corp.**  
**Colorado**



# S/R304

Figure 1  
Typical Forward Characteristics

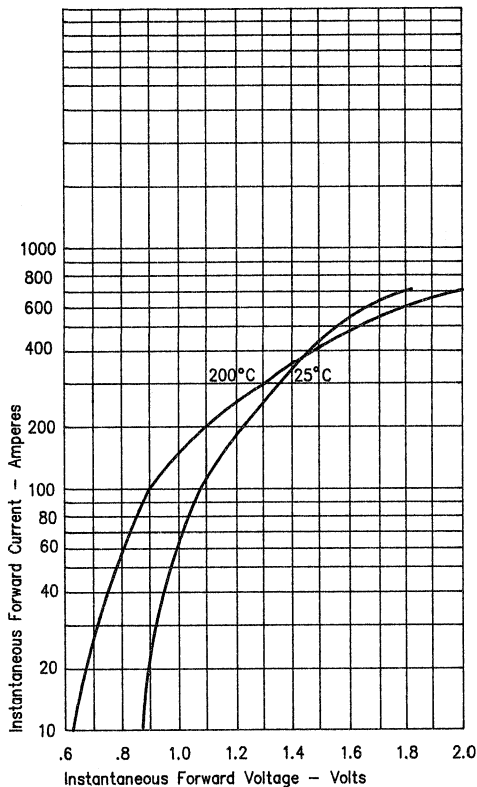


Figure 2  
Typical Reverse Characteristics

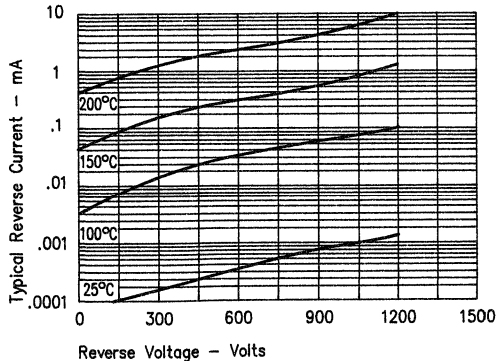


Figure 3  
Forward Current Derating

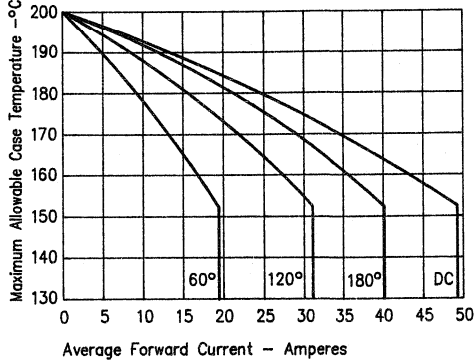


Figure 4  
Maximum Forward Power Dissipation

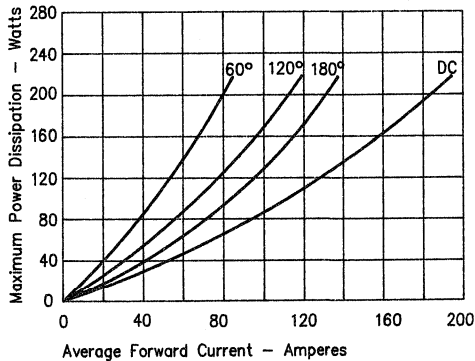
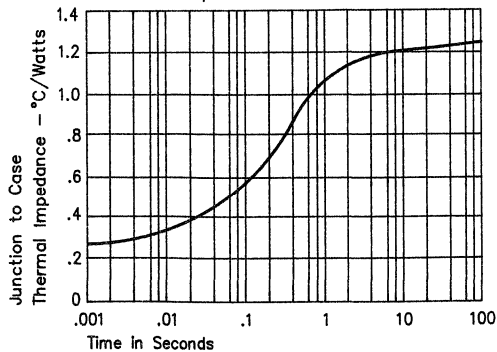
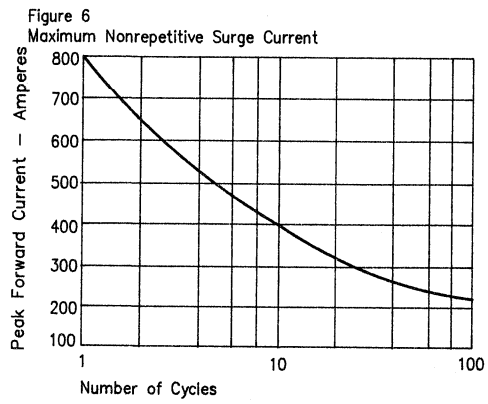


Figure 5  
Transient Thermal Impedance

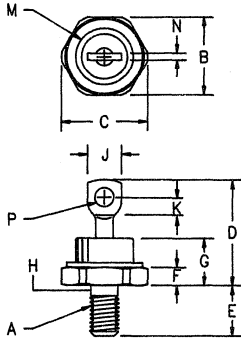


E

# S/R304



# Silicon Power Rectifier S/R34 Series



- Notes:
1. Full threads within 2 1/2 threads
  2. Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1/4-28
B	.677	.687	17.19	17.44	
C	---	.793	---	20.14	
D	---	1.00	---	25.40	
E	.427	.447	10.84	11.35	
F	.115	.200	2.92	5.08	
G	---	.450	---	11.43	
H	.220	.249	5.59	6.32	1
J	---	.375	---	9.52	
K	.156	---	3.97	---	
M	---	.667	---	16.94	Dia
N	---	.080	---	2.03	
P	.140	.175	3.56	4.44	Dia

## D0203AB (D05)

Microsemi Catalog Number Standard	JEDEC Numbers	Peak Reverse Voltage
*S3410	1N1184, 1N2459	100V
*S3420	1N1186, 1N2461, 1N2788, 1N3968 1N4525	200V
*S3440	1N1190, 1N2285, 1N2467, 1N3970 1N3969, 1N4526	400V
*S3460	1N1190, 1N2285, 1N2467, 1N3970 1N4527	600V
*S3480	1N2286, 1N3766, 1N3971, 1N4528	800V
*S34100	1N2287, 1N3768, 1N4529	1000V
*S34120	1N2288, 1N4530, 1N5332	1200V
*S34140		1400V
*S34160		1600V

\*Change S to R in part number for Reverse Polarity

- Glass Passivated Die
- 800A surge rating
- Glass to metal construction
- $V_{RRM}$  to 1600V
- Excellent reliability

### Electrical Characteristics

Average forward current	IF(AV) 45 Amps	$T_C = 123^\circ\text{C}$ , half sine wave, $R_{\theta JC} = 1.75^\circ\text{C/W}$
Maximum surge current	IFSM 800 Amps	8.3ms, half sine, $T_J = 200^\circ\text{C}$
Max $I^2t$ for fusing	$I^2t$ 2600 A <sup>2</sup> s	
Max peak forward voltage	$V_{FM}$ 1.15 Volts	$I_{FM} = 90\text{A}$ ; $T_J = 25^\circ\text{C}$ *
Max peak reverse current	$I_{RM}$ 40 $\mu\text{A}$	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Max peak reverse current	$I_{RM}$ 2.0 mA	$V_{RRM}$ , $T_J = 150^\circ\text{C}$
Max Recommended Operating Frequency	10kHz	

\*Pulse test: Pulse width 300  $\mu\text{sec}$ . Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temperature range	$T_{STG}$	$-65^\circ\text{C}$ to $200^\circ\text{C}$
Operating junction temp range	$T_J$	$-65^\circ\text{C}$ to $200^\circ\text{C}$
Maximum thermal resistance	$R_{\theta JC}$	$1.75^\circ\text{C/W}$ Junction to Case
Typical thermal resistance	$R_{\theta JC}$	$1.5^\circ\text{C/W}$ Junction to Case
Mounting torque		30 inch pounds maximum
Weight		.5 ounces (14 grams) typical

# S/R34

Figure 1  
Typical Forward Characteristics

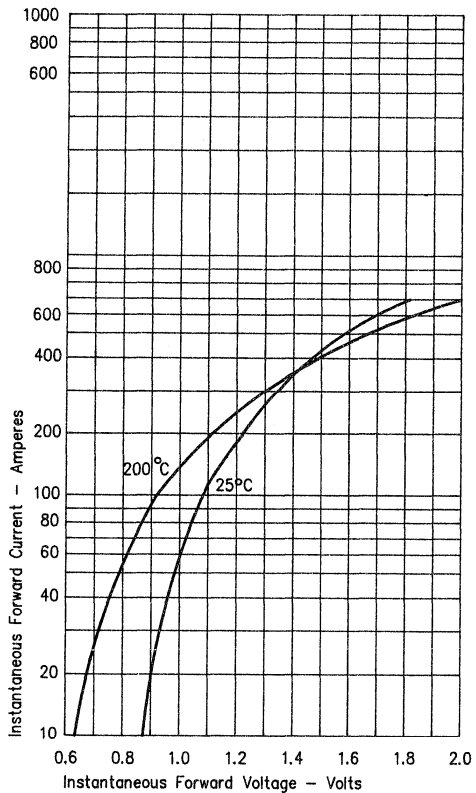


Figure 2  
Typical Reverse Characteristics

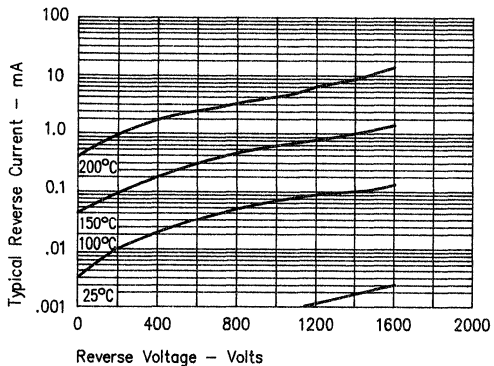


Figure 3  
Forward Current Derating

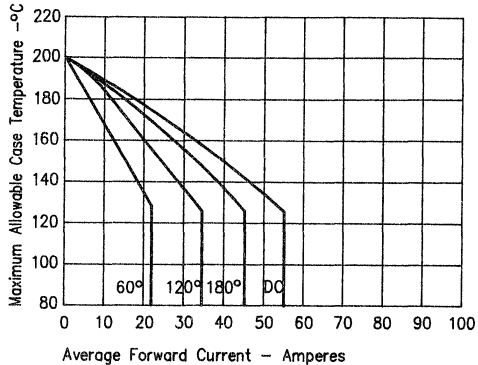


Figure 4  
Maximum Forward Power Dissipation

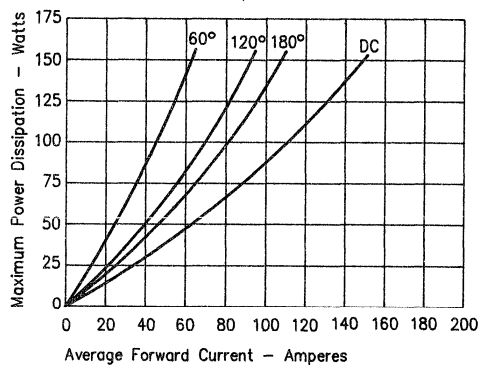
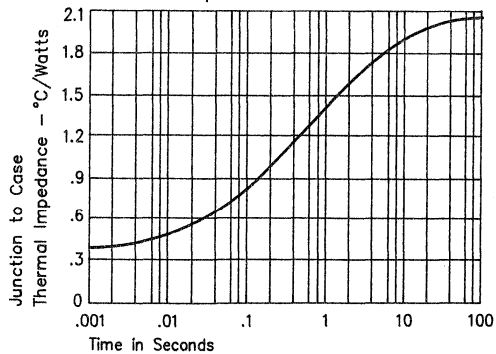
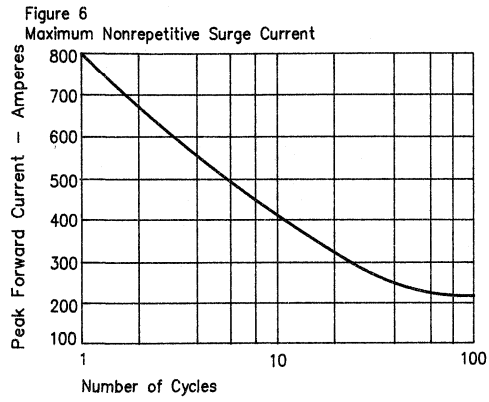


Figure 5  
Transient Thermal Impedance

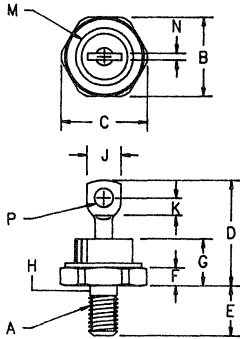


# S/R34



E

# Silicon Power Rectifier S/R35



- Notes:
1. 1/4-28
  2. Full threads within 2 1/2 threads
  3. Standard polarity:  
Stud is cathode  
Reverse polarity:  
Stud is anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.667	.687	16.95	17.44	
C	---	.793	---	20.14	
D	---	1.00	---	25.40	
E	.422	.453	10.72	11.50	
F	.115	.200	2.93	5.08	
G	---	.450	---	11.43	
H	.220	.249	5.59	6.32	2
J	.250	.375	6.35	9.52	
K	.156	---	3.97	---	
M	---	.667	---	16.94	Dia
N	---	.080	---	2.03	
P	.140	.175	3.56	4.44	Dia

## DO203AB (D05)

Microsemi Catalog Number		Peak Reverse Voltage
Standard	Reverse	
S3520	R3520	200V
S3540	R3540	400V
S3560	R3560	600V
S3580	R3580	800V
S35100	R35100	1000V
S35120	R35120	1200V
S35140	R35140	1400V
R35160	R35160	1600V

- Low Forward Voltage
- Glass to Metal Construction
- Glass Passivated Die
- Excellent Reliability
- VRRM to 1600V
- 1050 Amps Surge Rating

Electrical Characteristics		
Average forward current	IF(AV) 70 Amps	Tc = 152°C, Half Sine Wave, RθJC = 0.65°C/W
Maximum surge current	IFSM 1050 Amps	8.3ms, half sine, Tj = 200°C
Max I <sup>2</sup> t for fusing	I <sup>2</sup> t 4500 A <sup>2</sup> s	
Max peak forward voltage	VFM 1.25 Volts	IFM = 200A; Tj = 25°C*
Max peak reverse current	IRM 50 μA	VRRM, Tj = 25°C
Max peak reverse current	IRM 3.0 mA	VRRM, Tj = 150°C
Max Recommended Operating Frequency	10kHz	
*Pulse test: Pulse width 300 μsec. Duty cycle 2%		

Thermal and Mechanical Characteristics		
Storage temperature range	TSTG	-65°C to 200°C
Operating junction temp range	TJ	-65°C to 200°C
Maximum thermal resistance	RθJC	0.65°C/W Junction to Case
Typical thermal resistance	RθJC	0.55°C/W Junction to Case
Mounting torque		30 inch pounds maximum
Weight		.5 ounces (14 grams) typical

# S/R35

Figure 1  
Typical Forward Characteristics

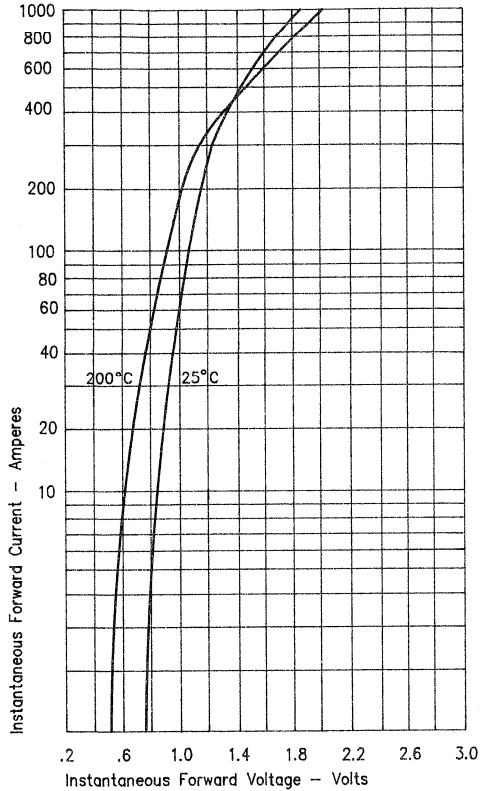


Figure 2  
Typical Reverse Characteristics

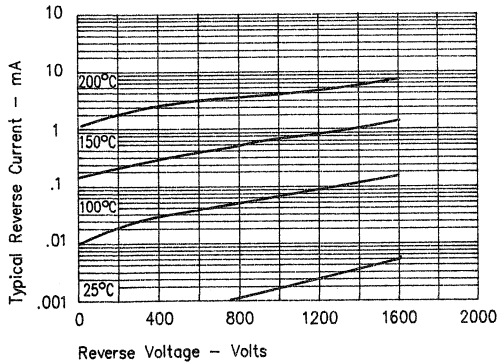


Figure 3  
Forward Current Derating

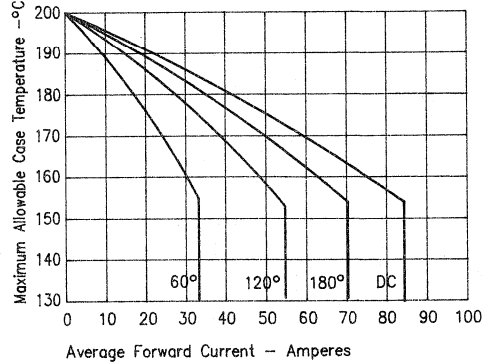


Figure 4  
Maximum Forward Power Dissipation

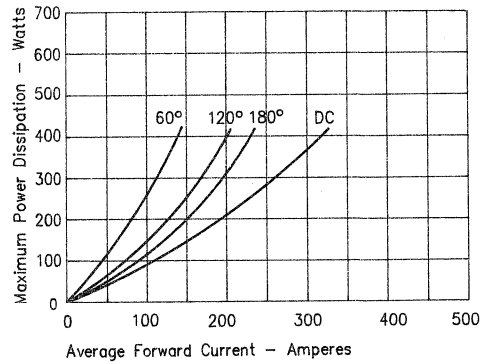
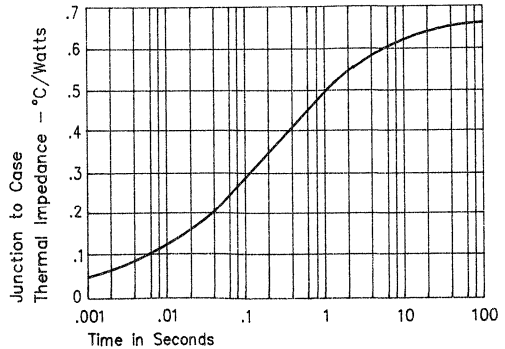
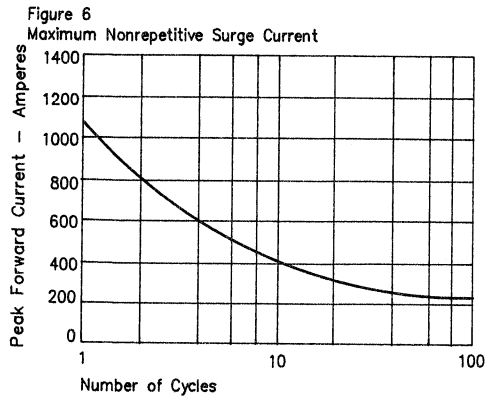


Figure 5  
Transient Thermal Impedance

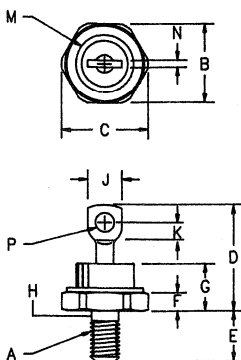


# S/R35





# Silicon Power Rectifier S/R36 Series



**Notes:**

1. 1/4-28
2. Full threads within 2 1/2 threads
3. Standard polarity:  
Stud is cathode  
Reverse polarity:  
Stud is anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.667	.687	16.95	17.44	
C	---	.793	---	20.14	
D	---	1.00	---	25.40	
E	.422	.453	10.72	11.50	
F	.115	.200	2.93	5.08	
G	---	.450	---	11.43	
H	.220	.249	5.59	6.32	2
J	.250	.375	6.35	9.52	
K	.156	---	3.97	---	
M	---	.667	---	16.94	Dia
N	---	.080	---	2.03	
P	.140	.175	3.56	4.44	Dia

DO203AB (D05)

Microsemi Catalog Number	Standard Reverse	Peak Reverse Voltage
S3610	R3610	100V
S3620	R3620	200V
S3640	R3640	400V
S3660	R3660	600V
S3680	R3680	800V
S36100	R36100	1000V
S36120	R36120	1200V

- Low thermal resistance
- Glass Passivated Die
- 1200 Amps Surge Rating
- Glass to metal construction
- VRRM to 1200V
- Excellent reliability

Electrical Characteristics		
Average forward current	IF(AV) 70 Amps	TC = 151°C, Half Sine Wave, RθJC = 0.65°C/W 8.3ms, half sine, TJ = 200°C
Maximum surge current	IFSM 1200 Amps	
Max I <sup>2</sup> t for fusing	I <sup>2</sup> t 6000 A <sup>2</sup> s	IFM = 200A; TJ = 25°C* VRRM, TJ = 25°C VRRM, TJ = 150°C*
Max peak forward voltage	VFM 1.25 Volts	
Max peak reverse current	IRM 50 μA	
Max peak reverse current	IRM 2.0 mA	
Max Recommended Operating Frequency	10kHz	
*Pulse test: Pulse width 300 μsec. Duty cycle 2%		

Thermal and Mechanical Characteristics		
Storage temperature range	TSTG	-65°C to 200°C
Operating junction temp range	TJ	-65°C to 200°C
Maximum thermal resistance	RθJC	0.65°C/W Junction to Case
Typical thermal resistance	RθJC	0.6°C/W Junction to Case
Mounting torque		30 inch pounds maximum
Weight		.6 ounces (17 grams) typical

**Microsemi Corp.**  
**Colorado**

# S/R36

Figure 1  
Typical Forward Characteristics

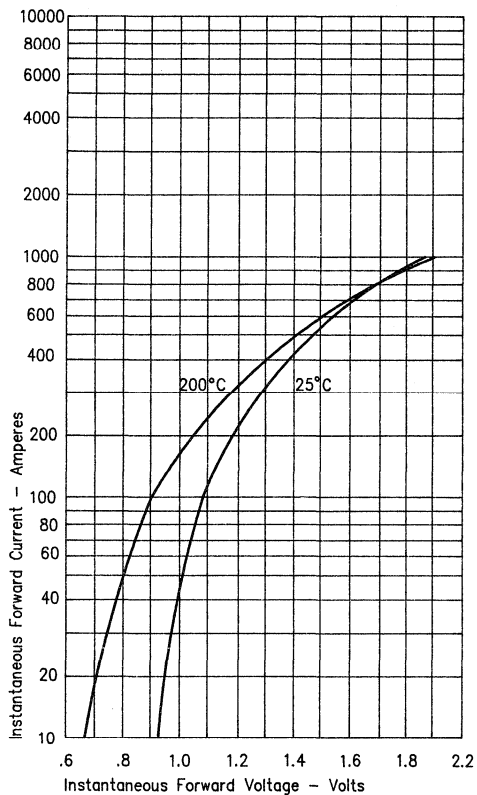


Figure 3  
Forward Current Derating

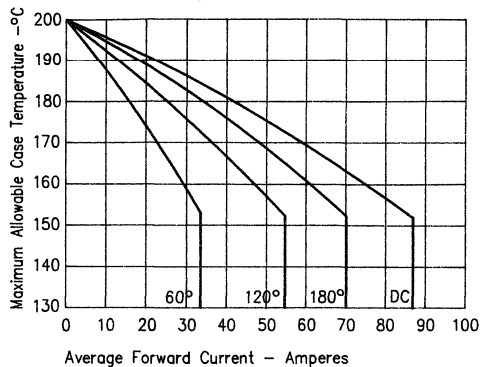


Figure 4  
Maximum Forward Power Dissipation

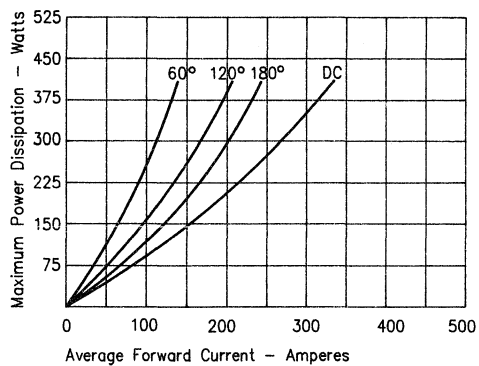


Figure 2  
Typical Reverse Characteristics

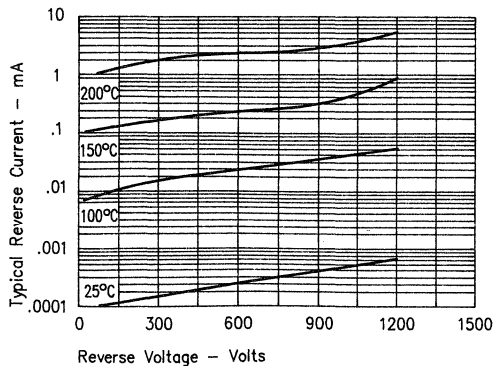
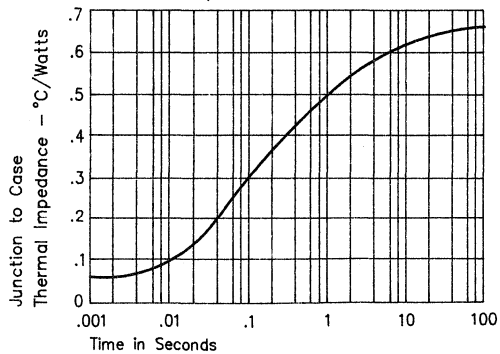
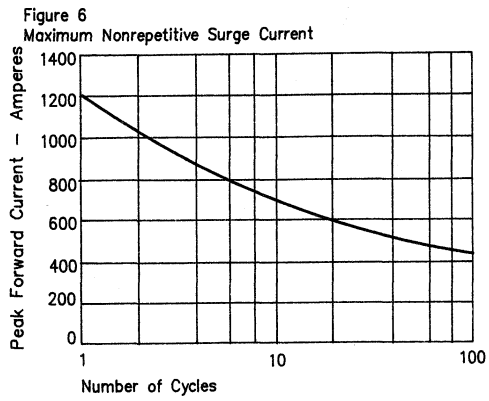


Figure 5  
Transient Thermal Impedance

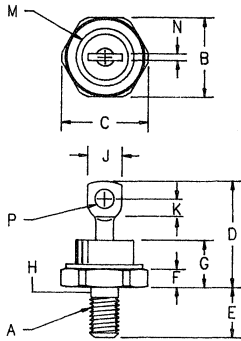


# S/R36



E

# Silicon Power Rectifier S/R37 Series



- Notes:
- 1/4-28
  - Full threads within 2 1/2 threads
  - Standard polarity:  
Stud is cathode  
Reverse polarity:  
Stud is anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.667	.687	16.95	17.44	
C	---	.793	---	20.14	
D	---	1.00	---	25.40	
E	.422	.453	10.72	11.50	
F	.115	.200	2.93	5.08	
G	---	.450	---	11.43	
H	.220	.249	5.59	6.32	2
J	.250	.375	6.35	9.52	
K	.156	---	3.97	---	
M	---	.667	---	16.94	Dia
N	---	.080	---	2.03	
P	.140	.175	3.56	4.44	Dia

## D0203AB (D05)

Microsemi Catalog Number	Standard Reverse	Peak Reverse Voltage
S3720	R3720	200V
S3740	R3740	400V
S3760	R3760	600V
S3780	R3780	800V
S37100	R37100	1000V
S37120	R37120	1200V
S37140	R37140	1400V
S37160	R37160	1600V

- Highest current rated D05 available
- Glass Passivated Die
- 1500 Amps Surge Rating
- Glass to metal construction
- VRRM to 1600V
- Excellent reliability

### Electrical Characteristics

Average forward current	IF(AV) 85 Amps	TC = 147°C, Half Sine Wave, R θJC = 0.6°C/W
Maximum surge current	IFSM 1500 Amps	8.3ms, half sine, TJ = 200°C
Max I <sup>2</sup> t for fusing	I <sup>2</sup> t 9300 A <sup>2</sup> s	
Max peak forward voltage	VFM 1.15 Volts	IFM = 200A; TJ = 25°C*
Max peak reverse current	IRM 50 μA	VRRM, TJ = 25°C
Max peak reverse current	IRM 2.0 mA	VRRM, TJ = 150°C
Max Recommended Operating Frequency	10kHz	

\*Pulse test: Pulse width 300 μsec. Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temperature range	TSTG	-65°C to 200°C
Operating junction temp range	TJ	-65°C to 200°C
Maximum thermal resistance	RθJC	0.6°C/W Junction to Case
Typical thermal resistance	RθJC	0.5°C/W Junction to Case
Mounting torque		30 inch pounds maximum
Weight		.6 ounces (17 grams) typical

**Microsemi Corp.**  
**6 Colorado**

# S/R37

Figure 1  
Typical Forward Characteristics

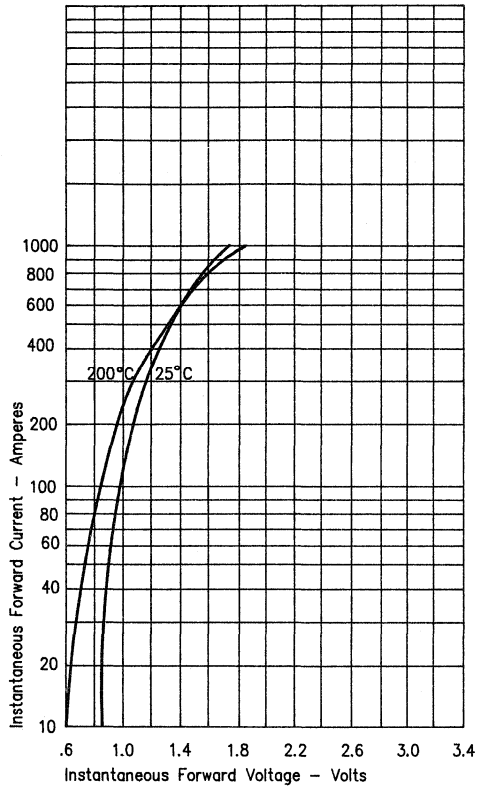


Figure 2  
Typical Reverse Characteristics

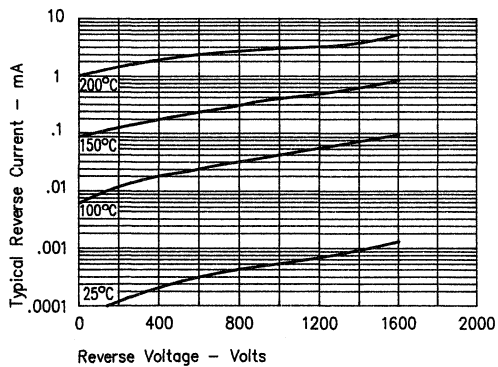


Figure 3  
Forward Current Derating

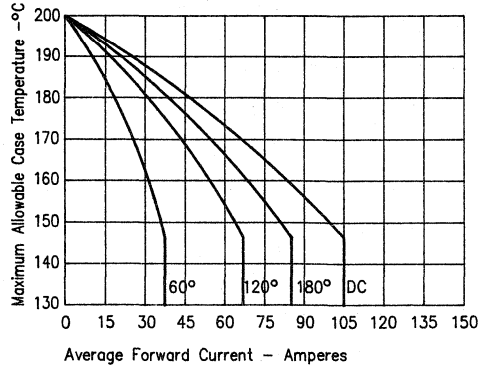


Figure 4  
Maximum Forward Power Dissipation

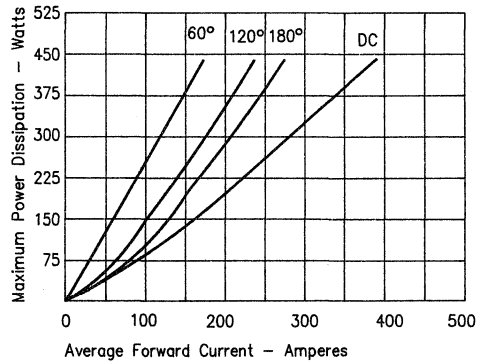
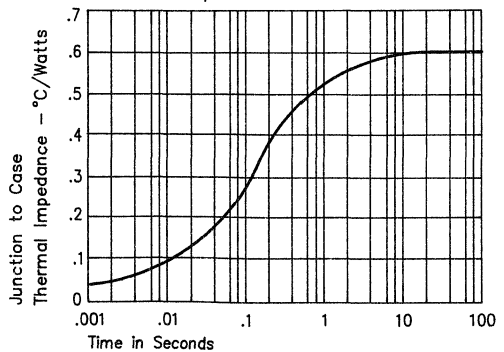
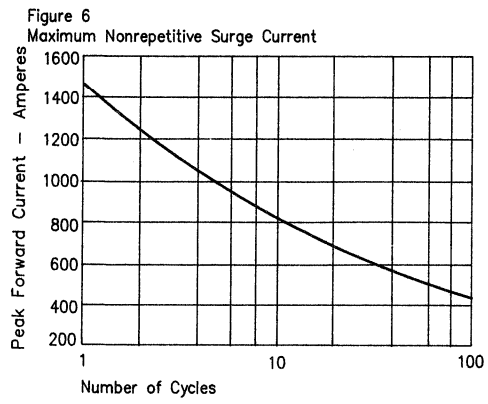


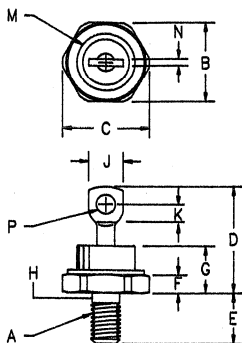
Figure 5  
Transient Thermal Impedance



S/R37



# Silicon Power Rectifier S/R306 Series



- Notes:**
1. 1/4-28
  2. Full threads within 2 1/2 threads
  3. Standard polarity:  
Stud is cathode  
Reverse polarity:  
Stud is anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.667	.687	16.95	17.44	
C	---	.793	---	20.14	
D	---	1.00	---	25.40	
E	.422	.453	10.72	11.50	
F	.115	.200	2.93	5.08	
G	---	.450	---	11.43	
H	.220	.249	5.59	6.32	2
J	.250	.375	6.35	9.52	
K	.156	---	3.97	---	
M	---	.667	---	16.94	Dia
N	---	.080	---	2.03	Dia
P	.140	.175	3.56	4.44	

**D0203AB (D05)**

Microsemi Catalog Number		Peak Reverse Voltage
Standard	Reverse	
S30620	R30620	200V
S30640	R30640	400V
S30660	R30660	600V
S30680	R30680	800V
S306100	R306100	1000V
S306120	R306120	1200V

- Glass Passivated Die
- 1200 Amps Surge Rating
- Glass to metal construction
- VRRM to 1200V
- Excellent reliability

Electrical Characteristics		
Average forward current	IF(AV) 70 Amps	TC = 146°C, Half Sine Wave, RθJC = 0.8°C/W
Maximum surge current	IFSM 1200 Amps	8.3ms, half sine, TJ = 200°C
Max I <sup>2</sup> t for fusing	I <sup>2</sup> t 5900 A <sup>2</sup> s	
Max peak forward voltage	VFM 1.25 Volts	IFM = 200A; TJ = 25°C*
Max peak reverse current	IRM 50 μA	VRRM, TJ = 25°C
Max peak reverse current	IRM 4.0 mA	VRRM, TJ = 150°C
Max Recommended Operating Frequency	10kHz	
*Pulse test: Pulse width 300 μsec. Duty cycle 2%		

Thermal and Mechanical Characteristics		
Storage temperature range	TSTG	-65°C to 200°C
Operating junction temp range	TJ	-65°C to 200°C
Maximum thermal resistance	RθJC	0.8°C/W Junction to Case
Typical thermal resistance	RθJC	0.72°C/W Junction to Case
Mounting torque		30 inch pounds maximum
Weight		.6 ounces (17 grams) typical

# S/R306

Figure 1  
Typical Forward Characteristics

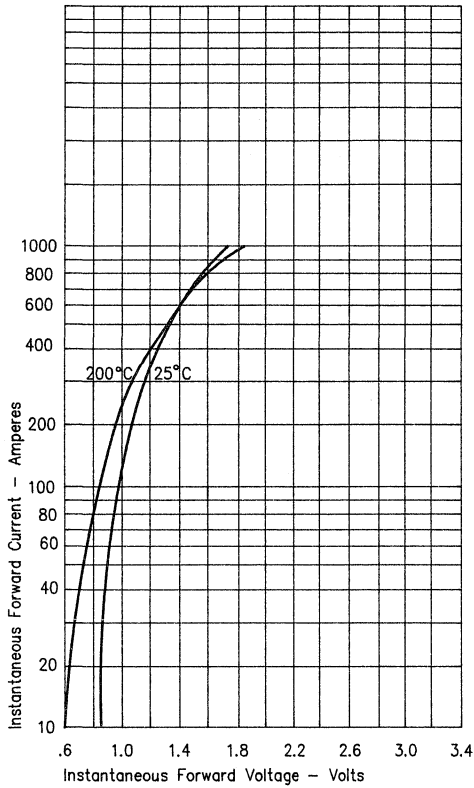


Figure 3  
Forward Current Derating

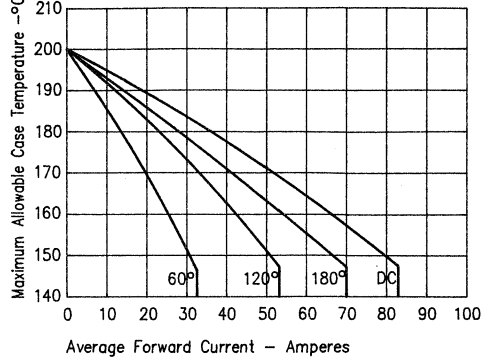
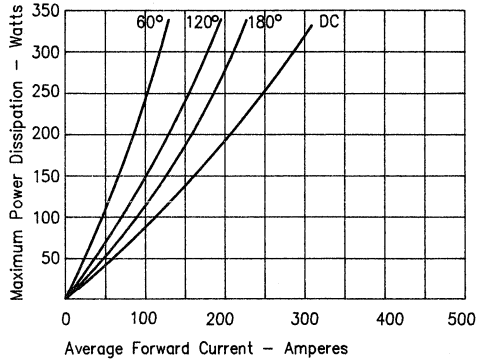


Figure 4  
Maximum Forward Power Dissipation



Typical Reverse Characteristics

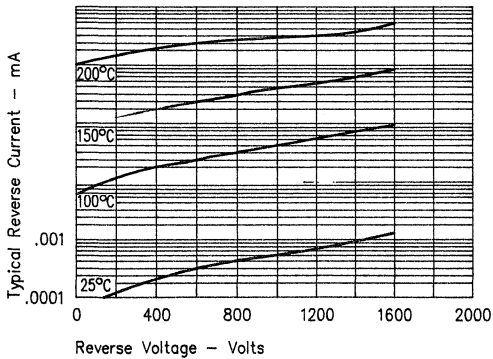
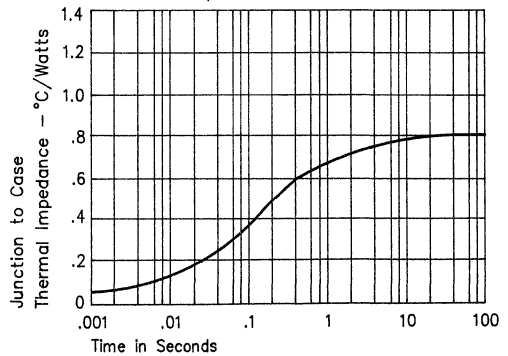
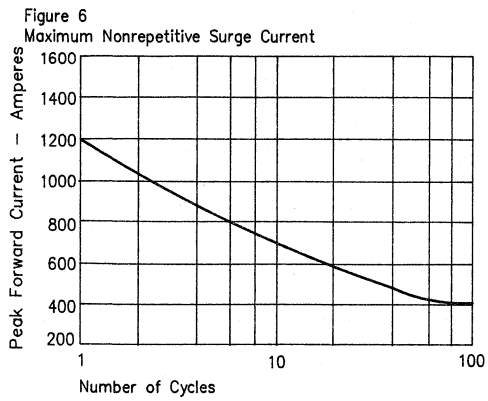


Figure 5  
Transient Thermal Impedance



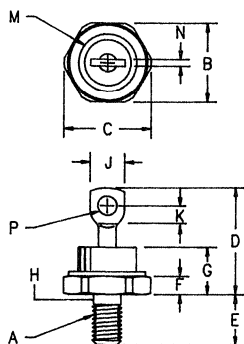


# S/R306



E

# Silicon Power Rectifier S/R307 Series



- Notes:  
 1. 1/4-28  
 2. Full threads within 2 1/2 threads  
 3. Standard polarity:  
    Stud is cathode  
    Reverse polarity:  
    Stud is anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.667	.687	16.95	17.44	
C	---	.793	---	20.14	
D	---	1.00	---	25.40	
E	.422	.453	10.72	11.50	
F	.115	.200	2.93	5.08	
G	---	.450	---	11.43	
H	.220	.249	5.59	6.32	2
J	.250	.375	6.35	9.52	
K	.156	---	3.97	---	
M	---	.667	---	16.94	Dia
N	---	.080	---	2.03	
P	.140	.175	3.56	4.44	Dia

## D0203AB (D05)

Microsemi Catalog Number Standard	Reverse	Peak Reverse Voltage
S30720	R30720	200V
S30740	R30740	400V
S30760	R30760	600V

- Glass Passivated Die
- 1500 Amps Surge Rating
- Glass to metal construction
- VRRM to 600V
- Excellent reliability

### Electrical Characteristics

Average forward current	IF(AV) 85 Amps	T <sub>C</sub> = 136°C, Half Sine Wave, R <sub>θJC</sub> = 0.8°C/W
Maximum surge current	IFSM 1500 Amps	8.3ms, half sine, T <sub>J</sub> = 200°C
Max I <sup>2</sup> t for fusing	I <sup>2</sup> t 9300 A <sup>2</sup> s	
Max peak forward voltage	V <sub>FM</sub> 1.1 Volts	I <sub>FM</sub> = 200A; T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> 50 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Max peak reverse current	I <sub>RM</sub> 4.0 mA	V <sub>RRM</sub> , T <sub>J</sub> = 150°C
Max Recommended Operating Frequency	10kHz	

\*Pulse test: Pulse width 300 μsec. Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temperature range	T <sub>STG</sub>	-65°C to 200°C
Operating junction temp range	T <sub>J</sub>	-65°C to 200°C
Maximum thermal resistance	R <sub>θJC</sub>	0.8°C/W Junction to Case
Typical thermal resistance	R <sub>θJC</sub>	0.72°C/W Junction to Case
Mounting torque		30 inch pounds maximum
Weight		.6 ounces (17 grams) typical

# S/R307

Figure 1  
Typical Forward Characteristics

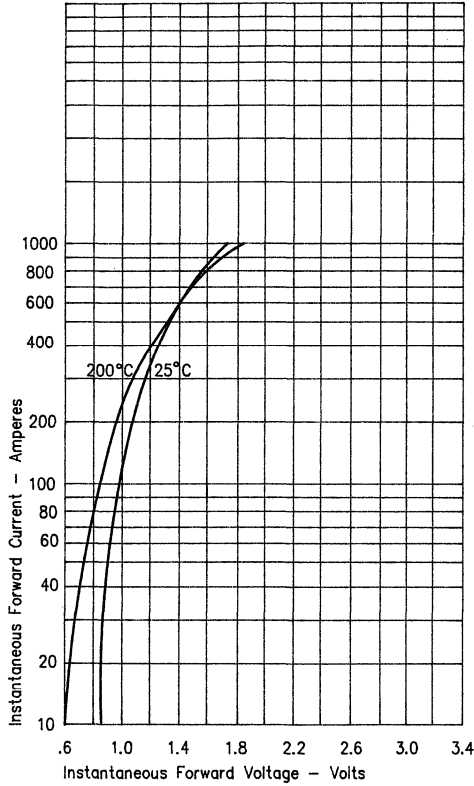


Figure 2  
Typical Reverse Characteristics

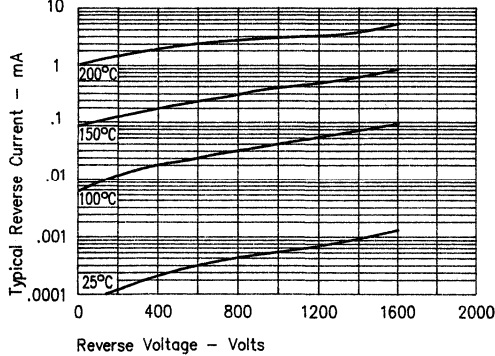


Figure 3  
Forward Current Derating

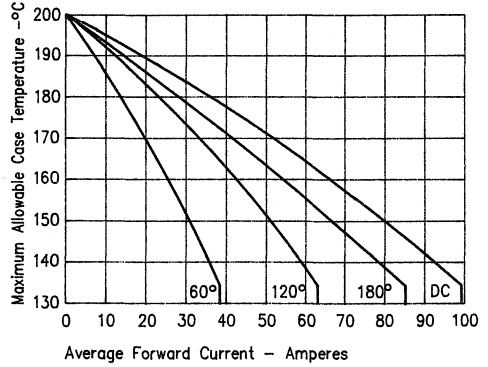


Figure 4  
Maximum Forward Power Dissipation

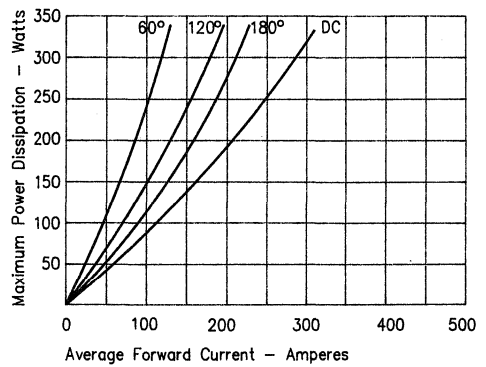
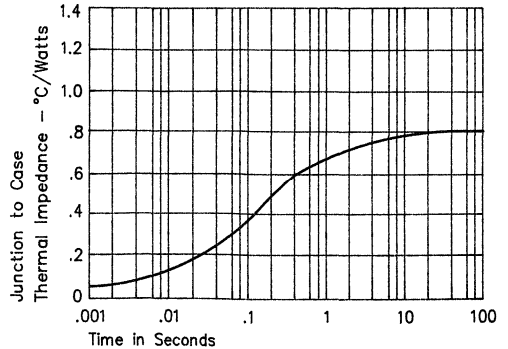
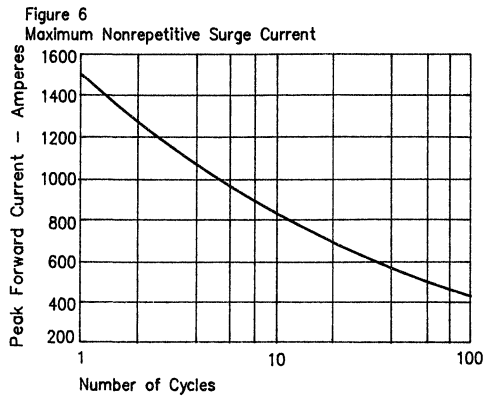


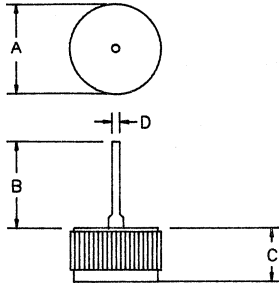
Figure 5  
Transient Thermal Impedance



# S/R307



# Silicon Power Rectifier S/R50PF Series



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.501	.505	12.70	12.85	Dia.
B	.450	0.50	11.40	12.70	
C	.335	.365	8.50	9.30	
D	0.97	.103	2.45	2.60	Dia.

Standard Catalog Number	Reverse	Repetitive Peak Reverse Voltage
S5020PF	R5020PF	200
S5040PF	R5040PF	400
S5060PF	R5060PF	600
S5080PF	R5080PF	800

- High Voltage, Low Leakage Current
- Glass Passivated Die
- Economical Design
- 700 Amps Surge Rating
- VRRM to 800V

E

## Electrical Characteristics

Average Forward Current	$I_{F(AV)}$ 50 Amps	$T_C = 160^\circ\text{C}$ , half sine wave, $R_{\theta JC} = 0.75^\circ\text{C/W}$
Maximum Surge Current	$I_{FSM}$ 800 Amps	8.3ms, half sine, $T_J = 175^\circ\text{C}$
Maximum $I^2t$ For Fusing	$I^2t$ 2600 $\text{A}^2\text{s}$	
Max. Peak Forward Voltage	$V_{FM}$ 1.0 Volts	$I_{FM} = 50\text{A}; T_J = 25^\circ\text{C}^*$
Max. Peak Reverse Current	$I_{RM}$ 40 $\mu\text{A}$	$V_{RRM, T_J} = 25^\circ\text{C}$
Max. Peak Reverse Current	$I_{RM}$ 2.0 mA	$V_{RRM, T_J} = 150^\circ\text{C}$
Max. Recommended Operating	$I_{RM}$ 10kHz	

## Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-65^\circ\text{C}$ to $200^\circ\text{C}$
Operating junction temp range	$T_J$	$-65^\circ\text{C}$ to $200^\circ\text{C}$
Max thermal resistance	$R_{\theta JC}$	$0.75^\circ\text{C/W}$ Junction to case
Typical thermal resistance	$R_{\theta CS}$	$0.2^\circ\text{C/W}$ Case to sink
Typical Weight		.27 ounce (7.2 grams) typical

# S/R50PF

Figure 1  
Typical Forward Characteristics

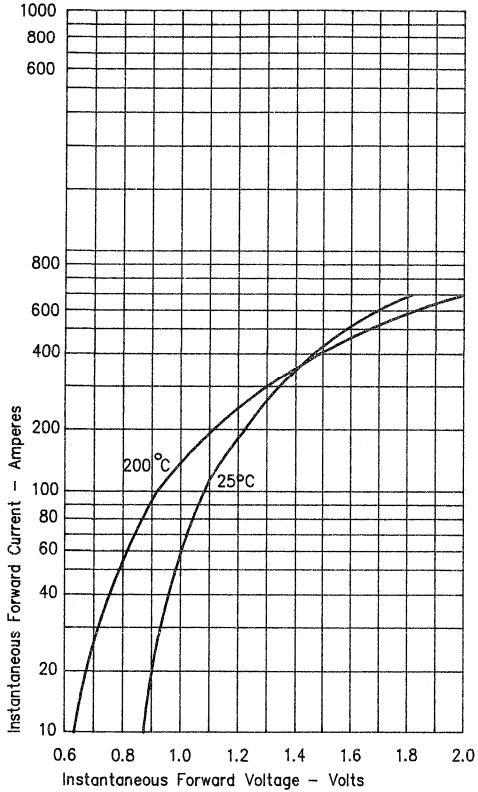


Figure 3  
Forward Current Derating

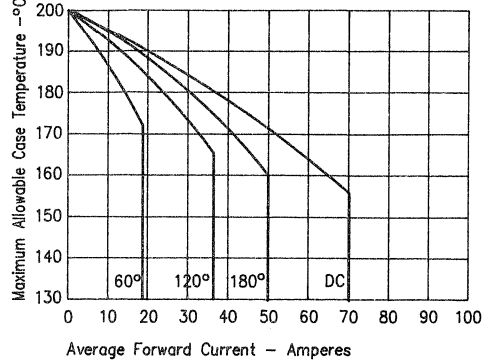


Figure 4  
Maximum Forward Power Dissipation

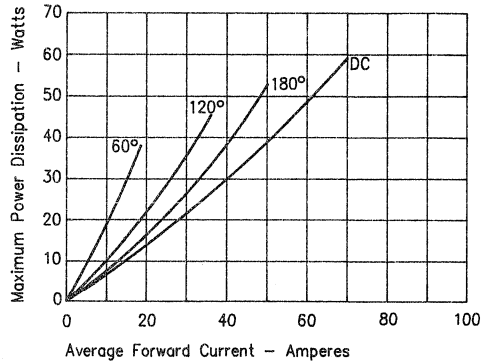


Figure 2  
Typical Reverse Characteristics

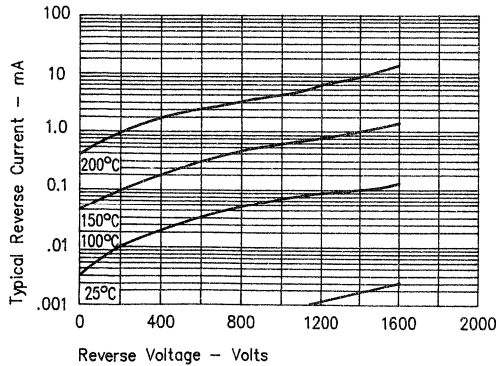
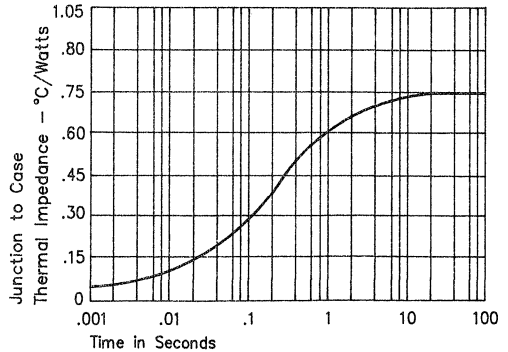
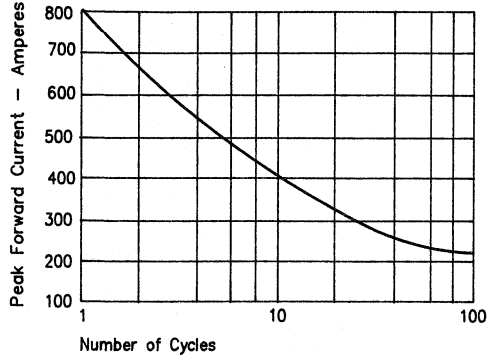


Figure 5  
Transient Thermal Impedance

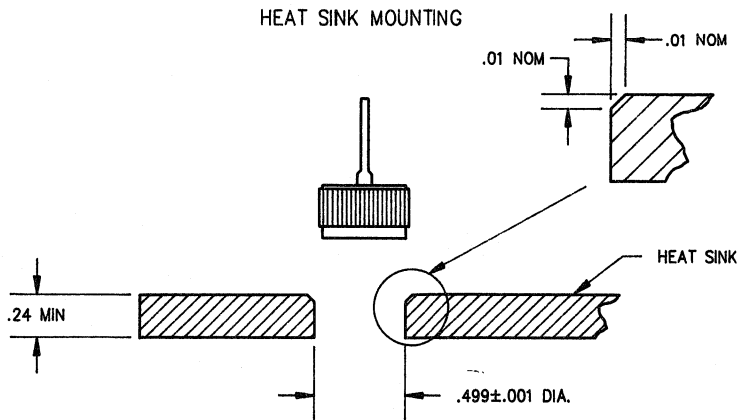


# S/R50PF

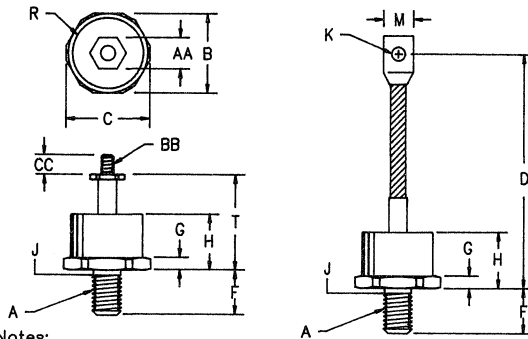
Figure 6  
Maximum Nonrepetitive Surge Current



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# Silicon Power Rectifier S/R42 Series



**Notes:**

1. 3/8-24 UNF-3A
2. Full threads within 2 1/2 threads
3. Standard polarity: Stud is Cathode  
Reverse polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	1.050	1.060	26.67	26.92	
C	---	1.166	---	29.61	
D	4.30	4.70	109.22	119.38	
F	.610	.640	15.49	16.25	
G	.213	.233	5.41	5.66	
H	---	.745	---	18.92	
J	.344	.373	8.74	9.47	2
K	.276	.286	7.01	7.26	
M	.465	.515	11.81	13.08	
R	---	.850	---	21.59	Dia
T	1.426	---	36.22	---	
AA	.427	.437	10.84	11.09	
BB	---	---	---	---	3
CC	.407	---	10.33	---	

## D0205AA (D08)

Microsemi Catalog Number	JEDEC Numbers	Peak Reverse Voltage
*S4210	1N412B, 1N1397, 1N3288, 1N4878	100V
*S4220	1N413B, 1N1399, 1N2427, 1N2437, 1N3140, 1N3289, 1N3972	200V
*S4230	1N1400, 1N2431, 1N2441, 1N3290	300V
*S4240	1N1401, 1N2433, 1N2443, 1N3921, 1N3973	400V
*S4250	1N1402, 1N2434, 1N2444, 1N3292	500V
*S4260	1N1403, 1N2435, 1N2445, 1N3293, 1N3974	600V
*S4280	1N3294, 1N3975	800V
*S42100	1N3295	1000V
*S42120	1N3296	1200V
*S42140		1400V
*S42160		1600V

\*Change S to R in part number for Reverse Polarity  
Add the suffix TS to the end of the part number if a Top Stud is desired

- Soft recovery
- Glass Passivated Die
- 2000 Amps Surge Rating
- Glass to metal construction
- VRRM to 1600V
- Excellent reliability

### Electrical Characteristics

Average forward current	IF(AV) 125 Amps	TC = 146°C, Half Sine Wave, RθJC = 0.40°C/W
Maximum surge current	IFSM 2000 Amps	8.3ms, half sine, TJ = 200°C
Max I <sup>2</sup> t for fusing	I <sup>2</sup> t 16600 A <sup>2</sup> s	
Max peak forward voltage	VFM 1.2 Volts	IFM = 200A; TJ = 25°C*
Max peak reverse current	IRM 200 μA	VRRM, TJ = 25°C
Max peak reverse current	IRM 5.0 mA	VRRM, TJ = 150°C
Max Recommended Operating Frequency	7.5kHz	

\*Pulse test: Pulse width 300 μsec. Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temperature range	TSTG	-65°C to 200°C
Operating junction temp range	TJ	-65°C to 200°C
Maximum thermal resistance	RθJC	0.40°C/W Junction to Case
Typical thermal resistance	RθJC	0.35°C/W Junction to Case
Mounting torque		100 Inch pounds maximum
Weight		2.75 ounces (78 grams) typical

**Microsemi Corp.**  
**Colorado**



# S/R42

Figure 1  
Typical Forward Characteristics

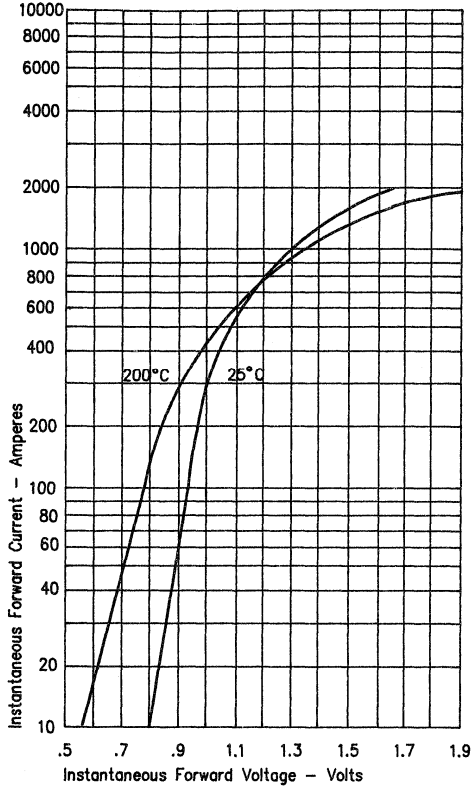


Figure 2  
Typical Reverse Characteristics

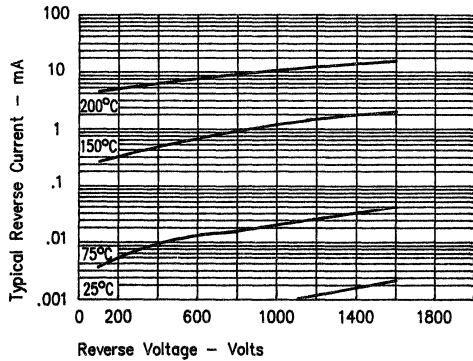


Figure 3  
Forward Current Derating

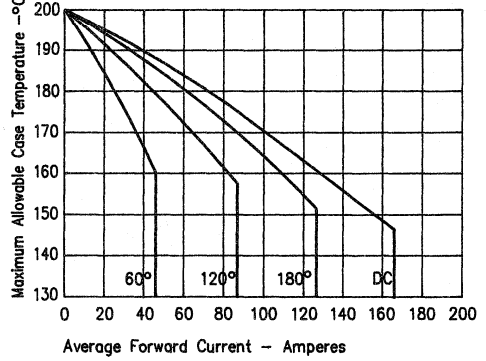


Figure 4  
Maximum Forward Power Dissipation

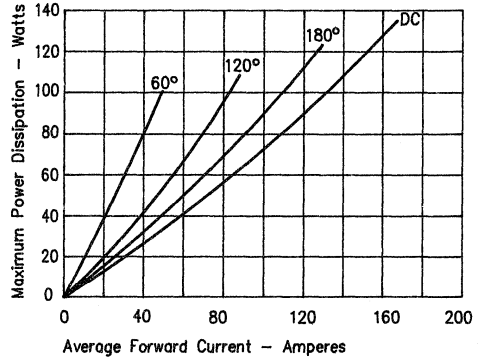
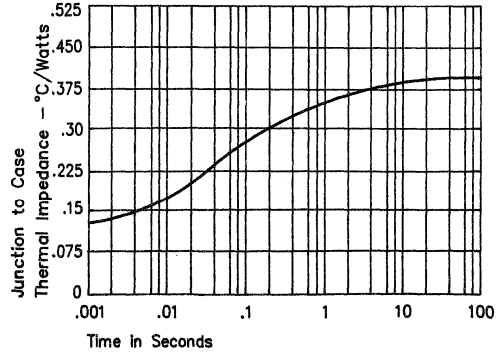
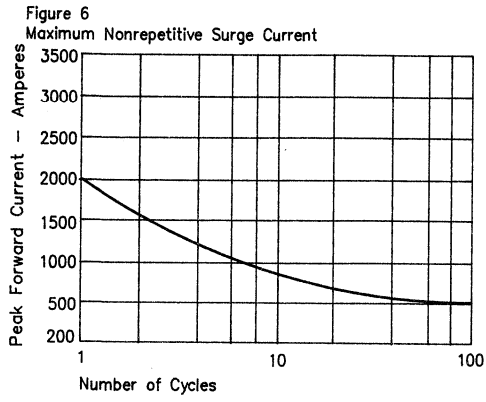


Figure 5  
Transient Thermal Impedance



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# S/R42



# S/R43

Figure 1  
Typical Forward Characteristics

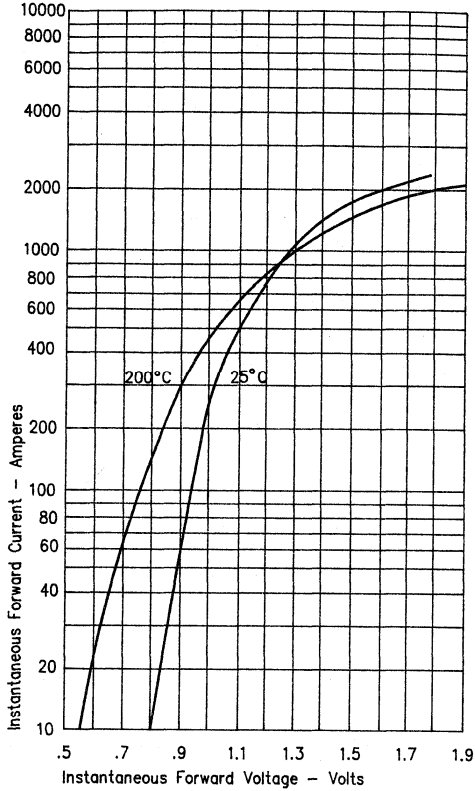


Figure 3  
Forward Current Derating

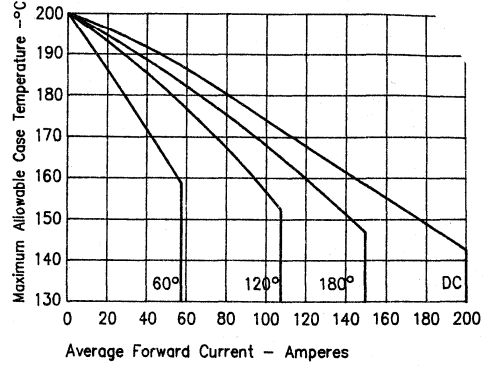


Figure 4  
Maximum Forward Power Dissipation

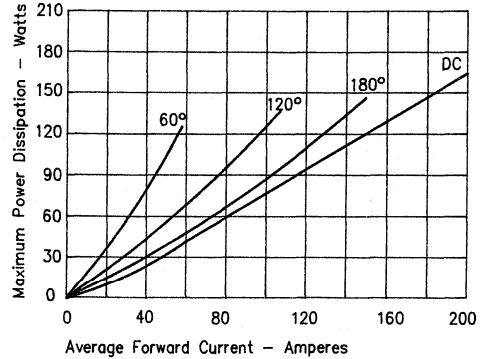


Figure 2  
Typical Reverse Characteristics

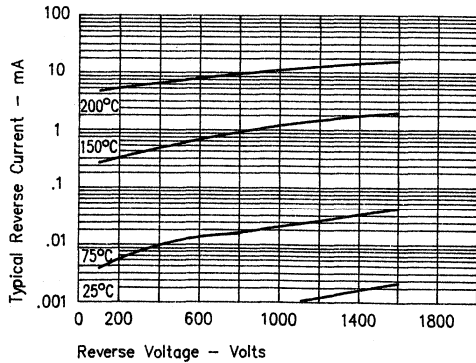
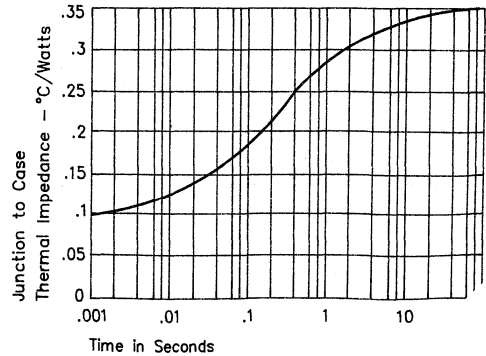
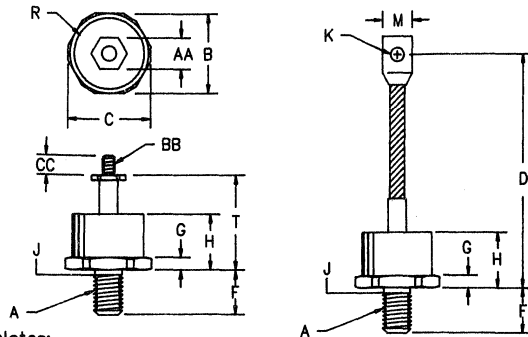


Figure 5  
Transient Thermal Impedance



# Silicon Power Rectifier S/R43 Series



**Notes:**

1. 3/8-24 UNF-3A
2. Full threads within 2 1/2 threads
3. Standard polarity: Stud is Cathode  
Reverse polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	1.050	1.060	26.67	26.92	
C	---	1.166	---	29.61	
D	4.30	4.70	109.22	119.38	
F	.610	.640	15.49	16.25	
G	.213	.233	5.41	5.66	
H	---	.745	---	18.92	
J	.344	.373	8.74	9.47	2
K	.276	.286	7.01	7.26	
M	.465	.515	11.81	13.08	
R	---	.850	---	21.59	Dia
T	1.426	---	36.22	---	
AA	.427	.437	10.84	11.09	
BB	---	---	---	---	3
CC	.407	---	10.33	---	

## DO205AA (D08)

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Microsemi Catalog Number	JEDEC Numbers	Peak Reverse Voltage
*S4310	1N412B, 1N3288A	100V
*S4320	1N3289A	200V
*S4330	1N3290A	300V
*S4340	1N3291A	400V
*S4350	1N3292A	500V
*S4360	1N3293A	600V
*S4380	1N3294A	800V
*S43100	1N3295A	1000V
*S43120	1N3296A	1200V
*S43140	1N3297A	1400V
*S43160	1N3298A	1600V

\*Change S to R in part number for Reverse Polarity  
Add the suffix TS to the end of the part number if a Top Stud is desired

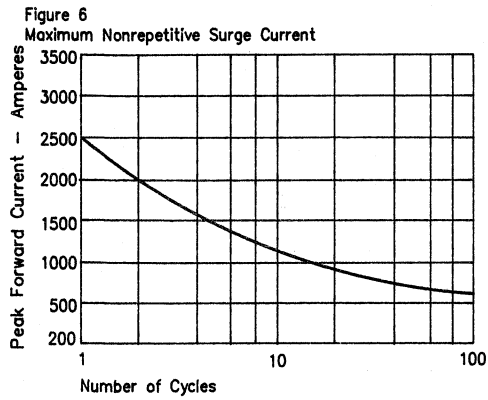
- Soft recovery
- Glass Passivated Die
- 2500 Amps Surge Rating
- Glass to metal construction
- VRRM to 1600V
- Excellent reliability

Electrical Characteristics		
Average forward current	IF(AV) 150 Amps	TC = 148°C, Half_Sine Wave, RθJC = 0.35°C/W 8.3ms, half sine, TJ = 200°C
Maximum surge current	IFSM 2500 Amps	
Max I <sup>2</sup> t for fusing	I <sup>2</sup> t 26000 A <sup>2</sup> s	IFM = 200A; TJ = 25°C* VRRM, TJ = 25°C VRRM, TJ = 150°C
Max peak forward voltage	VFM 1.1 Volts	
Max peak reverse current	IRM 200 μA	
Max peak reverse current	IRM 5.0 mA	
Max Recommended Operating Frequency	7.5kHz	
*Pulse test: Pulse width 300 μsec. Duty cycle 2%		

Thermal and Mechanical Characteristics		
Storage temperature range	TSTG	-65°C to 200°C
Operating junction temp range	TJ	-65°C to 200°C
Maximum thermal resistance	RθJC	0.35°C/W Junction to Case
Typical thermal resistance	RθJC	0.28°C/W Junction to Case
Mounting torque		100 inch pounds maximum
Weight		2.75 ounces (78 grams) typical

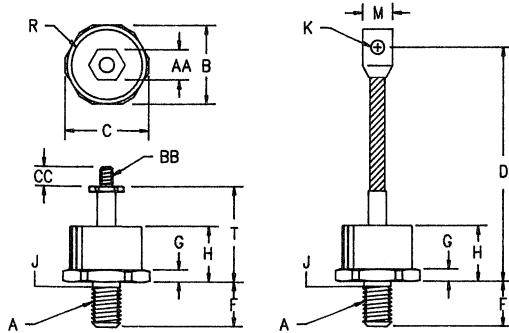
**Microsemi Corp.**  
**Colorado**

# S/R43



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# Silicon Power Rectifier S/R504 Series



**Notes:**

1. Full threads within 2 1/2 threads.
2. Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	3/4-16 UNF		---	---	1
B	1.218	1.250	30.93	31.75	
C	1.350	1.375	34.29	34.93	
D	5.30	5.90	134.62	149.86	
F	.793	.828	20.14	21.03	
G	.300	.325	7.62	8.25	
H	---	.900	---	22.86	
J	.660	.749	16.76	19.02	2
K	.338	.348	8.58	8.84	Dia.
M	.665	.755	16.89	19.17	
N	.125	.172	3.18	4.37	
R	---	1.10	---	27.94	Dia.
T	1.80	1.875	45.72	47.63	
AA	.545	.580	13.84	14.73	
BB	3/8-24 UNF		---	---	
CC	.605	---	15.37	---	

## D0205AB (D09)

Microsemi Catalog Number		Peak Reverse Voltage
Standard	Reverse	
S50420*	R50420*	200
S50440*	R50440*	400
S50460*	R50460*	600
S50480*	R50480*	800
S504100*	R504100*	1000
S505120*	R504120*	1200
S504140*	R504140*	1400
S505160*	R504160*	1600

\*Add suffix "TS" to catalog number for Top Stud Device

- Glass to metal header construction
- High surge current capability
- Two case styles available
- Soft recovery
- Rugged construction

Electrical Characteristics		
Max average forward current	I <sub>F(AV)</sub> 300 Amps	T <sub>C</sub> = 153°C, Half sine wave, R <sub>θJC</sub> = 0.15°C/W
Max surge current	I <sub>FSM</sub> 5500 Amps	8.3ms, half sine, T <sub>J</sub> = 200°C
Max. I <sub>2t</sub> capability for fusing	I <sub>2t</sub> 125990A <sup>2</sup> S	less than 8.33ms
Max peak forward voltage	V <sub>FM</sub> 1.25 Volts	I <sub>F</sub> = 1000A; T <sub>C</sub> = 25°C
Max peak reverse current	I <sub>RRM</sub> 10mA	V <sub>RRM</sub> , T <sub>C</sub> = 150°C
Max peak reverse current	I <sub>RRM</sub> 250 uA	V <sub>RRM</sub> , T <sub>C</sub> = 25°C
Max recommended operating frequency	7.5 kHz	

Thermal and Mechanical Characteristics		
Operating junction temp range	T <sub>J</sub>	-65°C to 200°C
Storage temperature range	T <sub>STG</sub>	-65°C to 200°C
Maximum thermal resistance	R <sub>θJC</sub>	0.15°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	.08°C/W Case to sink
Max mounting torque		325 inch pounds maximum
Max top stud torque		75 inch pounds maximum
Typical Weight		8.5 ounces (240 grams) typical

# S/R504

Figure 1  
Typical Forward Characteristics

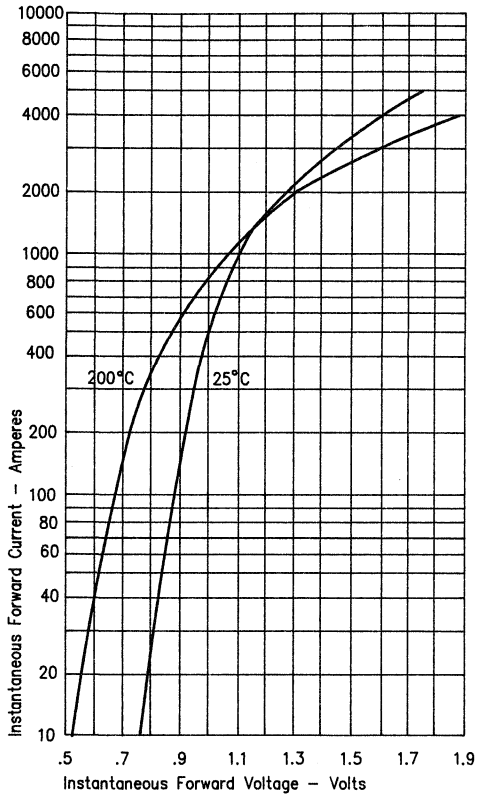


Figure 3  
Forward Current Derating

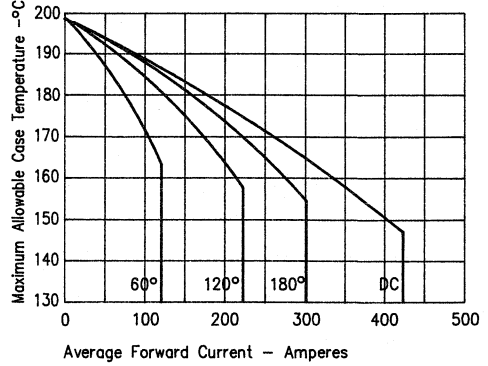


Figure 4  
Maximum Forward Power Dissipation

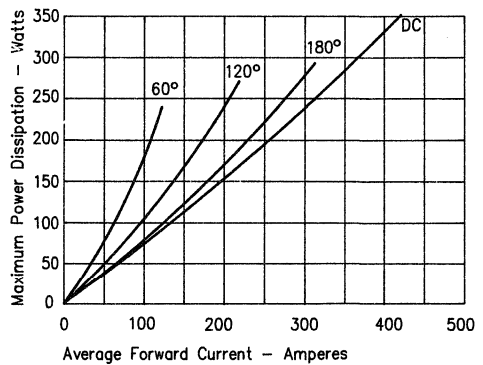


Figure 2  
Typical Reverse Characteristics

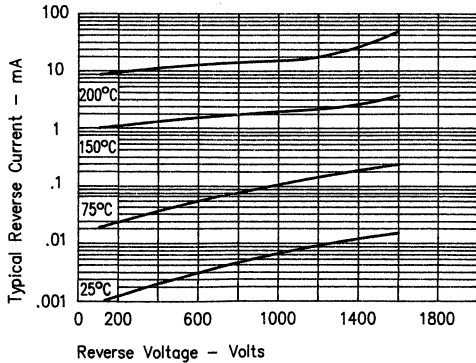
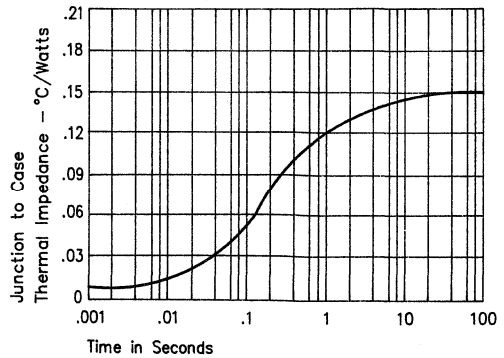
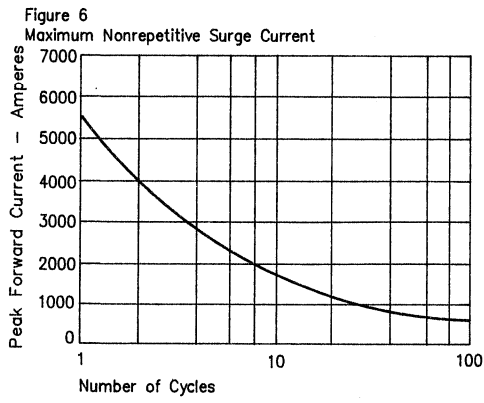


Figure 5  
Transient Thermal Impedance



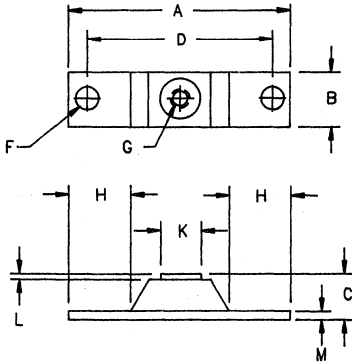
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# S/R504





# Silicon Power Rectifier SDM150



Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	---	2.300	---	58.42	
B	0.700	0.800	17.78	20.32	
C	---	0.625	---	15.87	
D	1.775	BSC	45.08	BSC	
F	0.280	0.310	6.86	7.11	Dia.
G	1/4-20 UNC				
H	0.600	---	15.24	---	
K	0.490	0.510	---	---	
L	---	0.050	---	1.27	
M	0.120	0.130	3.05	3.30	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
SDM15002*	200V	200V
SDM15004*	400V	400V
SDM15006*	600V	600V
SDM15008*	800V	800V
SDM15010*	1000V	1000V
SDM15012*	1200V	1200V

\*Add Suffix A for Common Anode

- Compact Package
- Glass Passivated Die
- 150A
- Non-Isolated Baseplate
- Low Profile

Electrical Characteristics		
Average forward current	$I_{F(AV)}$ 150 Amps	$T_C = 120^\circ\text{C}$ half sine, $R_{\theta JC} = 0.3^\circ\text{C/W}$
Maximum surge current	$I_{FSM}$ 2500 Amps	8.3 ms, half sine, $T_J = 175^\circ\text{C}$
Max $I^2t$ for fusing	$I^2t$ 26000 $\text{A}^2\text{s}$	
Max peak forward voltage	$V_{FM}$ 1.1 Volts	$I_{FM} = 200\text{A}; T_J = 25^\circ\text{C}^*$
Max peak forward voltage	$V_{FM}$ 1.0 Volts	$I_{FM} = 200\text{A}; T_J = 175^\circ\text{C}^*$
Max peak reverse current	$I_{RM}$ 5 mA	$V_{RRM}, T_J = 150^\circ\text{C}$
Max peak reverse current	$I_{RM}$ 200 $\mu\text{A}$	$V_{RRM}, T_J = 25^\circ\text{C}$
Typical reverse current	$I_{RM}$ 3.0 $\mu\text{A}$	$V_{RRM}, T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	TSTG	$-40^\circ\text{C}$ to $175^\circ\text{C}$
Operating junction temp range	$T_J$	$-40^\circ\text{C}$ to $175^\circ\text{C}$
Max thermal resistance	$R_{\theta JC}$	$0.3^\circ\text{C/W}$ Junction to case
Typical thermal resistance	$R_{\theta CS}$	$0.08^\circ\text{C/W}$ Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque		40 inch pounds minimum
Typical Weight		1.48 ounces (42 grams) typical

# SDM150

Figure 1  
Typical Forward Characteristics

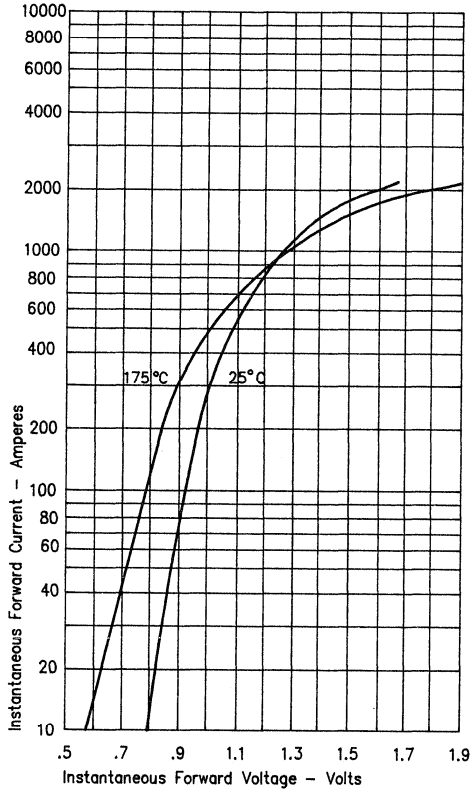


Figure 2  
Typical Reverse Characteristics

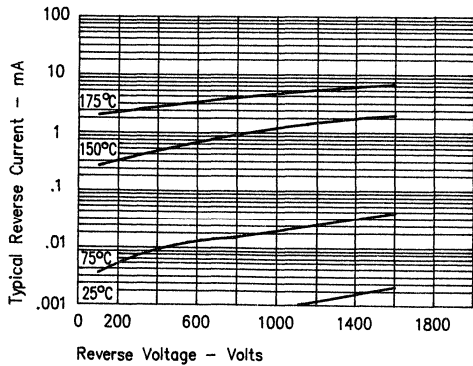


Figure 3  
Forward Current Derating

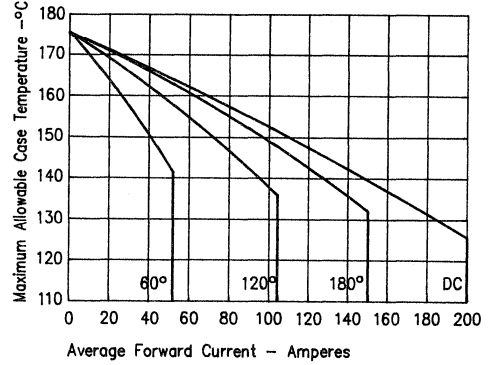


Figure 4  
Maximum Forward Power Dissipation

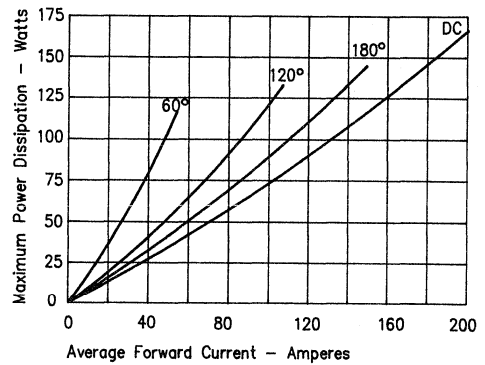
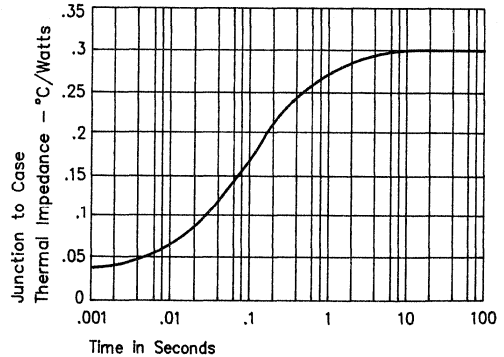
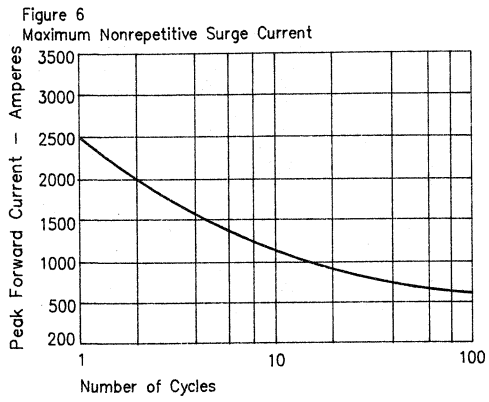


Figure 5  
Transient Thermal Impedance

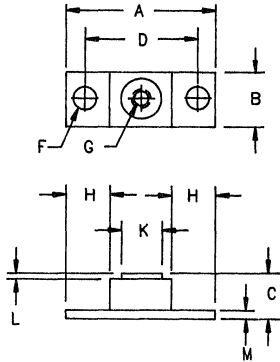


# SDM150



E

# Silicon Power Rectifier SDM300



Dim. Inches		Millimeters		Notes
Min.	Max.	Min.	Max.	
A	---	2.650	---	67.31
B	1.240	1.260	31.49	32.00
C	---	.925	---	23.49
D	2.00	BSC	50.80	BSC
F	0.320	0.340	8.13	8.64 Dia.
G	---	---	5/16-18	UNC
H	0.630	---	16.00	---
K	0.610	0.640	15.49	16.26
L	---	.100	---	2.54
M	0.182	0.192	4.62	4.88

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
SDM30002*	200V	200V
SDM30004*	400V	400V
SDM30006*	600V	600V
SDM30008*	800V	800V
SDM30010*	1000V	1000V
SDM30012*	1200V	1200V

\*Add Suffix A for Common Anode

- Compact Package
- Glass Passivated Die
- 300 Amp Current Rating
- Non-Isolated Baseplate
- Low Profile

Electrical Characteristics		
Average forward current	I <sub>F(AV)</sub> 300 Amps	T <sub>C</sub> = 130°C, half sine, R <sub>θJC</sub> = 0.15°C/W
Maximum surge current	I <sub>FSM</sub> 5500 Amps	8.3 ms, half sine, T <sub>J</sub> = 175°C
Max I <sup>2</sup> t for fusing	I <sup>2</sup> t 125990 A <sup>2</sup> s	
Max peak forward voltage	V <sub>FM</sub> 1.25 Volts	I <sub>FM</sub> = 1000A: T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> 1.20 Volts	I <sub>FM</sub> = 1000A: T <sub>J</sub> = 175°C*
Max peak reverse current	I <sub>RM</sub> 10 mA	V <sub>RRM</sub> , T <sub>J</sub> = 150°C*
Max peak reverse current	I <sub>RM</sub> 250 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C*
Typical reverse current	I <sub>RM</sub> 17 μA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C*

\*Pulse test: Pulse width 8.33 μsec, Duty cycle <1%

Thermal and Mechanical Characteristics		
Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance	R <sub>θJC</sub>	0.15°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.04°C/W Case to sink
Terminal Torque		75 inch pounds maximum
Mounting Base Torque		40 inch pounds maximum
Typical Weight		4.93 ounces (140 grams) typical



# SDM300

Figure 1  
Typical Forward Characteristics

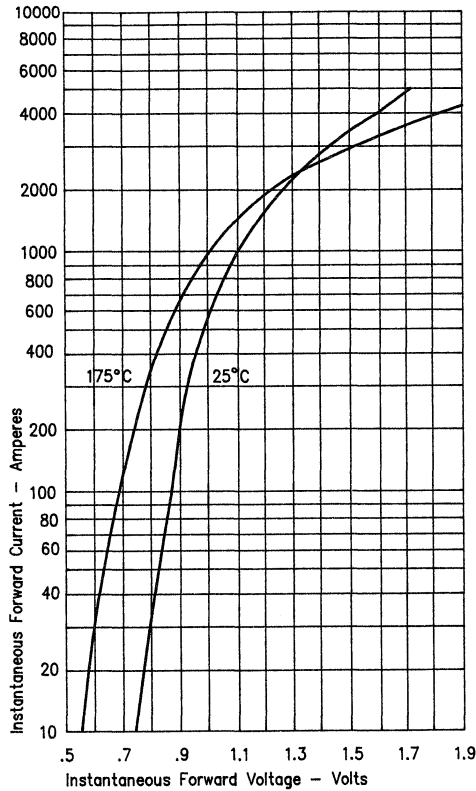


Figure 2  
Typical Reverse Characteristics

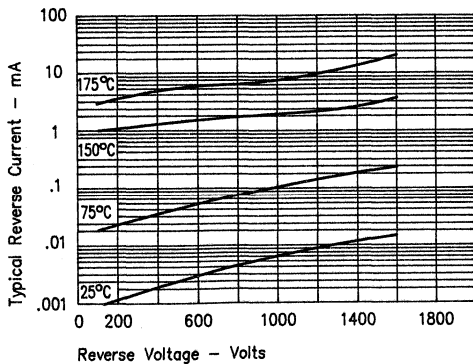


Figure 3  
Forward Current Derating

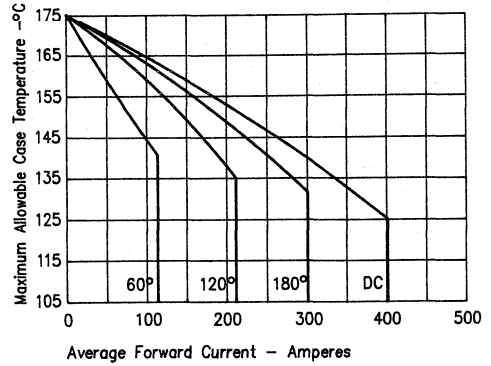


Figure 4  
Maximum Forward Power Dissipation

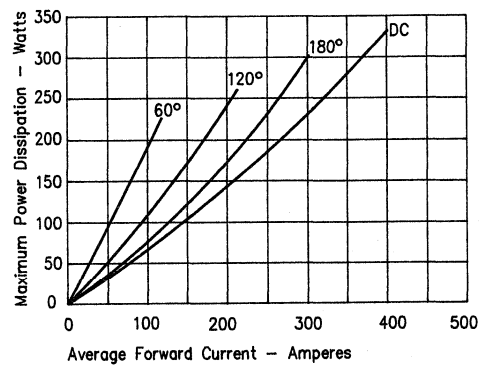
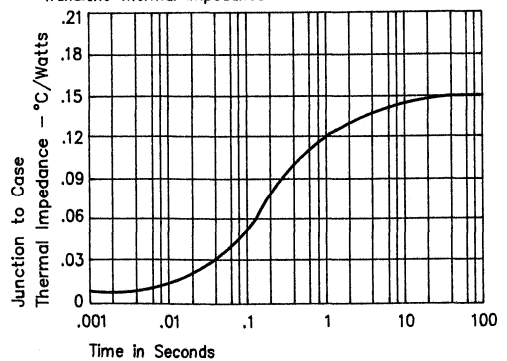
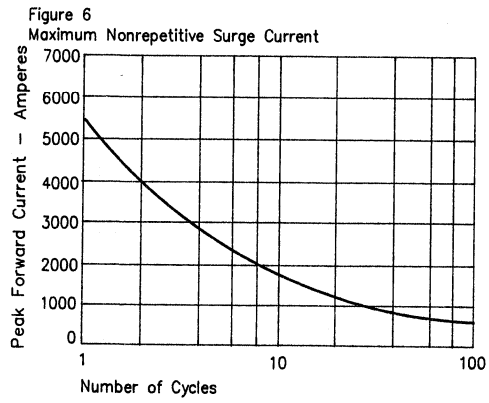


Figure 5  
Transient Thermal Impedance

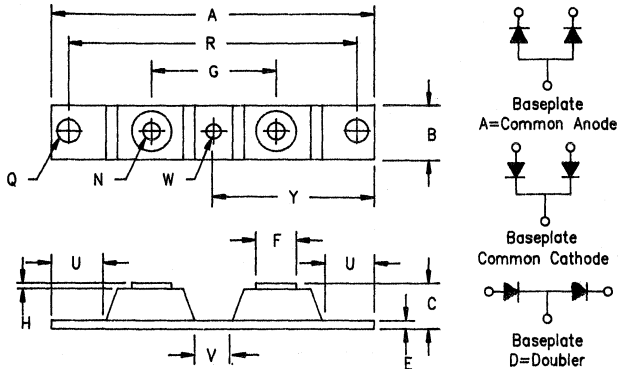


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# SDM300



# Twin Diode Module TDM150



Notes:  
Baseplate: Nickel plated  
copper; common cathode

Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20	
B	0.700	0.800	17.78	20.32	
C	---	0.625	---	15.87	
E	0.120	0.130	3.05	3.30	
F	0.490	0.510	12.45	12.95	
G	1.375 BSC		34.92 BSC		
H	---	0.050	---	1.27	
N	1/4-20 UNC		---	---	
Q	.280	.310	6.86	7.11	Dia.
R	3.150 BSC		80.01 BSC		
U	0.600	---	15.24	---	
V	0.330	0.350	8.38	8.89	
W	0.170	0.190	4.32	4.82	Dia.
Y	1.815 BSC		46.10 BSC		

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
TDM15002*	200V	200V
TDM15004*	400V	400V
TDM15006*	600V	600V
TDM15008*	800V	800V
TDM15010*	1000V	1000V
TDM15012*	1200V	1200V

\*Add Suffix A for Common Anode, D for Doubler

- Compact Package
- Glass Passivated Die
- 2 x 150 Amp Current Rating
- Simplifies Circuit Assembly
- High Surge Capacity

Electrical Characteristics		
Average forward current per pkg	$I_{F(AV)}$ 300 Amps	$T_C = 120^\circ\text{C}$ , half sine, $R_{\theta JC} = 0.15^\circ\text{C/W}$
Average forward current per leg	$I_{F(AV)}$ 150 Amps	$T_C = 120^\circ\text{C}$ , half sine, $R_{\theta JC} = 0.30^\circ\text{C/W}$
Maximum surge current per leg	$I_{FSM}$ 2500 Amps	8.3 ms, half sine, $T_J = 175^\circ\text{C}$
Max $I^2t$ for fusing	$I^2t$ 26000 $\text{A}^2\text{s}$	
Max peak forward voltage per leg	$V_{FM}$ 1.1 volts	$I_{FM} = 200\text{A}; T_J = 25^\circ\text{C}$
Max peak forward voltage per leg	$V_{FM}$ 1.0 volts	$I_{FM} = 200\text{A}; T_J = 175^\circ\text{C}$
Max peak reverse current per leg	$I_{RM}$ 5 mA	$V_{RRM}, T_J = 150^\circ\text{C}$
Typical reverse current per leg	$I_{RM}$ 3.0 $\mu\text{A}$	$V_{RRM}, T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	$T_{STG}$	$-40^\circ\text{C}$ to $175^\circ\text{C}$
Operating junction temp range	$T_J$	$-40^\circ\text{C}$ to $175^\circ\text{C}$
Max thermal resistance per leg	$R_{\theta JC}$	$0.3^\circ\text{C/W}$ Junction to case
Typical thermal resistance per leg	$R_{\theta CS}$	$0.08^\circ\text{C/W}$ Case to sink
Terminal Torque		50 inch pounds maximum
Mounting Base Torque (outside holes)		40 inch pounds maximum
Mounting Base Torque (center hole)		10 inch pounds maximum
center hole must be torqued first		
Weight		2.82 ounces (80 grams) typical

**Microsemi Corp.**  
**Colorado**

# TDM150

Figure 1  
Typical Forward Characteristics - Per Leg

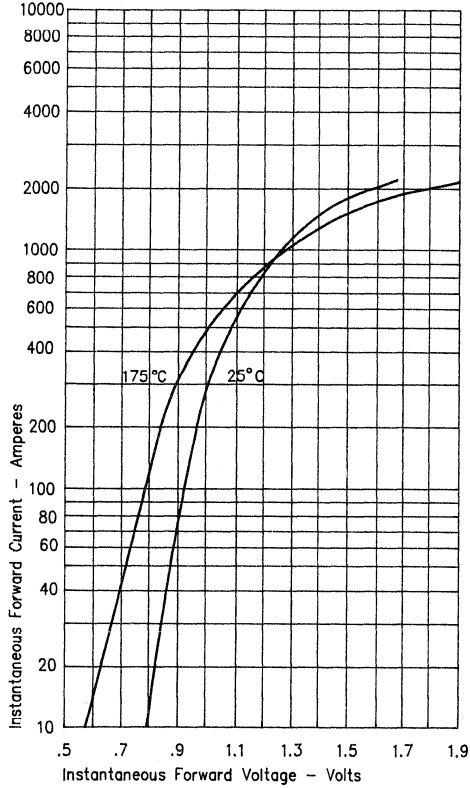


Figure 2  
Typical Reverse Characteristics - Per Leg

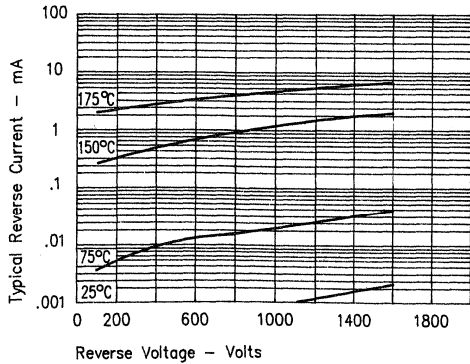


Figure 3  
Forward Current Derating - Per Leg

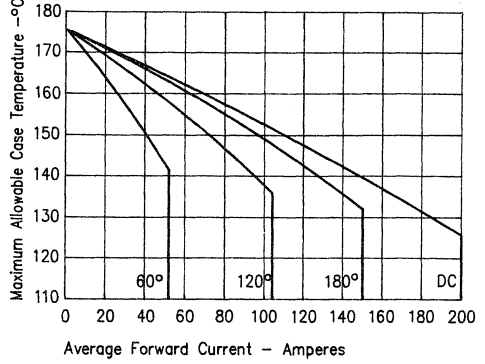


Figure 4  
Maximum Forward Power Dissipation - Per Leg

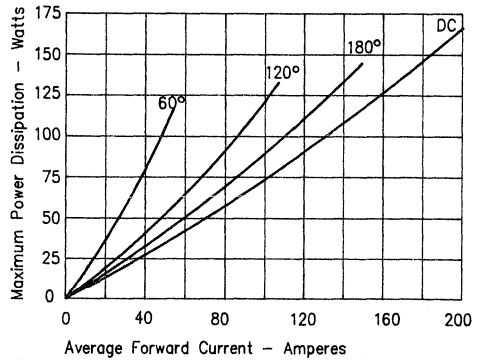
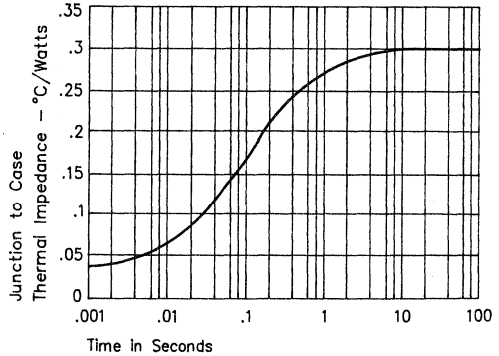
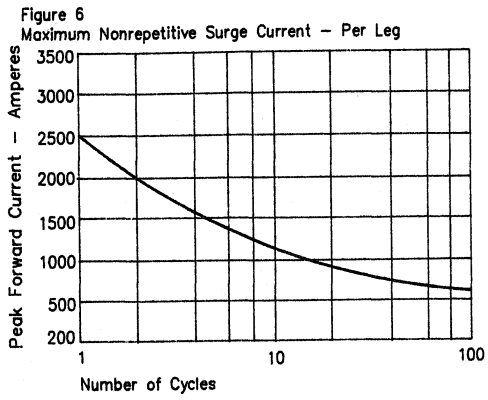


Figure 5  
Transient Thermal Impedance - Per Leg



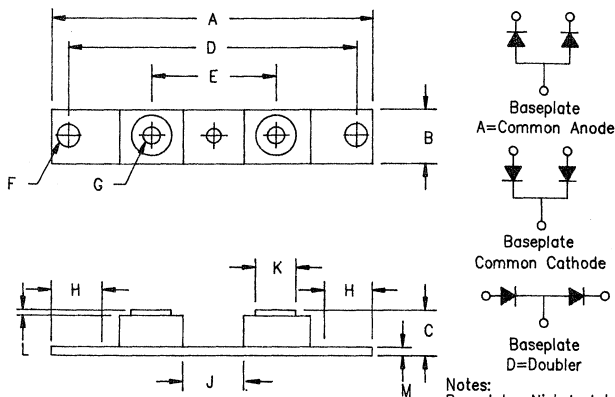


# TDM150



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# Twin Diode Module TDM300



Notes:  
Baseplate: Nickel plated  
copper; common cathode

Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	---	4.600	---	116.84	
B	1.240	1.260	31.49	32.00	
C	---	.925	---	23.49	
D	3.99 BSC		101.34 BSC		
E	1.98 BSC		50.29 BSC		
F	0.320	0.340	8.13	8.64	Dia.
G	---	---	---	---	5/16-18
H	0.630	---	16.00	---	
J	0.680	0.780	17.27	19.81	
K	0.610	0.640	15.49	16.26	
L	---	.100	---	2.54	
M	0.182	0.192	4.62	4.88	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
TDM30002*	200V	200V
TDM30004*	400V	400V
TDM30006*	600V	600V
TDM30008*	800V	800V
TDM30010*	1000V	1000V
TDM30012*	1200V	1200V

\*Add Suffix A for Common Anode, D for Doubler

- Compact Package
- Glass Passivated Die
- 2 x 300 Amp Current Rating
- Simplifies Circuit Assembly
- Non-Isolated Baseplate

Electrical Characteristics		
Average forward current per pkg	I <sub>F(AV)</sub> 600 Amps	T <sub>C</sub> = 130°C, half sine, R <sub>θJC</sub> = 0.08°C/W
Average forward current per leg	I <sub>F(AV)</sub> 300 Amps	T <sub>C</sub> = 130°C, half sine, R <sub>θJC</sub> = 0.15°C/W
Maximum surge current per leg	I <sub>FSM</sub> 5500 Amps	8.3 ms, half sine, T <sub>J</sub> = 175°C
Max I <sup>2</sup> t for fusing	I <sup>2</sup> t 125990 A <sup>2</sup> s	
Max peak forward voltage per leg	V <sub>FM</sub> 1.25 Volts	I <sub>FM</sub> = 1000A; T <sub>J</sub> = 25°C*
Max peak forward voltage per leg	V <sub>FM</sub> 1.20 Volts	I <sub>FM</sub> = 1000A; T <sub>J</sub> = 175°C*
Max peak reverse current per leg	I <sub>RM</sub> 10 mA	V <sub>RRM</sub> , T <sub>J</sub> = 150°C
Max peak reverse current per leg	I <sub>RM</sub> 250 uA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C*
Typical reverse current per leg	I <sub>RM</sub> 17 uA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C*

\*Pulse test: Pulse width 8.33 msec, Duty cycle <1%

Thermal and Mechanical Characteristics		
Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance per leg	R <sub>θJC</sub>	0.15°C/W Junction to case
Typical thermal resistance per leg	R <sub>θCS</sub>	0.04°C/W Case to sink
Terminal Torque		75 inch pounds maximum
Mounting Base Torque (outside holes)		40 inch pounds maximum
Mounting Base Torque (center hole)		10 inch pounds maximum
center hole must be torqued first		
Weight		9.3 ounces (263.7 grams) typical

# TDM300

Figure 1  
Typical Forward Characteristics - Per Leg

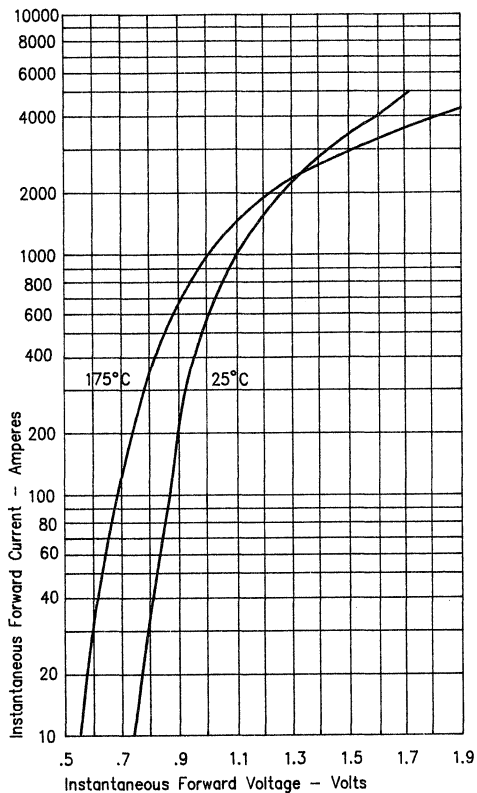


Figure 3  
Forward Current Derating - Per Leg

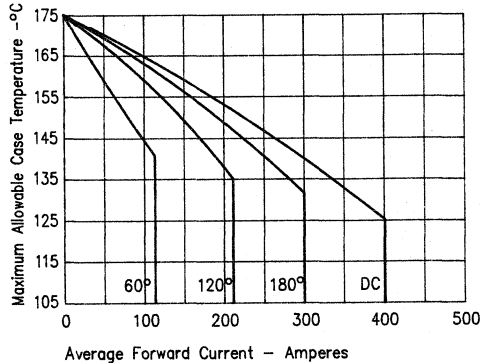


Figure 4  
Maximum Forward Power Dissipation - Per Leg

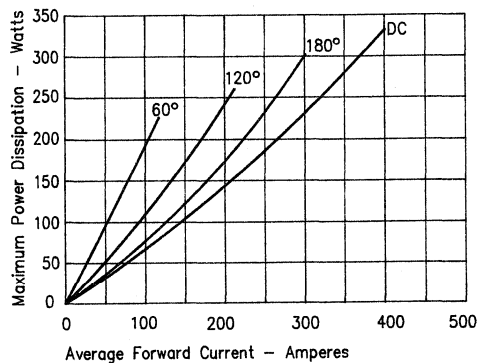


Figure 2  
Typical Reverse Characteristics - Per Leg

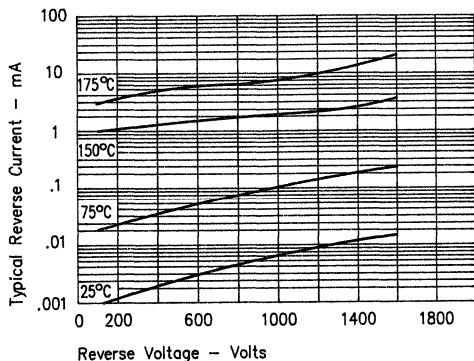
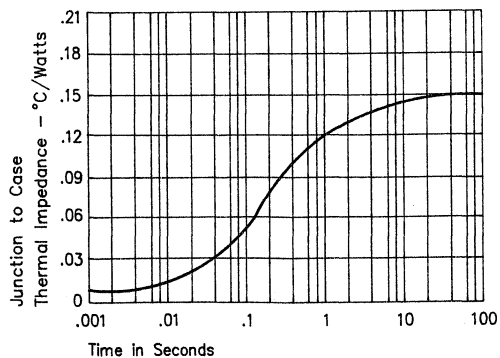
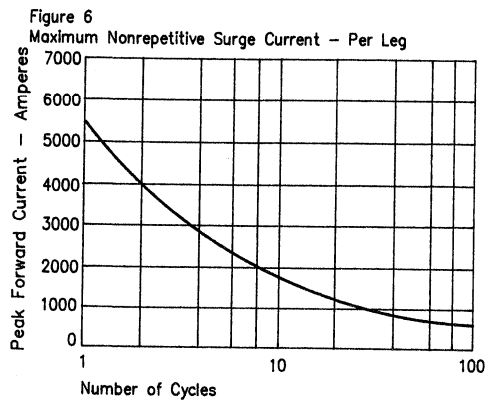


Figure 5  
Transient Thermal Impedance - Per Leg

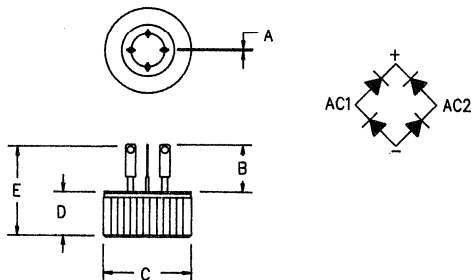


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# TDM300



# Single Phase Bridge Modules MT200 — MT800



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.020	.030	.508	.762	
B	.350	.370	8.89	9.40	
C	.745	.760	18.92	19.30	Dia.
D	.405	.420	10.29	10.67	
E	.775	.795	19.68	20.19	

Microsemi Catalog Number	Repetitive Peak Reverse Voltage
MT200*	200V
MT400*	400V
MT600*	600V
MT800*	800V

\*Available with T03 mounting flange  
For other circuit configurations, consult factory

- Glass Passivated Die
- Glass to metal construction
- Single phase rectification
- Available to 800 Volts
- Cup electrically isolated from terminals

Electrical Characteristics		
Maximum DC output current, single phase	I <sub>O</sub> 25 Amps	Sine wave, 180° conduction
Maximum case temperature	T <sub>C</sub> 137°C	
Maximum surge current per diode	I <sub>FSM</sub> 250 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Max I <sup>2</sup> t for fusing	I <sup>2</sup> t 260 A <sup>2</sup> s	
Max peak forward voltage per diode	V <sub>FM</sub> 1.2 Volts	@ I <sub>O</sub> ; T <sub>J</sub> = 25°C*
Max peak reverse current per diode	I <sub>RM</sub> 1.0 mA	V <sub>RRM</sub> , T <sub>J</sub> = 150°C
Minimum isolation voltage	V <sub>ISOL</sub> 2500 VRMS	any terminal to case

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	T <sub>STG</sub>	-85°C to 200°C
Operating junction temperature range	T <sub>J</sub>	-65°C to 200°C
Maximum thermal resistance per diode	R <sub>θJC</sub>	2.0°C/W Junction to Lead
Typical thermal resistance	R <sub>θCS</sub>	0.2°C/W Case to sink
Weight		0.53 ounces (15.0 grams) typical

E

# MT200 — MT800

Figure 1  
Typical Forward Characteristics — Per Diode

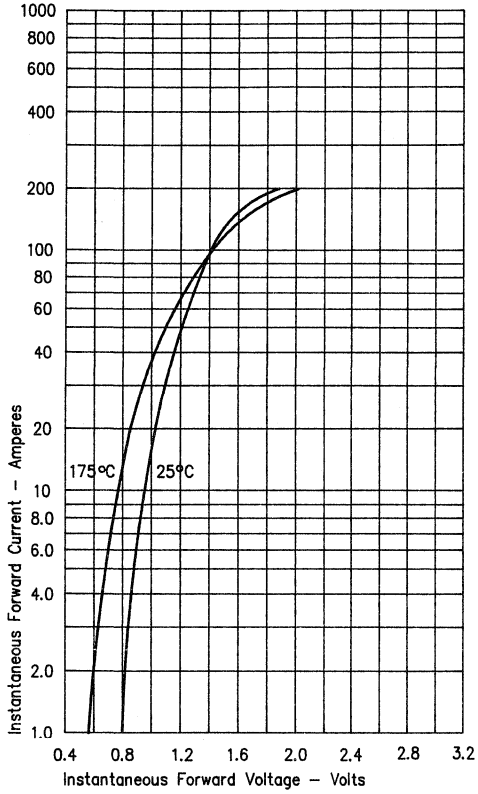


Figure 3  
Maximum Nonrepetitive Surge Current — Per Diode

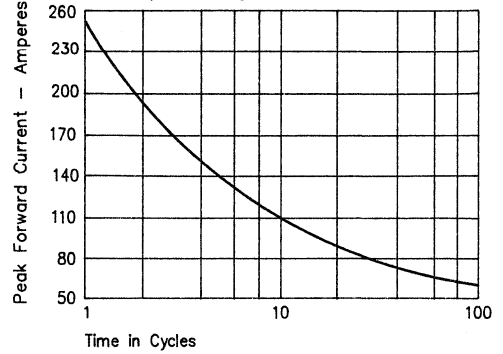
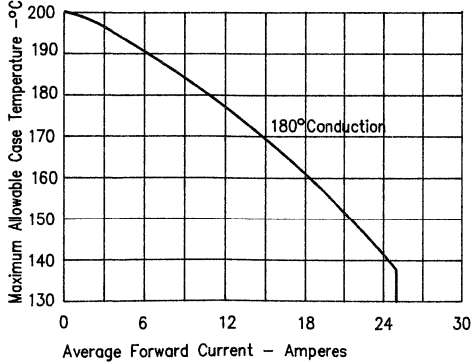
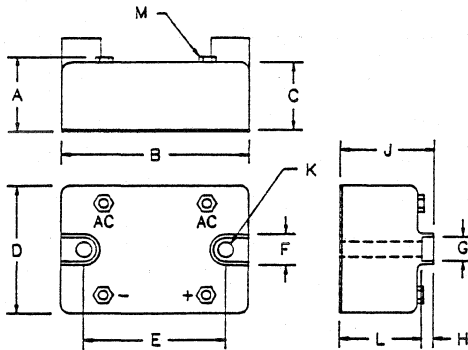


Figure 2  
Forward Current Derating — Per Diode



# Single Phase Bridge Modules EH60, EH75



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	—	1.10	—	27.94	
B	2.25	2.40	57.15	60.96	
C	.930	.950	23.62	24.13	
D	1.740	1.760	44.19	44.70	
E	1.883	1.887	47.82	47.92	
F	.495	.505	12.57	12.83	
G	.325	.335	8.25	8.50	
H	.215	.225	5.46	5.71	
J	1.270	1.300	32.25	33.02	
K	.198	.208	5.02	5.28	Dia.
L	1.055	1.075	26.79	27.30	
M	#10-32 Tapped Holes				

Microsemi Catalog Number	Repetitive Peak Reverse Voltage
EH6002B*	200
EH6004B*	400
EH6006B*	600
EH6008B*	800
EH6010B*	1000
EH6012B*	1200
EH7502B*	
EH7504B*	
EH7506B*	
EH7508B*	
EH7510B*	
EH7512B*	

\*Add S for Transient Suppressor across output

- Integral Transient Suppression Available
- High Terminal-to-base Isolation of 2500VAC RMS
- Available to 1200V
- Mounting Bolts Isolated From Power Terminals



Electrical Characteristics			
	EH60	EH75	
Maximum DC output current, single phase	Io 60A	75A	Sine wave, 180° conduction
Maximum case temperature	Tc 104°C	105°C	
Maximum surge current per diode	IFSM 1050A	1500A	8.3ms, half sine, Tj = 175°C
Max. I <sup>2</sup> t for fusing	I <sup>2</sup> t 4600A <sup>2</sup> S	9300A <sup>2</sup> S	
Max. peak forward voltage per diode	VFM 1.2V	1.1V	⊗ Io; Tj = 25°C
Max. peak reverse voltage per diode	IRM 4mA		VRRM, Tj = 150°C
Minimum isolation voltage	VSOL 2500VRMS		any terminal-to-base

Thermal and Mechanical Characteristics		
Storage temp range	TSTG	-40°C to 175°C
Operating junction temp range	TJ	-40°C to 175°C
Max thermal resistance per diode	EH60 RθJC	1.0°C/W Junction to case
	EH75 RθJC	0.85°C/W Junction to case
Max mounting torque		30 lb-in
Typical thermal resistance	RθCS	0.07°C/W Case to sink
Typical Weight		5.8 ounces (165 grams)

# EH60, EH75

Figure 1  
Typical Forward Characteristics - Per Diode

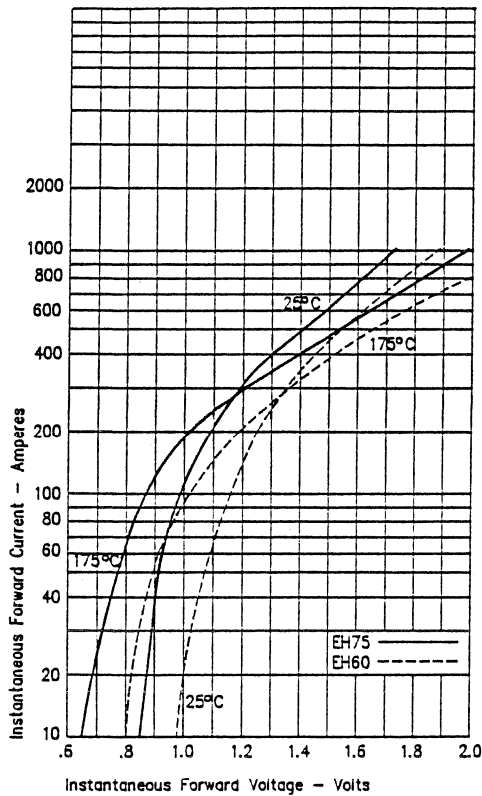


Figure 3  
Maximum Nonrepetitive Surge Current - Per Diode

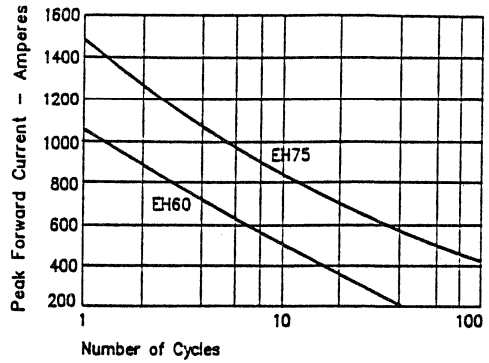
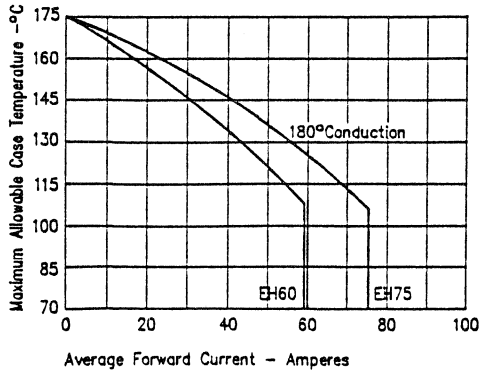
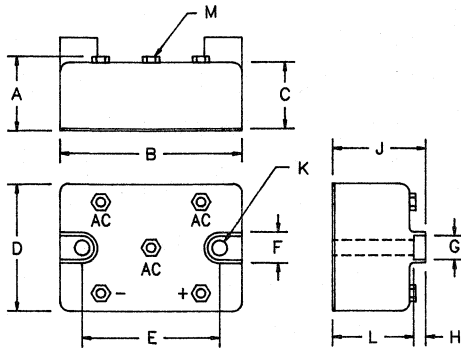


Figure 2  
Forward Current Derating - Per Diode





# 3 Phase Bridge Modules EH80, EH100



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	—	1.10	—	27.94	
B	2.25	2.40	57.15	60.96	
C	.930	.950	23.62	24.13	
D	1.740	1.760	44.19	44.70	
E	1.883	1.887	47.82	47.92	
F	.495	.505	12.57	12.83	
G	.325	.335	8.25	8.50	
H	.215	.225	5.46	5.71	
J	1.270	1.300	32.25	33.02	
K	.198	.208	5.02	5.28	Dia.
L	1.055	1.075	26.79	27.30	
M	#10-32 Tapped Holes				

Microsemi Catalog Number	Repetitive Peak Reverse Voltage
EH8002ZI* EH10002ZI*	200
EH8004ZI* EH10004ZI*	400
EH8006ZI* EH10006ZI*	600
EH8008ZI* EH10008ZI*	800
EH8010ZI* EH10010ZI*	1000
EH8012ZI* EH10012ZI*	1200

\*Add S for Transient Suppressor across output

- Integral Transient Suppression Available
- High Terminal-to-base Isolation of 2500VAC RMS
- Available to 1200V
- Mounting Bolts Isolated From Power Terminals



Electrical Characteristics			
	EH80	EH100	
Maximum DC output current, 3-phase	$I_o$ 80A	100A	Sine wave, 120° conduction
Maximum case temperature	$T_C$ 138°C	141°C	
Maximum surge current per diode	$I_{FSM}$ 1050A	1500A	8.3ms, half sine, $T_J = 175^\circ\text{C}$
Max. $I^2t$ for fusing	$I^2t$ 4600A <sup>2</sup> S	9300A <sup>2</sup> S	
Max. peak forward voltage per diode	$V_{FM}$ 1.2V	1.1V	⊗ $I_o$ ; $T_J = 25^\circ\text{C}$
Max. peak reverse voltage per diode	$V_{RM}$ 4mA		$V_{RRM}$ , $T_J = 150^\circ\text{C}$
Minimum isolation voltage	$V_{SOL}$ 2500V <sub>RMS</sub>		any terminal-to-base

Thermal and Mechanical Characteristics		
Storage temp range	$T_{STG}$	-40°C to 175°C
Operating junction temp range	$T_J$	-40°C to 175°C
Max thermal resistance per diode	EH80 $R_{\theta JC}$	1.0°C/W Junction to case
	EH100 $R_{\theta JC}$	0.85°C/W Junction to case
Max mounting torque		30 lb-in
Typical thermal resistance	$R_{\theta CS}$	0.07°C/W Case to sink
Typical Weight		5.8 ounces (165 grams)



# EH80, EH100

Figure 1  
Typical Forward Characteristics - Per Diode

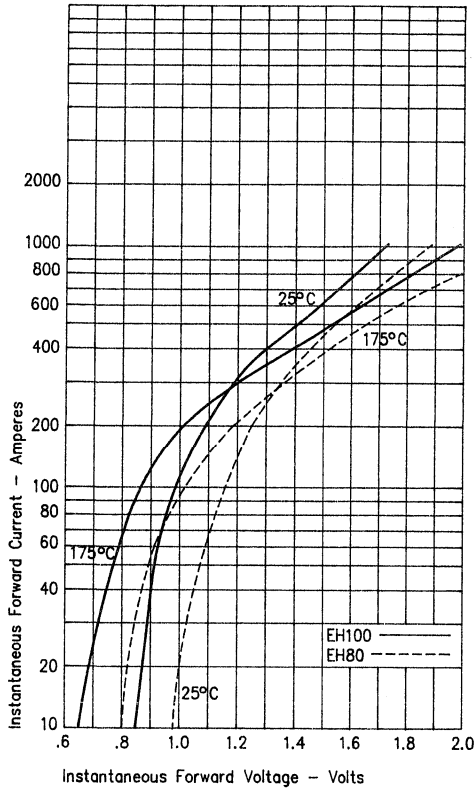


Figure 3  
Maximum Nonrepetitive Surge Current - Per Diode

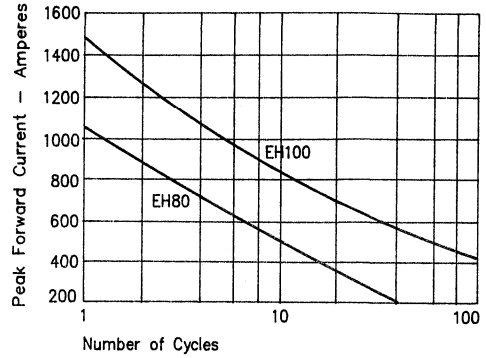
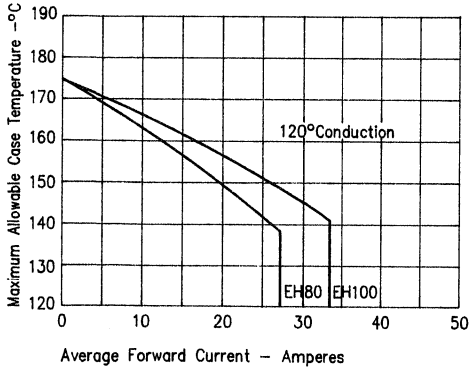
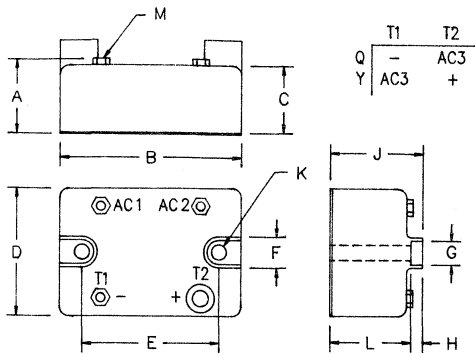


Figure 2  
Forward Current Derating - Per Diode



# 3 Phase Bridge Modules EH150Y, EH150Q-



Note: (+) or (-) terminal 1/4-20 tapped hole.

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A		1.10		27.94	
B	2.25	2.40	57.15	60.96	
C	.930	.950	23.62	24.13	
D	1.740	1.760	44.19	44.70	
E	1.883	1.887	47.82	47.92	
F	.495	.505	12.57	12.83	
G	.325	.335	8.25	8.50	
H	.215	.225	5.46	5.71	
J	1.270	1.300	32.25	33.02	
K	.198	.208	5.02	5.28	Dia.
L	1.055	1.075	26.79	27.30	
M	#10-32 TAPPED HOLES				

Microsemi Catalog Number	Repetitive Peak Reverse Voltage
EH15002Y    EH15002Q-	200
EH15004Y    EH15004Q-	400
EH15006Y    EH15006Q-	600
EH15008Y    EH15008Q-	800
EH15010Y    EH15010Q-	1000
EH15012Y    EH15012Q-	1200
EH15014Y    EH15014Q-	1400

Both Q- and Y Part Numbers are needed to complete 3 $\phi$  Rectification

- Maximum Surge Current 1600 Amps
- High Terminal-to-base Isolation of 2500VAC RMS
- Available to 1400 Volts
- Mounting Bolts Isolated From Power Terminals

### Electrical Characteristics

Maximum DC output current, 3 phase	$I_o$ 150 Amps	$T_C = 128^\circ\text{C}$ , 120 $^\circ\text{C}$ conduction, $R_{\theta JC} = 0.7^\circ\text{C/W}$
Maximum surge current per diode	IFSM 1600 Amps	8.3ms, half sine, $T_J = 175^\circ\text{C}$
Max. $I^2t$ for fusing	$I^2t$ 10600 A $^2$ s	
Max. peak forward voltage per diode	$V_{FM}$ 1.0 Volt	$I_{FM} = 50\text{A}$ ; $T_J = 25^\circ\text{C}$ *
Max. peak reverse current per diode	$I_{RM}$ 5 $\mu\text{A}$	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Max. peak reverse current per diode	$I_{RM}$ 3 mA	$V_{RRM}$ , $T_J = 150^\circ\text{C}$ *
Minimum isolation voltage	$V_{ISOL}$ 2500 $V_{RMS}$	any terminal-to-base

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-40^\circ\text{C}$ to $+175^\circ\text{C}$
Operating junction temp range	$T_J$	$-40^\circ\text{C}$ to $+175^\circ\text{C}$
Max thermal resistance per diode	$R_{\theta JC}$	0.7 $^\circ\text{C/W}$ Junction to case
Typical thermal resistance per diode	$R_{\theta JC}$	0.5 $^\circ\text{C/W}$ Junction to case
Max mounting torque		20 inch pounds
Typical thermal resistance	$R_{\theta CS}$	0.07 $^\circ\text{C/W}$ Case to sink
Weight		6.4 ounces (182 grams) typical

# EH150Y, EH150Q-

Figure 1  
Typical Forward Characteristics - Per Diode

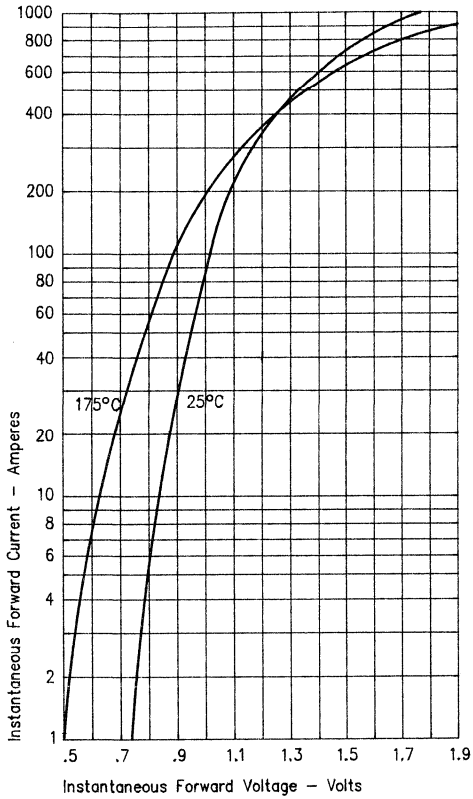


Figure 3  
Maximum Nonrepetitive Surge Current - Per Diode

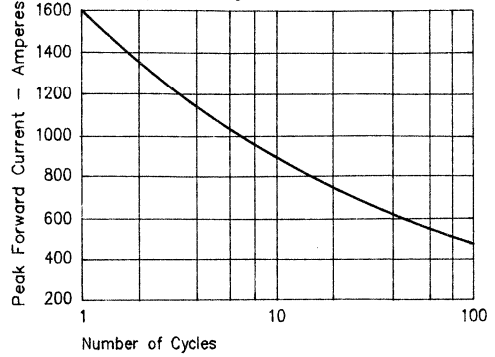
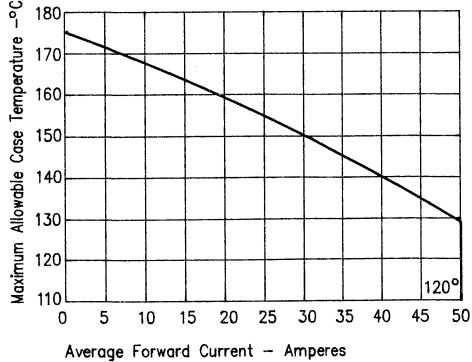


Figure 2  
Forward Current Derating - Per Diode

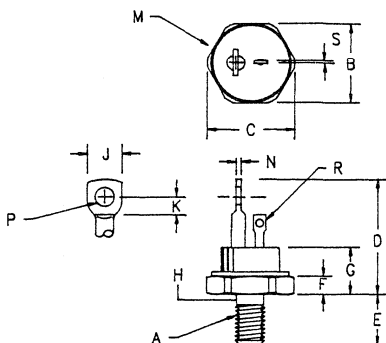


*Section F*

*SCR's*

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# Silicon Controlled Rectifier Series 40C



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.677	.685	17.20	17.40	
C	---	.770	---	19.56	
D	1.200	1.250	30.48	31.75	
E	.427	.447	10.84	11.35	
F	.115	.155	2.92	3.94	
G	---	.515	---	13.08	
H	---	.249	---	6.32	2
J	.200	.300	5.08	7.62	
K	.120	---	3.05	---	
M	---	.667	---	16.94	Dia.
N	.065	.085	1.65	2.15	
P	.145	.155	3.68	3.93	Dia.
R	.055	.065	1.40	1.65	Dia.
S	.025	.030	.64	.76	

Note 1: 1/4-28 UNF-3A

Note 2: Full thread within 2 1/2 threads

## TO-208AC (TO-65)

Microsemi Catalog Number	Forward & Reverse Repetitive Blocking	Reverse Transient Blocking
40C20B	200	300
40C40B	400	500
40C60B	600	700
40C80B	800	900
40C100B	1000	1100
40C120B	1200	1300

To specify dv/dt other than 200V/usec., contact factory.

- dv/dt-200 V/usec
- 1000 Amperes surge current
- Economical for medium power applications
- Compact TO-208AC package

### Electrical Characteristics

Max. RMS on-state current	$I_T(\text{RMS})$ 63 Amps	$T_C = 102^\circ\text{C}$
Max. average on-state cur.	$I_T(\text{AV})$ 40 Amps	$T_C = 102^\circ\text{C}$
Max. peak on-state voltage	$V_{TM}$ 2.6 Volts	$I_{TM} = 500 \text{ A(peak)}$
Max. holding current	$I_H$ 200 mA	
Max. peak one cycle surge current	$I_{TSM}$ 1000 A	$T_C = 120^\circ\text{C}, 60\text{Hz}$
Max. $I^2t$ capability for fusing	$I^2t$ 4100A <sup>2</sup> S	$t = 8.3 \text{ ms}$

### Thermal and Mechanical Characteristics

Operating junction temp range	$T_J$	-40°C to 125°C
Storage temperature range	$T_{STG}$	-40°C to 150°C
Maximum thermal resistance	$R_{\theta JC}$	0.35°C/W Junction to case
Typical thermal resistance	$R_{\theta CS}$	0.20°C/W Case to sink
Max mounting torque		30 inch pounds maximum
Weight		0.56 ounces (16 grams) typical

# 40C

$T_J = 25^\circ\text{C}$  unless otherwise indicated

Switching			
Critical rate of rise of on-state current (note 1)	$di/dt$	200A/usec.	$T_J = 125^\circ\text{C}$
Typical delay time (note 1)	$t_d$	3.0 usec.	
Typical circuit commuted turn-off time (note 2)	$t_q$	100 usec.	$T_J = 125^\circ\text{C}$
Note 1: $I_{TM} = 50\text{A}$ , $V_D = V_{DRM}$ . $GT = 12\text{V}$ open circuit, 20 ohm-0.1 usec. rise time Note 2: $I_{TM} = 50\text{A}$ , $di/dt = 5\text{A/usec.}$ , $V_R$ during turn-off interval = 50V min., reapplied $dv/dt = 20\text{V/usec.}$ , linear to rated $V_{DRM}$ , $V_{GT} = 0\text{V}$			

Triggering			
Max. gate voltage to trigger	$V_{GT}$	3.0V	
Typical gate voltage to trigger	$V_{GT}$	1.0V	
Max. nontriggering gate voltage	$V_{GD}$	0.25V	$T_J = 125^\circ\text{C}$
Max. gate current to trigger	$I_{GT}$	100mA	
Typical gate current to trigger	$I_{GT}$	48mA	
Max. peak gate power	$P_{GM}$	10W	
Average gate power	$P_G(AV)$	1.0W	$t_p = 10\text{ usec.}$
Max. peak gate current	$I_{GM}$	3.0A	
Max. peak gate voltage (forward)	$V_{GM}$	20V	
Max. peak gate voltage (reverse)	$V_{GM}$	10V	

Blocking			
Max. leakage current	$I_{DRM}$	6mA	$T_J = 125^\circ\text{C}$ & $V_{DRM}$
Max. reverse leakage	$I_{RRM}$	6mA	$T_J = 125^\circ\text{C}$ & $V_{RRM}$
Critical rate of rise of off-state voltage	$dv/dt$	200V/usec.	$T_J = 125^\circ\text{C}$



# 40C

Figure 1  
Typical Forward On-State Characteristics

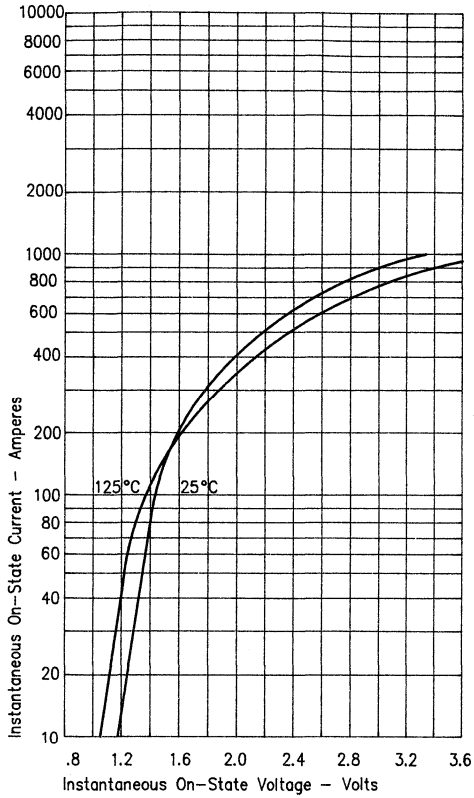


Figure 2  
Forward Current Derating

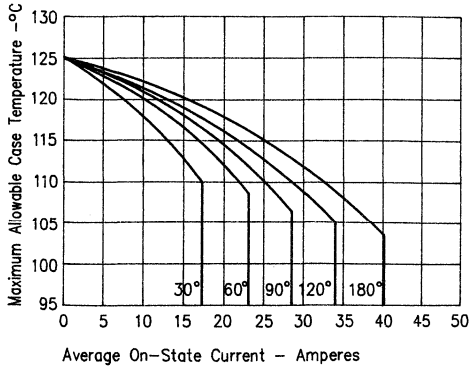


Figure 3  
Maximum Power Dissipation

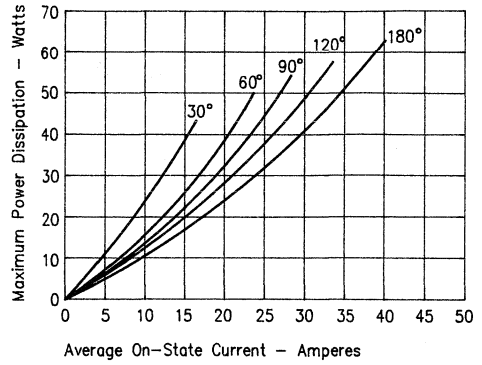


Figure 4  
Transient Thermal Impedance

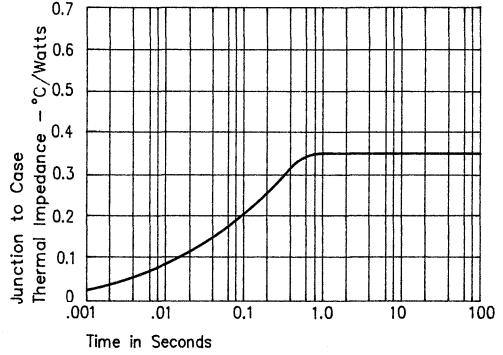
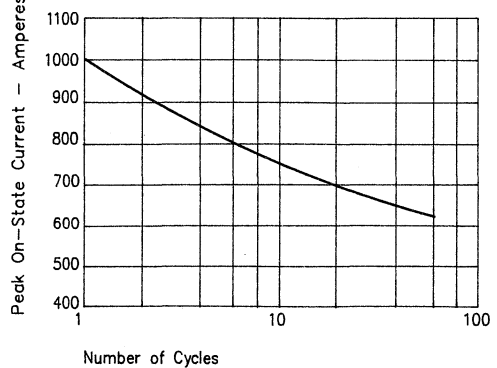
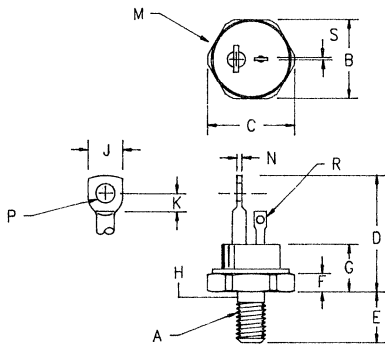


Figure 5  
Maximum Nonrepetitive Surge Current



F

# Silicon Controlled Rectifier Series 050



Note 1: 1/4-28 UNF-3A

Note 2: Full thread within 2 1/2 threads

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.677	.685	17.20	17.40	
C	---	.770	---	19.56	
D	1.200	1.250	30.48	31.75	
E	.427	.447	10.84	11.35	
F	.115	.155	2.92	3.94	
G	---	.515	---	13.08	
H	.220	.249	5.58	6.32	2
J	.200	.300	5.08	7.62	
K	.120	---	3.05	---	
M	---	.667	---	16.94	Dia.
N	.065	.085	1.65	2.15	
P	.145	.155	3.68	3.93	Dia.
R	.055	.065	1.40	1.65	Dia.
S	.025	.030	.64	.76	

## TO-208AC (TO-65)

Microsemi Catalog Number	Forward & Reverse Repetitive Blocking	Reverse Transient Blocking
05002GOF	200	300
05004GOF	400	500
05006GOF	600	700
05008GOF	800	900
05010GOF	1000	1100
05012GOF	1200	1300

To specify dv/dt other than 200V/usec., contact factory.

- dv/dt-200 V/usec
- 1200 Amperes surge current
- Economical for medium power applications
- Compact TO-208AC package

Electrical Characteristics		
Max. RMS on-state current	$I_{T(RMS)}$ 80 Amps	$T_C = 94^\circ C$
Max. average on-state cur.	$I_{T(AV)}$ 50 Amps	$T_C = 94^\circ C$
Max. peak on-state voltage	$V_{TM}$ 2.3 Volts	$I_{TM} = 500 A(\text{peak})$
Max. holding current	$I_H$ 200 mA	$T_C = 94^\circ C$ 60Hz
Max. peak one cycle surge current	$I_{TSM}$ 1200 Amps	
Max. $I^2t$ capability for fusing	$I^2t$ 6000A <sup>2</sup> S	$t = 8.3 \text{ ms}$

Thermal and Mechanical Characteristics		
Operating junction temp range	$T_J$	-40°C to 125°C
Storage temperature range	$T_{STG}$	-40°C to 150°C
Maximum thermal resistance	$R_{\theta JC}$	0.35°C/W Junction to case
Typical thermal resistance	$R_{\theta CS}$	0.20°C/W Case to sink
Max mounting torque		30 inch pounds maximum
Weight		0.56 ounces (16 grams) typical

**Microsemi Corp.**  
**Colorado**

# 050

T<sub>J</sub> = 25°C unless otherwise indicated

Switching			
Critical rate of rise of on-state current (note 1)	di/dt	200A/usec.	T <sub>J</sub> = 125°C
Typical delay time (note 1)	t <sub>d</sub>	3.0 usec.	
Typical circuit commuted turn-off time (note 2)	t <sub>q</sub>	100 usec.	T <sub>J</sub> = 125°C
Note 1: I <sub>TM</sub> = 50A, V <sub>D</sub> = V <sub>D<sub>RM</sub></sub> , G <sub>T</sub> = 12V open circuit, 20 ohm-0.1 usec. rise time Note 2: I <sub>TM</sub> = 50A, di/dt = 5A/usec., V <sub>R</sub> during turn-off interval = 50V min., reapplied dv/dt = 20V/usec., linear to rated V <sub>D<sub>RM</sub></sub> , V <sub>G<sub>T</sub></sub> = 0V			

Triggering			
Max. gate voltage to trigger	V <sub>GT</sub>	3.0V	
Typical gate voltage to trigger	V <sub>GT</sub>	1.0V	
Max. nontriggering gate voltage	V <sub>GD</sub>	0.25V	T <sub>J</sub> = 125°C
Max. gate current to trigger	I <sub>GT</sub>	100mA	
Typical gate current to trigger	I <sub>GT</sub>	48mA	
Max. peak gate power	P <sub>GM</sub>	10W	
Average gate power	P <sub>G(AV)</sub>	1.0W	t <sub>p</sub> = 10 usec.
Max. peak gate current	I <sub>GM</sub>	3.0A	
Max. peak gate voltage (forward)	V <sub>GM</sub>	20V	
Max. peak gate voltage (reverse)	V <sub>GM</sub>	10V	

Blocking			
Max. leakage current	I <sub>DRM</sub>	6mA	T <sub>J</sub> = 125°C & V <sub>D<sub>RM</sub></sub>
Max. reverse leakage	I <sub>RRM</sub>	6mA	T <sub>J</sub> = 125°C & V <sub>R<sub>RM</sub></sub>
Critical rate of rise of off-state voltage	dv/dt	200V/usec.	T <sub>J</sub> = 125°C



Figure 1  
Typical Forward On-State Characteristics

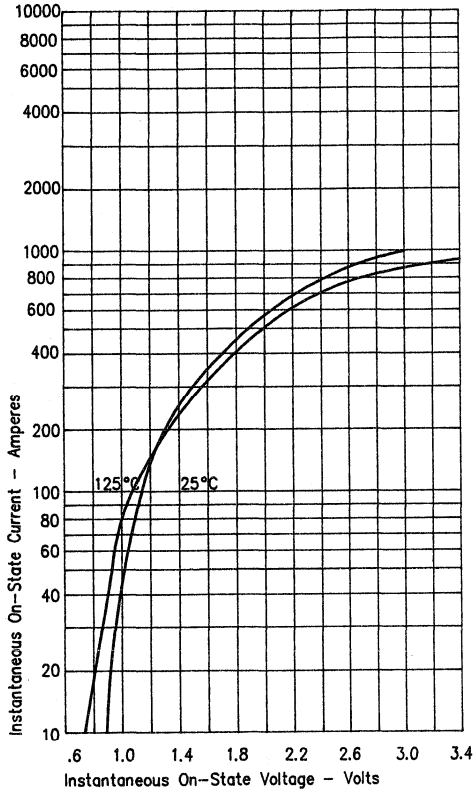


Figure 3  
Maximum Power Dissipation

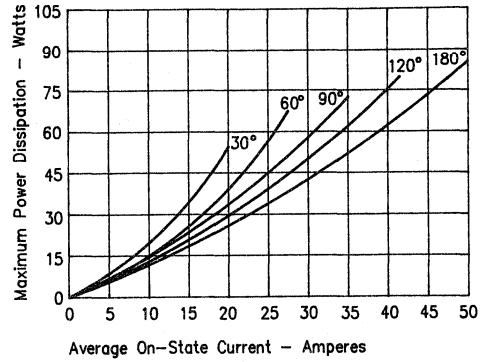


Figure 4  
Transient Thermal Impedance

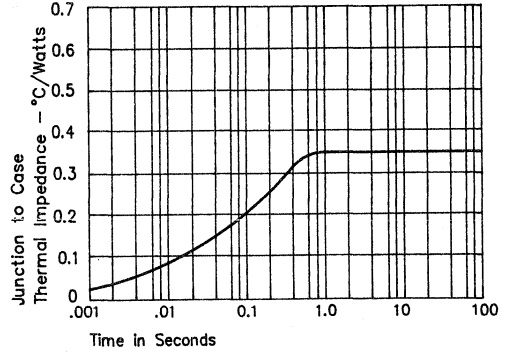


Figure 2  
Forward Current Derating

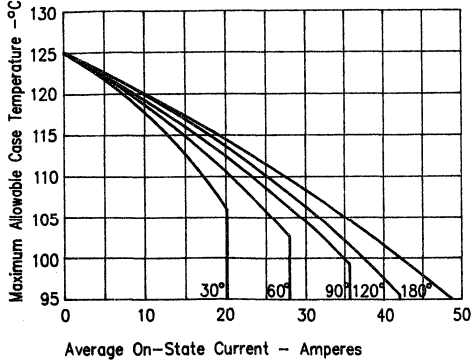
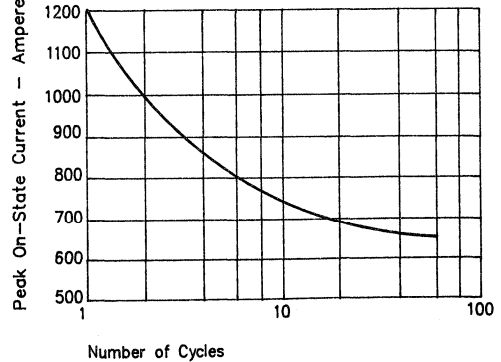
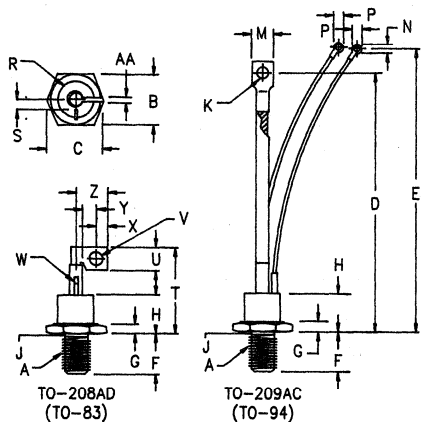


Figure 5  
Maximum Nonrepetitive Surge Current



# Silicon Controlled Rectifier Series 052



Note 1: 1/2-20 UNF-3A  
Note 2: Full thread within 2 1/2 threads

Dim. Inches	Millimeter		Notes
	Minimum	Maximum	
A	---	---	1
B	1.050	1.060	26.67 26.92
C	---	1.161	29.49
D	5.850	6.144	149.10 156.06
E	6.850	7.375	173.99 187.33
F	.797	.827	20.24 21.01
G	.276	.286	.701 7.26
H	---	.948	24.08
J	.425	.499	10.80 12.67
K	.260	.280	6.60 7.11
M	.500	.600	12.70 15.24
N	.140	.150	3.56 3.81
P	---	.295	7.49
R	---	.900	22.86
S	.225	.275	6.48 6.99
T	---	1.750	44.45
U	.370	.380	9.40 9.65
V	.213	.223	5.41 5.66
W	.065	.075	1.65 1.91
X	.215	.225	5.46 5.72
Y	.290	.315	7.37 8.00
Z	.514	.530	13.06 13.46
AA	.089	.099	2.26 2.51

Microsemi Catalog Number	Forward & Reverse Repetitive Blocking	Reverse Transient Blocking
Standard Lead	Flag Lead	
05202GOA	05202GOD	200 300
05203GOA	05203GOD	300 400
05204GOA	05204GOD	400 500
05205GOA	05205GOD	500 600
05206GOA	05206GOD	600 700

To specify dv/dt other than 200V/usec., contact factory.

- High dv/dt—200 V/usec.
- 1200 Amperes surge current
- Low forward on-state voltage
- Package conforming to either TO-209AC or TO-208AD outline
- Economical for general purpose phase control applications

F

Electrical Characteristics		
Max. RMS on-state current	I <sub>T(RMS)</sub> 86 Amps	T <sub>C</sub> = 87°C
Max. average on-state cur.	I <sub>T(AV)</sub> 55 Amps	T <sub>C</sub> = 87°C
Max. peak on-state voltage	V <sub>TM</sub> 1.8 Volts	I <sub>TM</sub> = 220 A(peak)
Max. holding current	I <sub>H</sub> 200 mA	
Max. peak one cycle surge current	I <sub>TSM</sub> 1200 A	T <sub>C</sub> = 87°C, 60 Hz
Max. I <sub>2t</sub> capability for fusing	I <sub>2t</sub> 6000A <sup>2</sup> S	t = 8.3 ms

Thermal and Mechanical Characteristics		
Operating junction temp range	T <sub>J</sub>	-40°C to 125°C
Storage temperature range	T <sub>STG</sub>	-40°C to 150°C
Maximum thermal resistance	R <sub>θJC</sub>	0.40°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.20°C/W Case to sink
Max mounting torque		130 inch pounds maximum
Weight		GOA Approx. 3.6 ounces (102.0 grams) typical GOD Approx. 3.24 ounces (91.8 grams) typical

**Microsemi Corp.**  
**Colorado**

PH: 303-469-2161  
FAX: 303-466-3775

# 052

Switching			
Critical rate of rise of on-state current (note 1)	$di/dt$	100A/usec.	$T_J = 125^\circ\text{C}$
Typical delay time (note 1)	$t_d$	3.0 usec.	$T_J = 125^\circ\text{C}$
Typical circuit commuted turn-off time (note 2)	$t_q$	100 usec.	$T_J = 125^\circ\text{C}$
Note 1: $I_{TM} = 50\text{A}$ , $V_D = V_{DRM}$ , $V_{GT} = 12\text{V}$ open circuit, 20 ohm-0.1 usec. rise time Note 2: $I_{TM} = 50\text{A}$ , $di/dt = 5\text{A/usec.}$ , $V_R$ during turn-off interval = 50V min., reapplied $dv/dt = 20\text{V/usec.}$ , linear to rated $V_{DRM}$ , $V_{GT} = 0\text{V}$			

Triggering			
Max. gate voltage to trigger	$V_{GT}$	3.0V	$T_J = 25^\circ\text{C}$
Typical gate voltage to trigger	$V_{GT}$	1.0V	$T_J = 25^\circ\text{C}$
Max. nontriggering gate voltage	$V_{GD}$	0.25V	$T_J = 125^\circ\text{C}$
Max. gate current to trigger	$I_{GT}$	100mA	$T_J = 25^\circ\text{C}$
Typical gate current to trigger	$I_{GT}$	48mA	$T_J = 25^\circ\text{C}$
Max. peak gate power	$P_{GM}$	15W	
Average gate power	$P_G(AV)$	3.0W	$t_p = 10 \text{ usec.}$
Max. peak gate current	$I_{GM}$	4.0A	
Max. peak gate voltage (forward)	$V_{GM}$	20V	
Max. peak gate voltage (reverse)	$V_{GM}$	10V	

Blocking			
Max. leakage current	$I_{DRM}$	10mA	$T_J = 125^\circ\text{C} \ \& \ V_{DRM}$
Max. reverse leakage	$I_{RRM}$	10mA	$T_J = 125^\circ\text{C} \ \& \ V_{RRM}$
Critical rate of rise of off-state voltage	$dv/dt$	200V/usec.	$T_J = 125^\circ\text{C}$

Figure 1  
Typical Forward On-State Characteristics

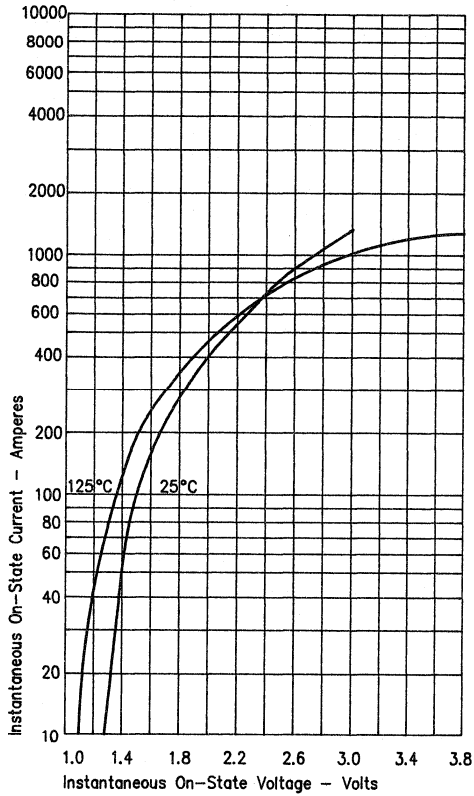


Figure 3  
Maximum Power Dissipation

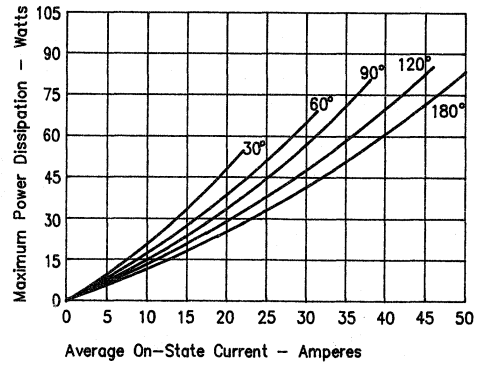


Figure 4  
Transient Thermal Impedance

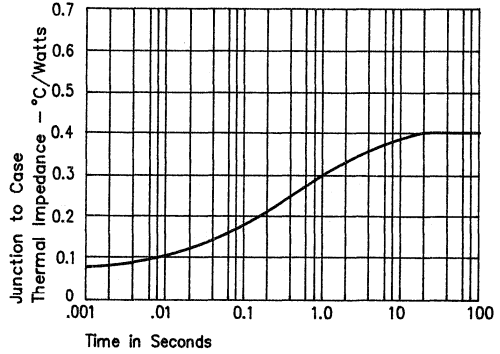


Figure 2  
Forward Current Derating

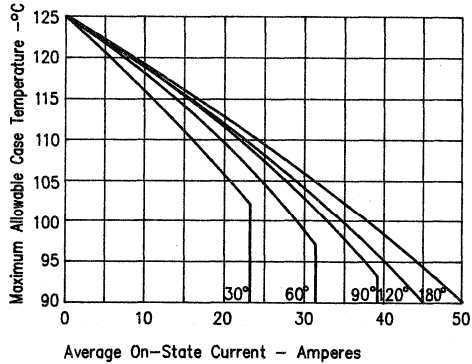
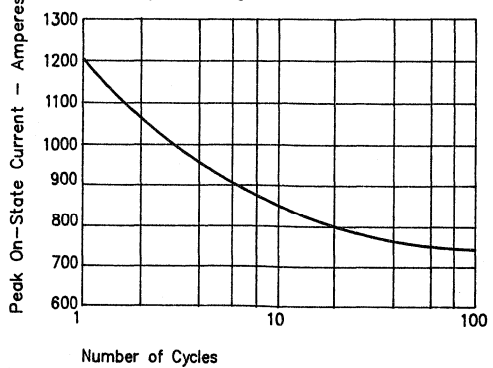
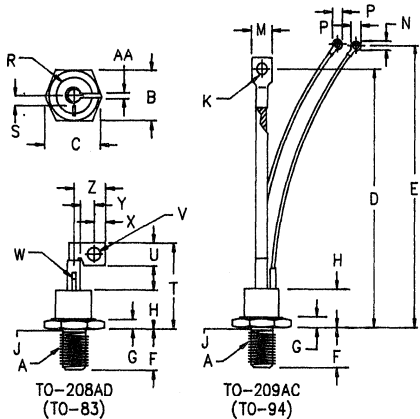


Figure 5  
Maximum Nonrepetitive Surge Current



# Silicon Controlled Rectifier Series 55C



- Note 1: 1/2-20 UNF-3A  
 Note 2: Full thread within 2 1/2 threads  
 Note 3: For insulated cathode lead,  
 add suffix "IL" to catalog number

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	1.050	1.060	26.67	26.92	
C	---	1.161	---	29.49	
D	5.850	6.144	149.10	156.06	
E	6.850	7.375	173.99	187.33	
F	.797	.827	20.24	21.01	
G	.276	.286	.701	7.26	
H	---	.948	---	24.08	
J	.425	.499	10.80	12.67	2
K	.260	.280	6.60	7.11	Dia.
M	.500	.600	12.70	15.24	
N	.140	.150	3.56	3.81	
P	---	.295	---	7.49	
R	---	.900	---	22.86	Dia.
S	.225	.275	6.48	6.99	
T	---	1.750	---	44.45	
U	.370	.380	9.40	9.65	
V	.213	.223	5.41	5.66	Dia.
W	.065	.075	1.65	1.91	Dia.
X	.215	.225	5.46	5.72	
Y	.290	.315	7.37	8.00	
Z	.514	.530	13.06	13.46	
AA	.089	.099	2.26	2.51	

Microsemi Catalog Number	Forward & Reverse Repetitive Blocking	Reverse Transient Blocking
Standard Lead	Flag Lead	
55C60B	55C60BF	600
55C80B	55C80BF	800
55C100B	55C100BF	1000
55C120B	55C120BF	1200

To specify dv/dt other than 200V/usec., contact factory.

- High dv/dt-200 V/usec.
- 1200 Amperes surge current
- Low forward on-state voltage
- Package conforming to either TO-209AC or TO-208AD outline
- Economical for general purpose phase control applications

## Electrical Characteristics

Max. RMS on-state current	$I_T(\text{RMS})$ 86 Amps	$T_C = 70^\circ\text{C}$
Max. average on-state cur.	$I_T(\text{AV})$ 55 Amps	$T_C = 70^\circ\text{C}$
Max. peak on-state voltage	$V_{TM}$ 1.6 Volts	$I_{TM} = 220 \text{ A(peak)}$
Max. holding current	$I_H$ 200 mA	
Max. peak one cycle surge current	$I_{TSM}$ 1200 A	$T_C = 70^\circ\text{C}, 60\text{Hz}$
Max. $I_2t$ capability for fusing	$I_2t$ 6000A <sup>2</sup> S	$t = 8.3 \text{ ms}$

## Thermal and Mechanical Characteristics

Operating junction temp range	$T_J$	-40°C to 125°C
Storage temperature range	$T_{STG}$	-40°C to 150°C
Maximum thermal resistance	$R_{\theta JC}$	0.32°C/W Junction to case
Typical thermal resistance	$R_{\theta CS}$	0.20°C/W Case to sink
Max mounting torque		130 inch pounds maximum
Weight		55C-B Approx. 3.6 ounces (102.0 grams) typical 55C-BF Approx. 3.24 ounces (91.8 grams) typical

**Microsemi Corp.**  
**Colorado**



# 55C

Switching			
Critical rate of rise of on-state current (note 1)	$di/dt$	100A/usec.	$T_J = 125^\circ\text{C}$
Typical delay time (note 1)	$t_d$	3.0 usec.	
Typical circuit commuted turn-off time (note 2)	$t_q$	100 usec.	$T_J = 125^\circ\text{C}$
Note 1: $I_{TM} = 50\text{A}$ , $V_D = V_{DRM}$ , $V_{GT} = 12\text{V}$ open circuit, 20 ohm-0.1 usec. rise time Note 2: $I_{TM} = 50\text{A}$ , $di/dt = 5\text{A/usec.}$ , $V_R$ during turn-off interval = 50V min., reapplied $dv/dt = 20\text{V/usec.}$ , linear to rated $V_{DRM}$ , $V_{GT} = 0\text{V}$			

Triggering			
Max. gate voltage to trigger	$V_{GT}$	3.0V	$T_J = 25^\circ\text{C}$
Typical gate voltage to trigger	$V_{GT}$	1.0V	$T_J = 25^\circ\text{C}$
Max. nontriggering gate voltage	$V_{GD}$	0.25V	$T_J = 125^\circ\text{C}$
Max. gate current to trigger	$I_{GT}$	100mA	$T_J = 25^\circ\text{C}$
Typical gate current to trigger	$I_{GT}$	48mA	$T_J = 25^\circ\text{C}$
Max. peak gate power	$P_{GM}$	15W	
Average gate power	$P_{G(AV)}$	3.0W	$t_p = 10 \text{ usec.}$
Max. peak gate current	$I_{GM}$	4.0A	
Max. peak gate voltage (forward)	$V_{GM}$	20V	
Max. peak gate voltage (reverse)	$V_{GM}$	10V	

Blocking			
Max. leakage current	$I_{DRM}$	10mA	$T_J = 125^\circ\text{C}$ & $V_{DRM}$
Max. reverse leakage	$I_{RRM}$	10mA	$T_J = 125^\circ\text{C}$ & $V_{RRM}$
Critical rate of rise of off-state voltage	$dv/dt$	200V/usec.	$T_J = 125^\circ\text{C}$



# 55C

Figure 1  
Typical Forward On-State Characteristics

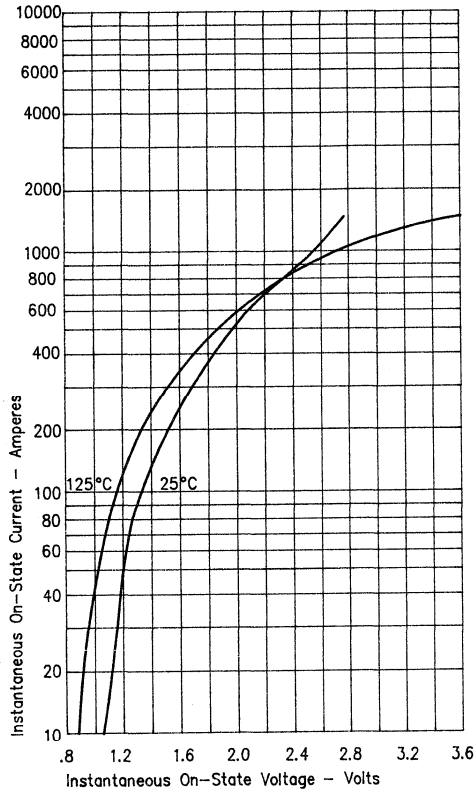


Figure 2  
Forward Current Derating

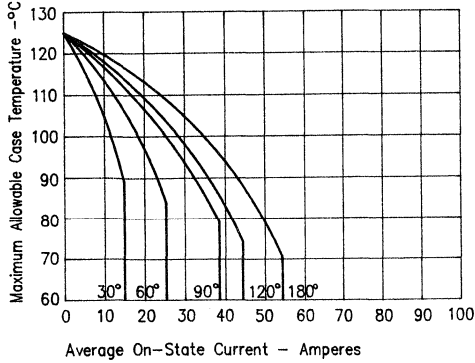


Figure 3  
Maximum Power Dissipation

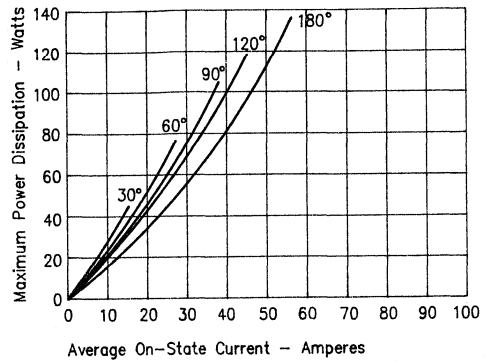


Figure 4  
Transient Thermal Impedance

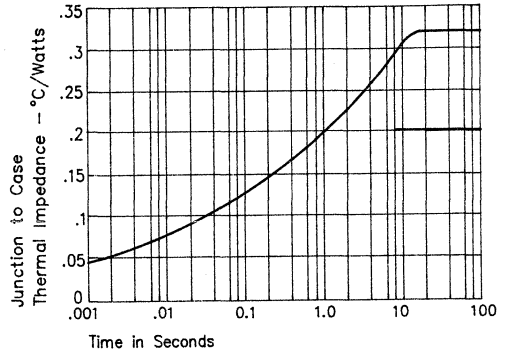
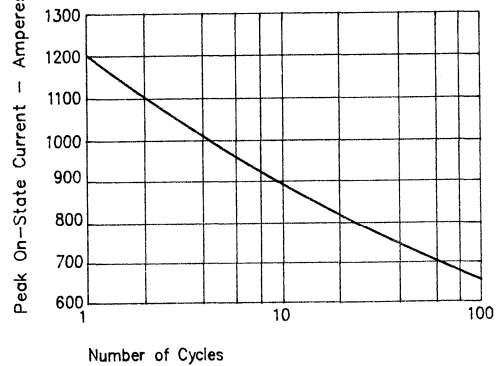
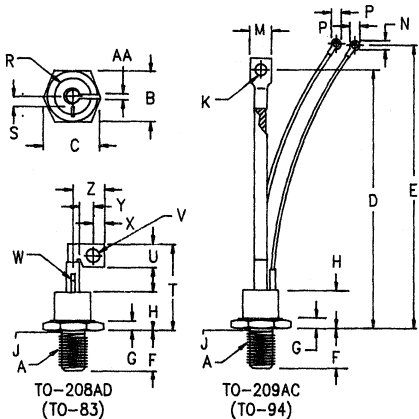


Figure 5  
Maximum Nonrepetitive Surge Current



# Silicon Controlled Rectifier Series 70C



Note 1: 1/2-20 UNF-3A  
 Note 2: Full thread within 2 1/2 threads  
 Note 3: For insulated cathode lead,  
 add suffix "IL" to catalog number

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	1.050	1.060	26.67	26.92	
C	---	1.161	---	29.49	
D	5.850	6.144	149.10	156.06	
E	6.850	7.375	173.99	187.33	
F	.797	.827	20.24	21.01	
G	.276	.286	.701	.726	
H	---	.948	---	24.08	
J	.425	.499	10.80	12.67	2
K	.260	.280	6.60	7.11	Dia.
M	.500	.600	12.70	15.24	
N	.140	.150	3.56	3.81	
P	---	.295	---	7.49	
R	---	.900	---	22.86	Dia.
S	.225	.275	6.48	6.99	
T	---	1.750	---	44.45	
U	.370	.380	9.40	9.65	
V	.213	.223	5.41	5.66	Dia.
W	.065	.075	1.65	1.91	Dia.
X	.215	.225	5.46	5.72	
Y	.290	.315	7.37	8.00	
Z	.514	.530	13.06	13.46	
AA	.089	.099	2.26	2.51	

Microsemi Catalog Number	Forward & Reverse Repetitive Blocking	Reverse Transient Blocking
Standard Lead	Flag Lead	
70C60B	70C80BF	600
70C80B	70C80BF	800
70C100B	70C100BF	1000
70C120B	70C120BF	1200

To specify dv/dt other than 200V/usec., contact factory.

- High dv/dt-200 V/usec.
- 1200 Amperes surge current
- Low forward on-state voltage
- Package conforming to either TO-209AC or TO-208AD outline
- Economical for general purpose phase control applications



Electrical Characteristics		
Max. RMS on-state current	$I_T(RMS)$ 86 Amps	$T_C = 70^\circ C$
Max. average on-state cur.	$I_T(AV)$ 55 Amps	$T_C = 70^\circ C$
Max. peak on-state voltage	$V_{TM}$ 1.4 Volts	$I_{TM} = 220 A(peak)$
Max. holding current	$I_H$ 200 mA	
Max. peak one cycle surge current	$I_{TSM}$ 1200 A	$T_C = 70^\circ C, 60Hz$
Max. $I_2t$ capability for fusing	$I_2t$ 6000A <sup>2</sup> S	$t = 8.3 ms$

Thermal and Mechanical Characteristics		
Operating junction temp range	$T_J$	-40°C to 125°C
Storage temperature range	TSTG	-40°C to 150°C
Maximum thermal resistance	$R_{\theta JC}$	0.32°C/W Junction to case
Typical thermal resistance	$R_{\theta CS}$	0.20°C/W Case to sink
Max mounting torque		130 inch pounds maximum
Weight		70C-B Approx. 3.6 ounces (102.0 grams) typical
		70C-BF Approx. 3.24 ounces (91.8 grams) typical



# 70C

Switching			
Critical rate of rise of on-state current (note 1)	$di/dt$	100A/usec.	$T_J = 125^\circ\text{C}$
Typical delay time (note 1)	$t_d$	3.0 usec.	$T_J = 125^\circ\text{C}$
Typical circuit commuted turn-off time (note 2)	$t_q$	100 usec.	$T_J = 125^\circ\text{C}$
Note 1: $I_{TM} = 50\text{A}$ , $V_D = V_{DRM}$ , $V_{GT} = 12\text{V}$ open circuit, 20 ohm-0.1 usec. rise time Note 2: $I_{TM} = 50\text{A}$ , $di/dt = 5\text{A/usec.}$ , $V_R$ during turn-off interval = 50V min., reapplied $dv/dt = 20\text{V/usec.}$ , linear to rated $V_{DRM}$ , $V_{GT} = 0\text{V}$			

Triggering			
Max. gate voltage to trigger	$V_{GT}$	3.0V	$T_J = 25^\circ\text{C}$
Typical gate voltage to trigger	$V_{GT}$	1.0V	$T_J = 25^\circ\text{C}$
Max. nontriggering gate voltage	$V_{GD}$	0.25V	$T_J = 125^\circ\text{C}$
Max. gate current to trigger	$I_{GT}$	100mA	$T_J = 25^\circ\text{C}$
Typical gate current to trigger	$I_{GT}$	48mA	$T_J = 25^\circ\text{C}$
Max. peak gate power	$P_{GM}$	15W	
Average gate power	$P_{G(AV)}$	3.0W	$t_p = 10 \text{ usec.}$
Max. peak gate current	$I_{GM}$	4.0A	
Max. peak gate voltage (forward)	$V_{GM}$	10V	
Max. peak gate voltage (reverse)	$V_{GM}$	5.0V	

Blocking			
Max. leakage current	$I_{DRM}$	10mA	$T_J = 125^\circ\text{C}$ & $V_{DRM}$
Max. reverse leakage	$I_{RRM}$	10mA	$T_J = 125^\circ\text{C}$ & $V_{RRM}$
Critical rate of rise of off-state voltage	$dv/dt$	200V/usec.	$T_J = 125^\circ\text{C}$

# 70C

Figure 1  
Typical Forward On-State Characteristics

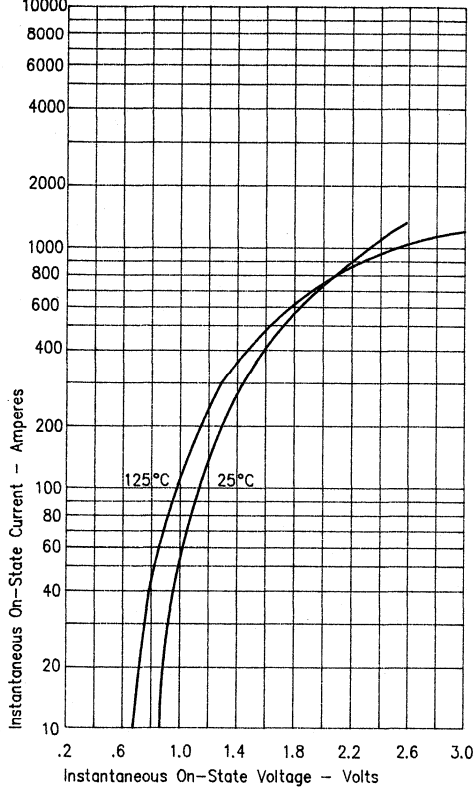


Figure 3  
Maximum Power Dissipation

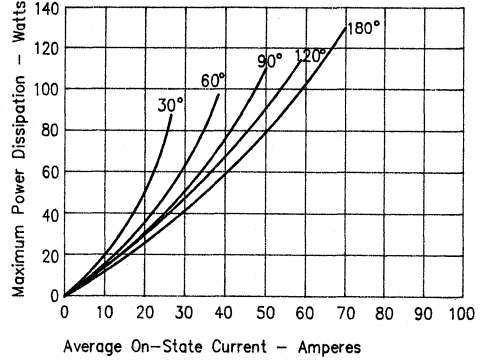


Figure 4  
Transient Thermal Impedance

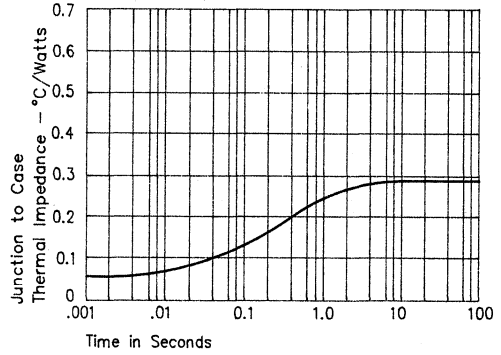


Figure 2  
Forward Current Derating

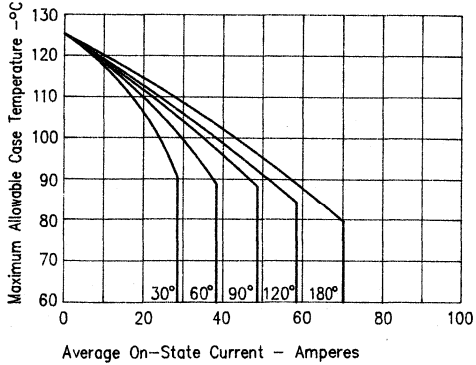
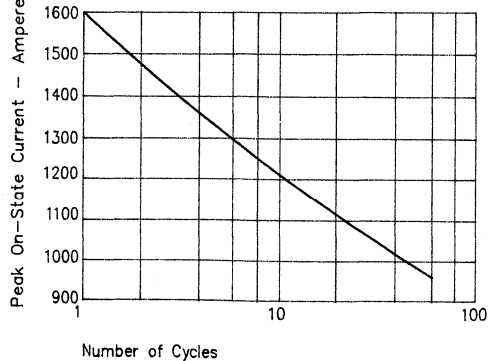
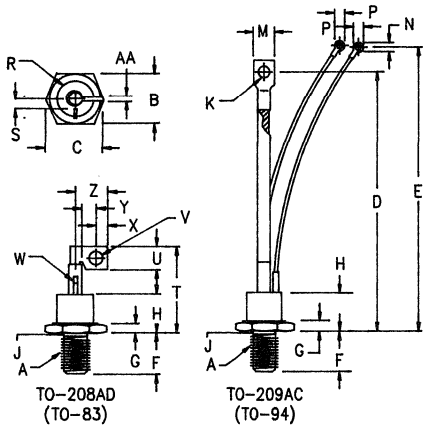


Figure 5  
Maximum Nonrepetitive Surge Current



# Silicon Controlled Rectifier Series 071



Note 1: 1/2-20 UNF-3A  
 Note 2: Full thread within 2 1/2 threads  
 Note 3: To specify package designation other than standard lead enter appropriate letter in place of "A".  
 "B" = Insulated lead  
 "D" = Flag Terminal  
 "C" = Top Stud (consult factory)

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	1.050	1.060	26.67	26.92	
C	---	1.161	---	29.49	
D	5.850	6.144	149.10	156.06	
E	6.850	7.375	173.99	187.33	
F	.797	.827	20.24	21.01	
G	.276	.286	.701	7.26	
H	---	.948	---	24.08	
J	.425	.499	10.80	12.67	2
K	.260	.280	6.60	7.11	Dia.
M	.500	.600	12.70	15.24	
N	.140	.150	3.56	3.81	
P	---	.295	---	7.49	
R	---	.900	---	22.86	Dia.
S	.225	.275	6.48	6.99	
T	---	1.750	---	44.45	
U	.370	.380	9.40	9.65	
V	.213	.223	5.41	5.66	Dia.
W	.065	.075	1.65	1.91	Dia.
X	.215	.225	5.46	5.72	
Y	.290	.315	7.37	8.00	
Z	.514	.530	13.06	13.46	
AA	.089	.099	2.26	2.51	

Microsemi Catalog Number	Standard Lead	Flag Lead	Forward & Reverse Repetitive Blocking	Reverse Transient Blocking
07102GOA	07102GOD		200	300
07103GOA	07103GOD		300	400
07104GOA	07104GOD		400	500
07105GOA	07105GOD		500	600
07106GOA	07106GOD		600	700

To specify dv/dt other than 200V/usec., contact factory.

- High dv/dt-200 V/usec.
- 1600 Amperes surge current
- Low forward on-state voltage
- Package conforming to either TO-209AC or TO-208AD outline
- Economical for general purpose phase control applications

### Electrical Characteristics

Max. RMS on-state current	$I_T(\text{RMS})$ 110 Amps	$T_C = 87^\circ\text{C}$
Max. average on-state cur.	$I_T(\text{AV})$ 70 Amps	$T_C = 87^\circ\text{C}$
Max. peak on-state voltage	$V_{TM}$ 1.6 Volts	$I_{TM} = 220 \text{ A(peak)}$
Max. holding current	$I_H$ 200 mA	
Max. peak one cycle surge current	$I_{TSM}$ 1600 A	$T_C = 87^\circ\text{C}, 60 \text{ Hz}$
Max. 12t capability for fusing	$I_{2t}$ 10,624A <sup>2</sup> S	$t = 8.3 \text{ ms}$

### Thermal and Mechanical Characteristics

Operating junction temp range	$T_J$	-40°C to 125°C
Storage temperature range	$T_{STG}$	-40°C to 150°C
Maximum thermal resistance	$R_{\theta JC}$	0.40°C/W Junction to case
Typical thermal resistance	$R_{\theta CS}$	0.20°C/W Case to sink
Max mounting torque		130 inch pounds maximum
Weight		071-GOA Approx. 3.6 ounces (102.0 grams) typical 071-GOD Approx. 3.24 ounces (91.8 grams) typical

**Microsemi Corp.**  
**Colorado**

071

## Switching

Critical rate of rise of on-state current (note 1)	$di/dt$	100A/usec.	$T_J = 125^\circ\text{C}$
Typical delay time (note 1)	$t_d$	3.0 usec.	
Typical circuit commuted turn-off time (note 2)	$t_q$	100 usec.	$T_J = 125^\circ\text{C}$

Note 1:  $I_{TM} = 50\text{A}$ ,  $V_D = V_{DRM}$ ,  $V_{GT} = 12\text{V}$  open circuit, 20 ohm-0.1 usec. rise time  
 Note 2:  $I_{TM} = 50\text{A}$ ,  $di/dt = 5\text{A/usec.}$ ,  $V_R$  during turn-off interval = 50V min.,  
 reapplied  $dv/dt = 20\text{V/usec.}$ , linear to rated  $V_{DRM}$ ,  $V_{GT} = 0\text{V}$

## Triggering

Max. gate voltage to trigger	$V_{GT}$	3.0V	$T_J = 25^\circ\text{C}$
Typical gate voltage to trigger	$V_{GT}$	1.0V	$T_J = 25^\circ\text{C}$
Max. nontriggering gate voltage	$V_{GD}$	0.25V	$T_J = 125^\circ\text{C}$
Max. gate current to trigger	$I_{GT}$	100mA	$T_J = 25^\circ\text{C}$
Typical gate current to trigger	$I_{GT}$	48mA	$T_J = 25^\circ\text{C}$
Max. peak gate power	$P_{GM}$	15W	
Average gate power	$P_{G(AV)}$	3.0W	$t_p = 10 \text{ usec.}$
Max. peak gate current	$I_{GM}$	4.0A	
Max. peak gate voltage (forward)	$V_{GM}$	10V	
Max. peak gate voltage (reverse)	$V_{GM}$	5.0V	

## Blocking

Max. leakage current	$I_{DRM}$	10mA	$T_J = 125^\circ\text{C}$ & $V_{DRM}$
Max. reverse leakage	$I_{RRM}$	10mA	$T_J = 125^\circ\text{C}$ & $V_{RRM}$
Critical rate of rise of off-state voltage	$dv/dt$	200V/usec.	$T_J = 125^\circ\text{C}$



Figure 1  
Typical Forward On-State Characteristics

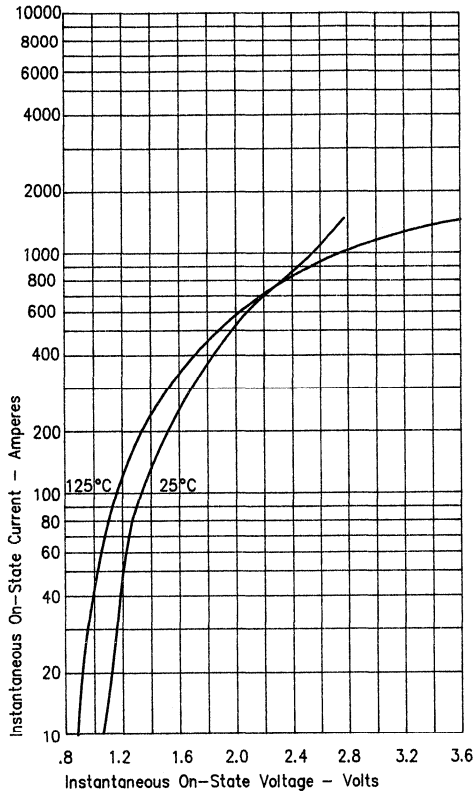


Figure 3  
Maximum Power Dissipation

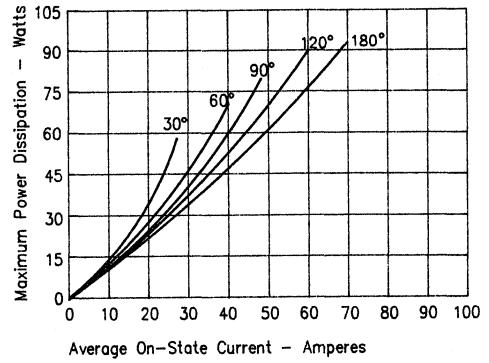


Figure 4  
Transient Thermal Impedance

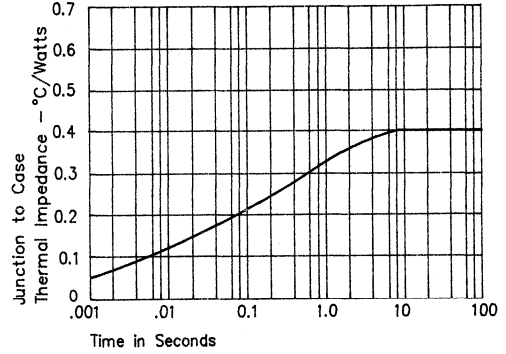


Figure 2  
Forward Current Derating

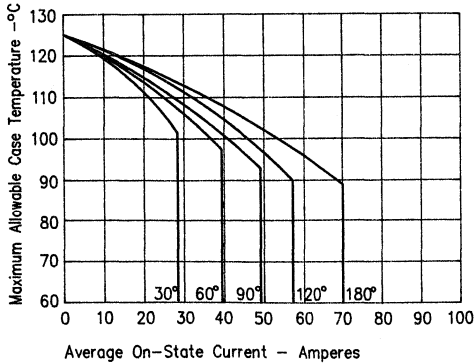
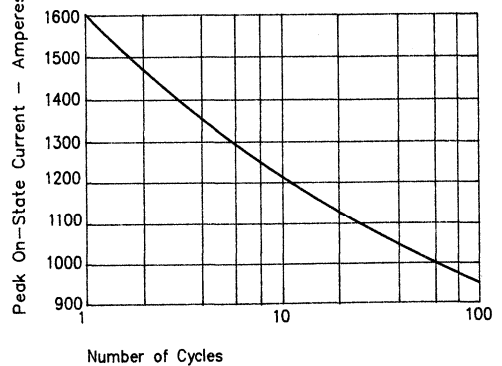
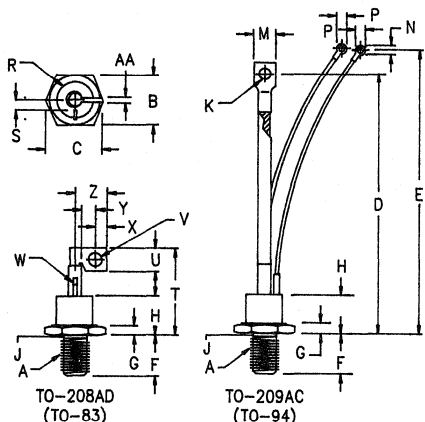


Figure 5  
Maximum Nonrepetitive Surge Current





# Silicon Controlled Rectifier Series 080



Note 1: 1/2-20 UNF-3A  
 Note 2: Full thread within 2 1/2 threads  
 Note 3: To specify package designation other than standard lead enter appropriate letter in place of "A".  
 "B" = Insulated lead  
 "D" = Flag Terminal  
 "C" = Top Stud (consult factory)

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	1.050	1.060	26.67	26.92	
C	---	1.161	---	29.49	
D	5.850	6.144	149.10	156.06	
E	6.850	7.375	173.99	187.33	
F	.797	.827	20.24	21.01	
G	.276	.286	.701	7.26	
H	---	.948	---	24.08	
J	.425	.499	10.80	12.67	2
K	.260	.280	6.60	7.11	Dia.
M	.500	.600	12.70	15.24	
N	.140	.150	3.56	3.81	
P	---	.295	---	7.49	
R	---	.900	---	22.86	Dia.
S	.225	.275	6.48	6.99	
T	---	1.750	---	44.45	
U	.370	.380	9.40	9.65	
V	.213	.223	5.41	5.66	Dia.
W	.065	.075	1.65	1.91	Dia.
X	.215	.225	5.46	5.72	
Y	.290	.315	7.37	8.00	
Z	.514	.530	13.06	13.46	
AA	.089	.099	2.26	2.51	

Microsemi Catalog Number	Forward & Reverse Repetitive Blocking	Reverse Transient Blocking
Standard Lead	Flag Lead	
08002GOA	08002GOD	200
08003GOA	08003GOD	300
08004GOA	08004GOD	400
08005GOA	08005GOD	500
08006GOA	08006GOD	600

To specify dv/dt other than 200V/usec., contact factory.

- High dv/dt-200 V/usec.
- 1800 Amperes surge current
- Low forward on-state voltage
- Package conforming to either TO-209AC or TO-208AD outline
- Economical for general purpose phase control applications

### Electrical Characteristics

Max. RMS on-state current	$I_T(\text{RMS})$ 125 Amps	$T_C = 87^\circ\text{C}$
Max. average on-state cur.	$I_T(\text{AV})$ 80 Amps	$T_C = 87^\circ\text{C}$
Max. peak on-state voltage	$V_{TM}$ 1.4 Volts	$I_{TM} = 220 \text{ A(peak)}$
Max. holding current	$I_H$ 200 mA	
Max. peak one cycle surge current	$I_{TSM}$ 1800 A	$T_C = 87^\circ\text{C}, 60 \text{ Hz}$
Max. $I_{2t}$ capability for fusing	$I_{2t}$ 13,500A <sup>2</sup> S	$t = 8.3 \text{ ms}$

### Thermal and Mechanical Characteristics

Operating junction temp range	$T_J$	-40°C to 125°C
Storage temperature range	$T_{STG}$	-40°C to 150°C
Maximum thermal resistance	$R_{\theta JC}$	0.40°C/W Junction to case
Typical thermal resistance	$R_{\theta CS}$	0.40°C/W Case to sink
Max mounting torque		130 inch pounds maximum
Weight		080-GOA Approx. 3.6 ounces (102.0 grams) typical 080-GOD Approx. 3.24 ounces (91.8 grams) typical

**Microsemi Corp.**  
@ **Colorado**

# 080

Switching			
Critical rate of rise of on-state current (note 1)	$di/dt$	100A/usec.	$T_J = 125^\circ\text{C}$
Typical delay time (note 1)	$t_d$	3.0 usec.	
Typical circuit commuted turn-off time (note 2)	$t_q$	100 usec.	$T_J = 125^\circ\text{C}$
Note 1: $I_{TM} = 50\text{A}$ , $V_D = V_{DRM}$ , $V_{GT} = 12\text{V}$ open circuit, 20 ohm-0.1 usec. rise time Note 2: $I_{TM} = 50\text{A}$ , $di/dt = 5\text{A/usec.}$ , $V_R$ during turn-off interval = 50V min., reapplied $dv/dt = 20\text{V/usec.}$ , linear to rated $V_{DRM}$ , $V_{GT} = 0\text{V}$			

Triggering			
Max. gate voltage to trigger	$V_{GT}$	3.0V	$T_J = 25^\circ\text{C}$
Typical gate voltage to trigger	$V_{GT}$	1.0V	$T_J = 25^\circ\text{C}$
Max. nontriggering gate voltage	$V_{GD}$	0.25V	$T_J = 125^\circ\text{C}$
Max. gate current to trigger	$I_{GT}$	100mA	$T_J = 25^\circ\text{C}$
Typical gate current to trigger	$I_{GT}$	48mA	$T_J = 25^\circ\text{C}$
Max. peak gate power	$P_{GM}$	15W	
Average gate power	$P_{G(AV)}$	3.0W	$t_p = 10 \text{ usec.}$
Max. peak gate current	$I_{GM}$	4.0A	
Max. peak gate voltage (forward)	$V_{GM}$	10V	
Max. peak gate voltage (reverse)	$V_{GM}$	5.0V	

Blocking			
Max. leakage current	$I_{DRM}$	10mA	$T_J = 125^\circ\text{C} \ \& \ V_{DRM}$
Max. reverse leakage	$I_{RRM}$	10mA	$T_J = 125^\circ\text{C} \ \& \ V_{RRM}$
Critical rate of rise of off-state voltage	$dv/dt$	200V/usec.	$T_J = 125^\circ\text{C}$

Figure 1  
Typical Forward On-State Characteristics

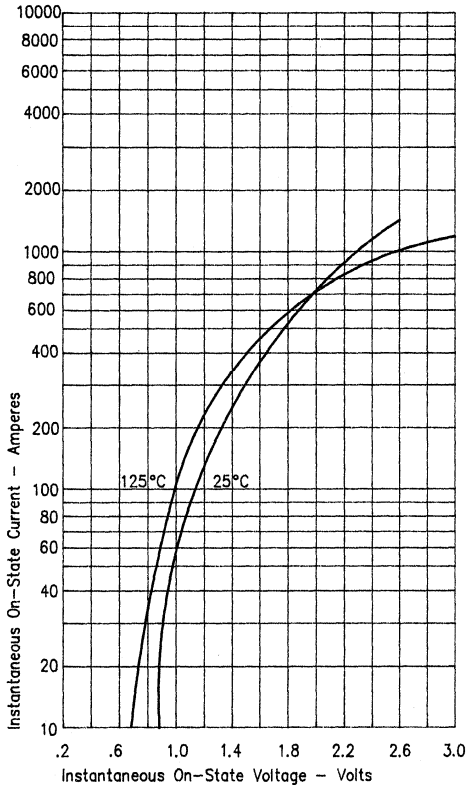


Figure 2  
Forward Current Derating

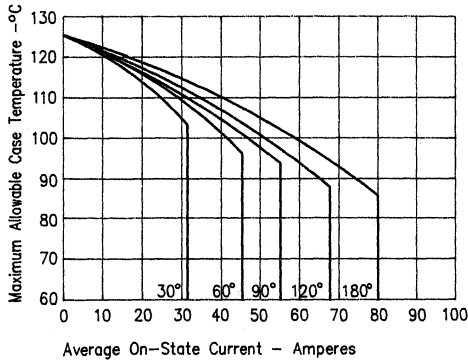


Figure 3  
Maximum Power Dissipation

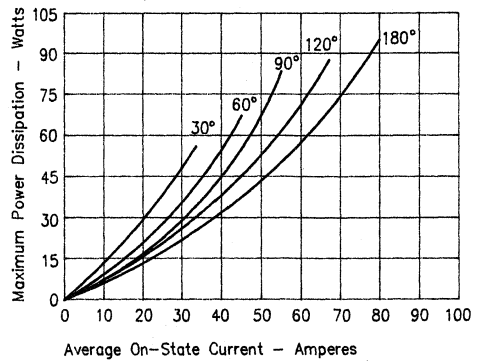


Figure 4  
Transient Thermal Impedance

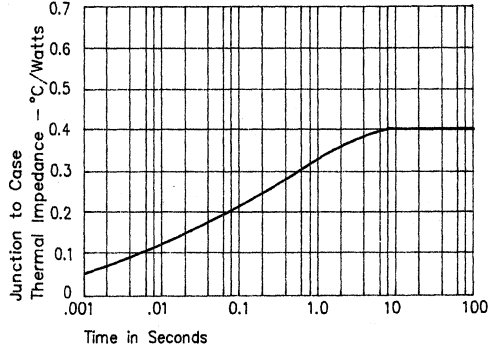
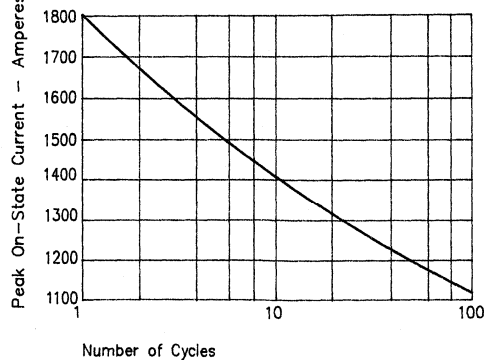
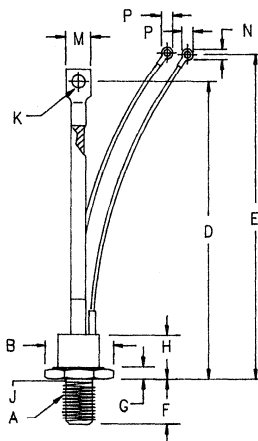


Figure 5  
Maximum Nonrepetitive Surge Current



# Silicon Controlled Rectifier Series 151



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	1.237	1.243	31.42	31.55	Across flats
D	7.428	7.671	188.67	194.84	
E	7.382	8.100	187.50	205.74	
F	1.047	1.077	26.59	27.36	
G	.365	.385	9.27	9.78	
H	---	1.383	---	35.13	
J	.660	.749	16.76	19.02	2
K	.338	.348	8.59	8.84	Dia.
M	.625	.687	15.88	17.45	
N	.140	.150	3.56	3.81	Dia.
P	---	.295	---	7.49	

**Notes:**

- 3/4-16 UNF-3A
- Full threads within 2 1/2 threads
- For insulated cathode lead, add suffix "IL" to catalog number.

TO-209AB (TO-93)

Microsemi Catalog Number	Forward & Reverse Repetitive Blocking	Reverse Transient Blocking
15102GOA	200	300
15104GOA	400	500
15106GOA	600	700
15108GOA	800	900
15110GOA	1000	1100
15112GOA	1200	1300

To specify dv/dt other than 200V/usec., contact factory.

- High dv/dt-200 V/usec.
- 3500 Amperes surge current capability
- Low forward on-state voltage
- Primarily for line commutated converters
- Economical for general purpose phase control applications

### Electrical Characteristics

Max. RMS on-state current	$I_T(\text{RMS})$ 235 Amps	$T_C = 74^\circ\text{C}$
Max. average on-state cur.	$I_T(\text{AV})$ 150 Amps	$T_C = 74^\circ\text{C}$
Max. peak on-state voltage	$V_{TM}$ 1.7 Volts	$I_{TM} = 500 \text{ A(peak)}$
Max. holding current	$I_H$ 200 mA	
Max. peak one cycle surge current	$I_{TSM}$ 3500A	$T_C = 74^\circ\text{C}, 60\text{Hz}$
Max. $I_2t$ capability for fusing	$I_2t$ 50,000A <sup>2</sup> S	$t = 8.3 \text{ ms}$

### Thermal and Mechanical Characteristics

Operating junction temp range	$T_J$	-40°C to 125°C
Storage temperature range	$T_{STG}$	-40°C to 150°C
Maximum thermal resistance	$R_{\theta JC}$	0.20°C/W Junction to case
Typical thermal resistance	$R_{\theta CS}$	0.40°C/W Case to sink
Max mounting torque		300 inch pounds maximum
Weight		Approximately 7.4 ounces (211.1 grams) typical

**Microsemi Corp.**  
**Colorado**

# 151

Switching			
Critical rate of rise of on-state current (note 1)	$di/dt$	100A/usec.	$T_J = 125^\circ\text{C}$
Typical delay time (note 1)	$t_d$	3.0 usec.	
Typical circuit commuted turn-off time (note 2)	$t_q$	100 usec.	$T_J = 125^\circ\text{C}$
Note 1: $I_{TM} = 100\text{A}$ , $V_D = V_{DRM}$ , $V_{GT} = 12\text{V}$ open circuit, 20 ohm—0.1 usec rise time Note 2: $I_{TM} = 100\text{A}$ , $di/dt = 5\text{A/usec}$ , $V_R$ during turn-off interval = 50V min, reapplied $dv/dt = 20\text{V/usec.}$ , linear to rated $V_{DRM}$ , $V_{GT} = 0\text{V}$			

Triggering			
Max. gate voltage to trigger	$V_{GT}$	3.0V	$T_J = 25^\circ\text{C}$
Typical gate voltage to trigger	$V_{GT}$	1.0V	$T_J = 25^\circ\text{C}$
Max. nontriggering gate voltage	$V_{GD}$	0.25V	$T_J = 125^\circ\text{C}$
Max. gate current to trigger	$I_{GT}$	150mA	$T_J = 25^\circ\text{C}$
Typical gate current to trigger	$I_{GT}$	48mA	$T_J = 25^\circ\text{C}$
Max. peak gate power	$P_{GM}$	10W	
Average gate power	$P_{G(AV)}$	2.0W	$t_p = 10 \text{ usec.}$
Max. peak gate current	$I_{GM}$	2.0A	
Max. peak gate voltage (forward)	$V_{GM}$	10V	
Max. peak gate voltage (reverse)	$V_{GM}$	5.0V	

Blocking			
Max. leakage current	$I_{DRM}$	15mA	$T_J = 125^\circ\text{C}$ & $V_{DRM}$
Max. reverse leakage	$I_{RRM}$	15mA	$T_J = 125^\circ\text{C}$ & $V_{RRM}$
Critical rate of rise of off-state voltage	$dv/dt$	200V/usec.	$T_J = 125^\circ\text{C}$



Figure 1  
Typical Forward On-State Characteristics

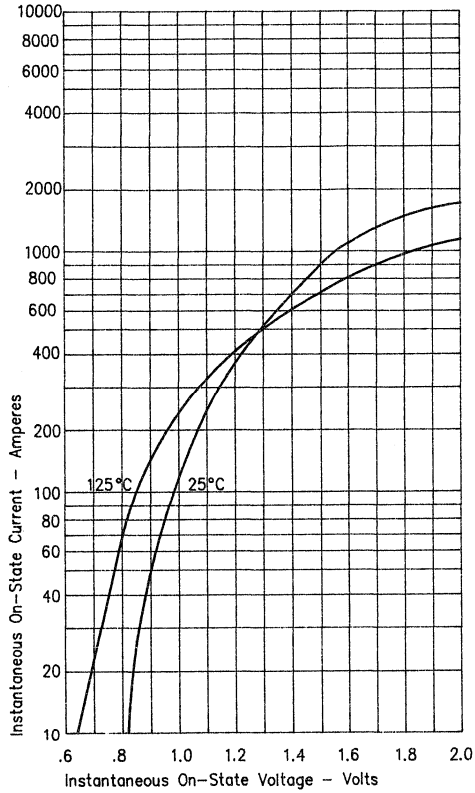


Figure 3  
Maximum Power Dissipation

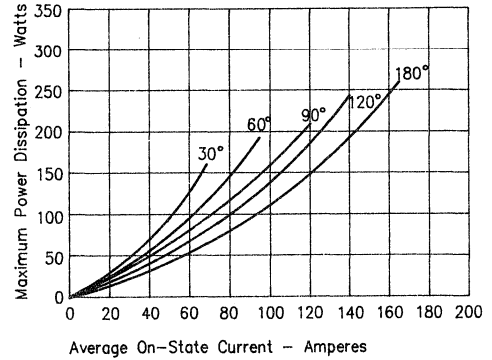


Figure 4  
Transient Thermal Impedance

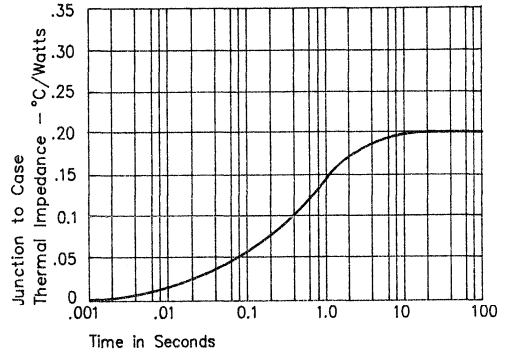


Figure 2  
Forward Current Derating

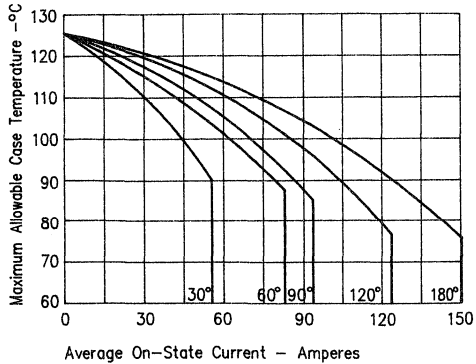
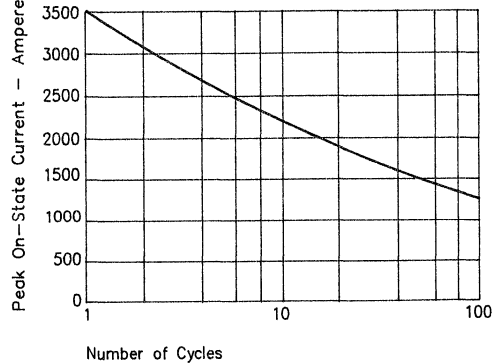
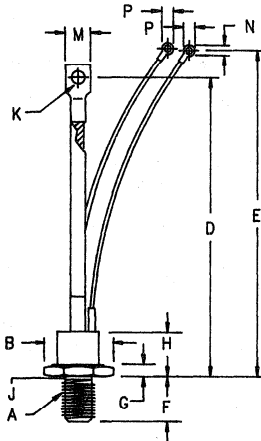


Figure 5  
Maximum Nonrepetitive Surge Current



# Silicon Controlled Rectifier Series 150C



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	1.237	1.243	31.42	31.55	Across flats
D	7.428	7.671	188.67	194.84	
E	7.382	8.100	187.50	205.74	
F	1.047	1.077	26.59	27.36	
G	.365	.385	9.27	9.78	
H	---	1.383	---	35.13	
J	.660	.749	16.76	19.02	2
K	.338	.348	8.59	8.84	Dia.
M	.625	.687	15.88	17.45	
N	.140	.150	3.56	3.81	Dia.
P	---	.295	---	7.49	

**Notes:**

1. 3/4-16 UNF-3A
2. Full threads within 2 1/2 threads
3. For insulated cathode lead, add suffix "IL" to catalog number.

TO-209AB (TO-93)

Microsemi Catalog Number	Forward & Reverse Repetitive Blocking	Reverse Transient Blocking
150C60B	600	700
150C80B	800	900
150C100B	1000	1100
150C120B	1200	1300

To specify  $dv/dt$  other than 200V/usec., contact factory.

- High  $dv/dt$ —200 V/usec.
- 3000 Amperes surge current capability
- Low forward on-state voltage
- Primarily for line commutated converters
- Economical for general purpose phase control applications

### Electrical Characteristics

Max. RMS on-state current	$I_T(\text{RMS})$ 235 Amps	$T_C = 73^\circ\text{C}$
Max. average on-state cur.	$I_T(\text{AV})$ 150 Amps	$T_C = 73^\circ\text{C}$
Max. peak on-state voltage	$V_{TM}$ 1.6 Volts	$I_{TM} = 500 \text{ A(peak)}$
Max. holding current	$I_H$ 200 mA	
Max. peak one cycle surge current	$I_{TSM}$ 3000A	$T_C = 73^\circ\text{C}, 60\text{Hz}$
Max. $I^2t$ capability for fusing	$I^2t$ 37,000A <sup>2</sup> S	$t = 8.3 \text{ ms}$

### Thermal and Mechanical Characteristics

Operating junction temp range	$T_J$	-40°C to 125°C
Storage temperature range	$T_{STG}$	-40°C to 150°C
Maximum thermal resistance	$R_{\theta JC}$	0.20°C/W Junction to case
Typical thermal resistance	$R_{\theta CS}$	0.40°C/W Case to sink
Max mounting torque		300 inch pounds maximum
Weight		Approximately 7.4 ounces (211.1 grams) typical

# 150C

## Switching

Critical rate of rise of on-state current (note 1)	$di/dt$	100A/usec.	$T_J = 125^\circ\text{C}$
Typical delay time (note 1)	$t_d$	3.0 usec.	
Typical circuit commuted turn-off time (note 2)	$t_q$	100 usec.	$T_J = 125^\circ\text{C}$

Note 1:  $I_{TM} = 100\text{A}$ ,  $V_D = V_{DRM}$ ,  $V_{GT} = 12\text{V}$  open circuit, 20 ohm-0.1 usec rise time

Note 2:  $I_{TM} = 100\text{A}$ ,  $di/dt = 5\text{A/usec}$ ,  $V_R$  during turn-off internal = 50V min, reapplied  $dv/dt = 20\text{V/usec}$ , linear to rated  $V_{DRM}$ ,  $V_{GT} = 0\text{V}$

## Triggering

Max. gate voltage to trigger	$V_{GT}$	3.0V	$T_J = 25^\circ\text{C}$
Typical gate voltage to trigger	$V_{GT}$	1.0V	$T_J = 25^\circ\text{C}$
Max. nontriggering gate voltage	$V_{GD}$	0.25V	$T_J = 125^\circ\text{C}$
Max. gate current to trigger	$I_{GT}$	150mA	$T_J = 25^\circ\text{C}$
Typical gate current to trigger	$I_{GT}$	48mA	$T_J = 25^\circ\text{C}$
Max. peak gate power	$P_{GM}$	10W	
Average gate power	$P_{G(AV)}$	2.0W	$t_p = 10 \text{ usec.}$
Max. peak gate current	$I_{GM}$	2.0A	
Max. peak gate voltage (forward)	$V_{GM}$	10V	
Max. peak gate voltage (reverse)	$V_{GM}$	5.0V	

## Blocking

Max. leakage current	$I_{DRM}$	20mA	$T_J = 125^\circ\text{C} \ \& \ V_{DRM}$
Max. reverse leakage	$I_{RRM}$	20mA	$T_J = 125^\circ\text{C} \ \& \ V_{RRM}$
Critical rate of rise of off-state voltage	$dv/dt$	200V/usec.	$T_J = 125^\circ\text{C}$



# 150C

Figure 1  
Typical Forward On-State Characteristics

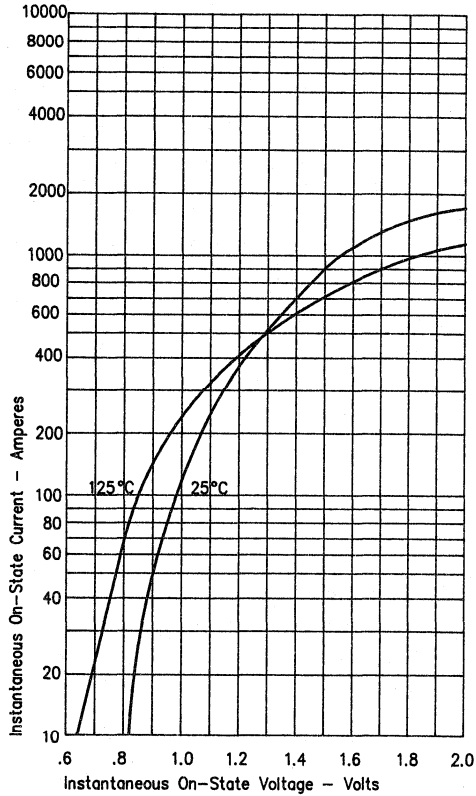


Figure 3  
Maximum Power Dissipation

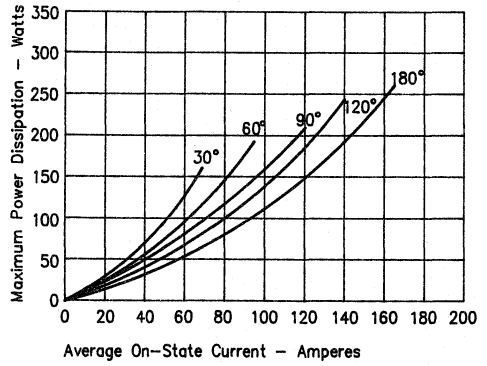


Figure 4  
Transient Thermal Impedance

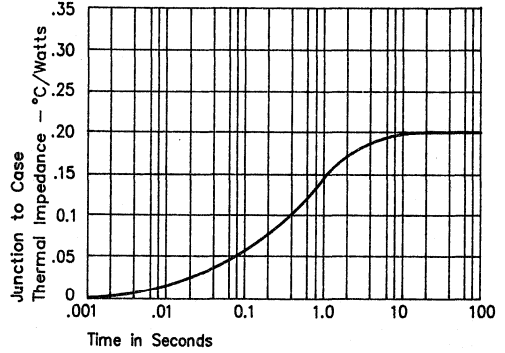


Figure 2  
Forward Current Derating

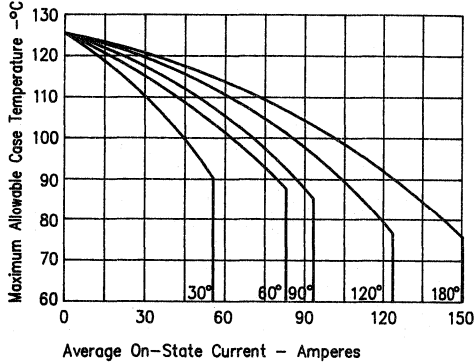
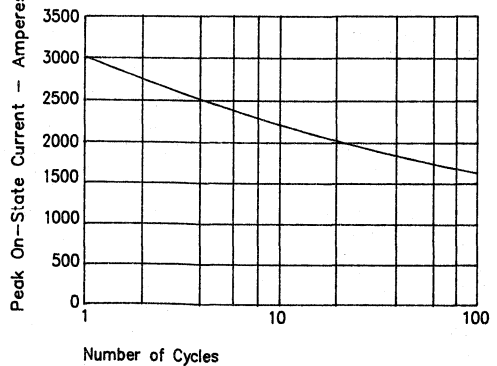
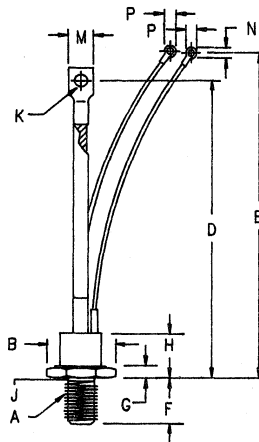


Figure 5  
Maximum Nonrepetitive Surge Current



F

# Silicon Controlled Rectifier Series 175C



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	1.237	1.243	31.42	31.55	Across flats
D	7.428	7.671	188.67	194.84	
E	7.382	8.100	187.50	205.74	
F	1.047	1.077	26.59	27.36	
G	.365	.385	9.27	9.78	
H	---	1.383	---	35.13	
J	.660	.749	16.76	19.02	2
K	.338	.348	8.59	8.84	Dia.
M	.625	.687	15.88	17.45	
N	.140	.150	3.56	3.81	Dia.
P	---	.295	---	7.49	

**Notes:**

- 3/4-16 UNF-3A
- Full threads within 2 1/2 threads
- For insulated cathode lead, add suffix "IL" to catalog number.

## TO-209AB (TO-93)

Microsemi Catalog Number	Forward & Reverse Repetitive Blocking	Reverse Transient Blocking
175C60B	600	700
175C80B	800	900
175C100B	1000	1100
175C120B	1200	1300

To specify dv/dt other than 200V/usec., contact factory.

- High dv/dt-200 V/usec.
- 4000 Amperes surge current capability
- Low forward on-state voltage
- Primarily for line commutated converters
- Economical for general purpose phase control applications

### Electrical Characteristics

Max. RMS on-state current	I <sub>T(RMS)</sub> 275 Amps	T <sub>C</sub> = 84°C
Max. average on-state cur.	I <sub>T(AV)</sub> 175 Amps	T <sub>C</sub> = 84°C
Max. peak on-state voltage	V <sub>TM</sub> 1.5 Volts	I <sub>TM</sub> = 500 A(peak)
Max. holding current	I <sub>H</sub> 200 mA	
Max. peak one cycle surge current	I <sub>TSM</sub> 4000 A	T <sub>C</sub> = 84°C, 60Hz
Max. I <sup>2</sup> t capability for fusing	I <sup>2</sup> t 66,000A <sup>2</sup> S	t = 8.3 ms

### Thermal and Mechanical Characteristics

Operating junction temp range	T <sub>J</sub>	-40°C to 125°C
Storage temperature range	T <sub>STG</sub>	-40°C to 150°C
Maximum thermal resistance	R <sub>θJC</sub>	0.17°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.40°C/W Case to sink
Max mounting torque		300 inch pounds maximum
Weight		Approximately 7.4 ounces (211.1 grams) typical

**Microsemi Corp.**  
**Colorado**

# 175C

Switching			
Critical rate of rise of on-state current (note 1)	$di/dt$	100A/usec.	$T_J = 125^\circ\text{C}$
Typical delay time (note 1)	$t_d$	3.0 usec.	
Typical circuit commuted turn-off time (note 2)	$t_q$	100 usec.	$T_J = 125^\circ\text{C}$
Note 1: $I_{TM} = 100\text{A}$ , $V_D = V_{DRM}$ , $V_{GT} = 12\text{V}$ open circuit, 20 ohm-0.1 usec rise time Note 2: $I_{TM} = 100\text{A}$ , $di/dt = 5\text{A/usec}$ , $V_R$ during turn-off internal = 50V min, reapplied $dv/dt = 20\text{V/usec}$ , linear to rated $V_{DRM}$ , $V_{GT} = 0\text{V}$			

Triggering			
Max. gate voltage to trigger	$V_{GT}$	3.0V	$T_J = 25^\circ\text{C}$
Typical gate voltage to trigger	$V_{GT}$	2.0V	$T_J = 25^\circ\text{C}$
Max. nontriggering gate voltage	$V_{GD}$	0.25V	$T_J = 125^\circ\text{C}$
Max. gate current to trigger	$I_{GT}$	150mA	$T_J = 25^\circ\text{C}$
Typical gate current to trigger	$I_{GT}$	100mA	$T_J = 25^\circ\text{C}$
Max. peak gate power	$P_{GM}$	10W	
Average gate power	$P_{G(AV)}$	2.0W	$t_p = 10 \text{ usec.}$
Max. peak gate current	$I_{GM}$	2.0A	
Max. peak gate voltage (forward)	$V_{GM}$	10V	
Max. peak gate voltage (reverse)	$V_{GM}$	5.0V	

Blocking			
Max. leakage current	$I_{DRM}$	15mA	$T_J = 125^\circ\text{C} \ \& \ V_{DRM}$
Max. reverse leakage	$I_{RRM}$	15mA	$T_J = 125^\circ\text{C} \ \& \ V_{RRM}$
Critical rate of rise of off-state voltage	$dv/dt$	200V/usec.	$T_J = 125^\circ\text{C}$



# 175C

Figure 1  
Typical Forward On-State Characteristics

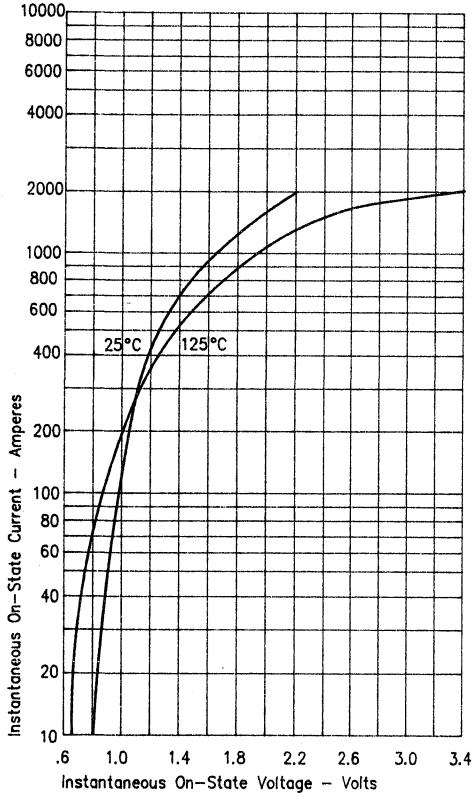


Figure 3  
Maximum Power Dissipation

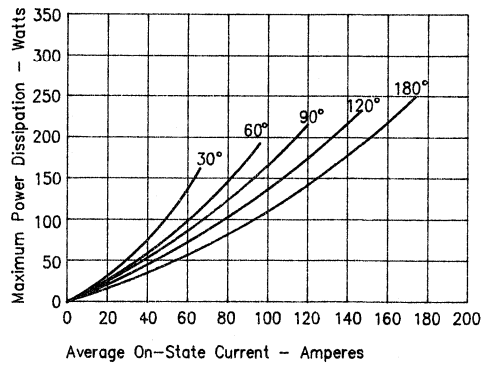


Figure 4  
Transient Thermal Impedance

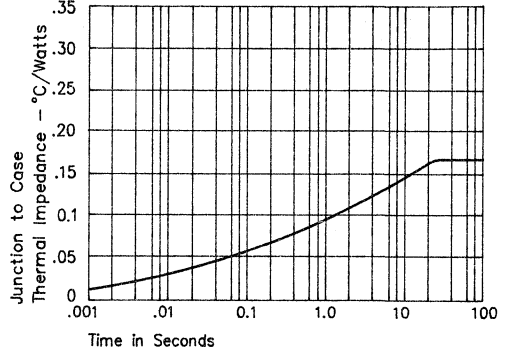


Figure 2  
Forward Current Derating

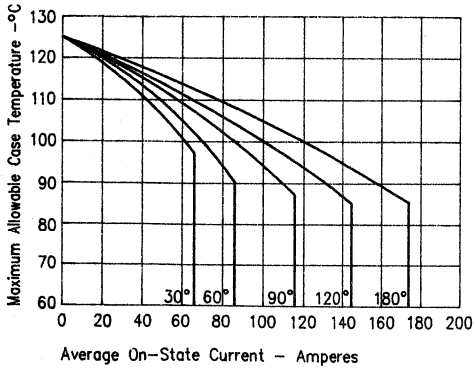
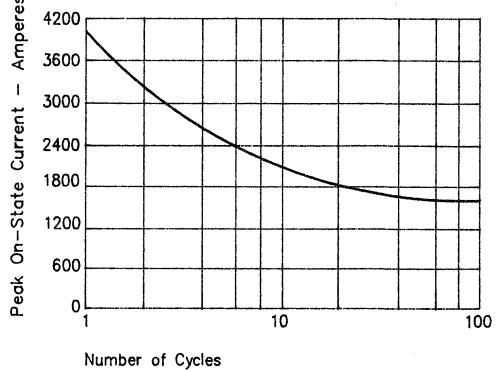


Figure 5  
Maximum Nonrepetitive Surge Current

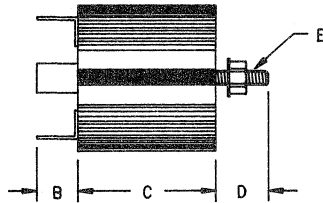
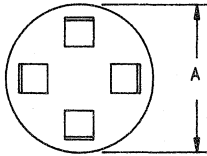


*Section G*

*Assemblies*

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# 3 Amp Encapsulated Assemblies ER Series



Dimensions			
	Inches	Millimeters	Notes
A	1.31	33.3	
B	0.44	11.1	
C	1.06	26.9	
D	0.47	11.9	
E	---	---	1

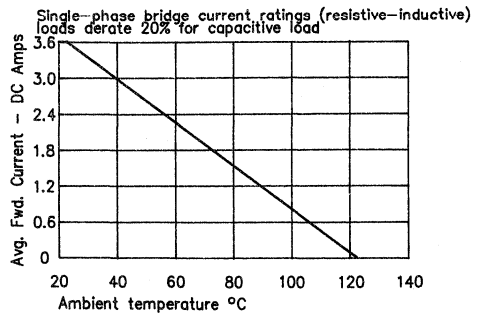
Note 1: 1/4"-20 Mounting Stud

Microsemi Catalog Number	Max. PRV Rating Per Circuit Arm
ER*1B1	100
ER*2B1	200
ER*3B1	300
ER*4B1	400
ER*5B1	500
ER*6B1	600
ER*7B1	700
ER*8B1	800
ER*9B1	900
ER*10B1	1000
ER*12B1	1200
ER*14B1	1400
ER*16B1	1600

\*Add F21 for Faston Terminal with Series 21 Diode  
\*Add L21 for Flexible lead with Series 21 Diode (min length-4")

- Encapsulated in rounded case
- Single phase available
- Full Wave Bridge rating of 1600 PRV
- Completely sealed, compact, corrosion and moisture resistant
- Available in a variety of circuit configurations

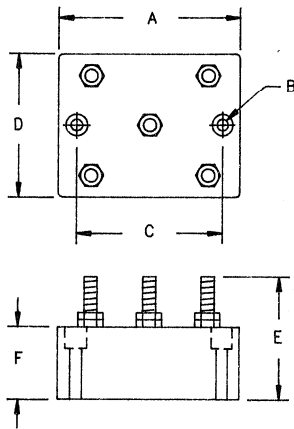
Electrical Characteristics	
Circuit:	Single phase full wave bridge
AC Input:	Up to 1600 PRV
DC Output:	Up to 3 Amps DC (40°C Amb.)
Surge Current	
Rating:	250 Amps peak for one cycle (25°C Amb.)
Loads:	Resistive, Inductive, Capacitive, Continuous
Duty Cycle:	Continuous
Cooling:	Convection
Design Features:	Diodes housed in an epoxy sealed case. Faston terminals or flexible leads.



**Microsemi Corp.**  
**Colorado**

PH: 303-469-2161  
FAX: 303-466-3775

# 12 Amp Encapsulated Assemblies EH Series



Note 1: Mounting hole .172 (4.37 mm) Dia.

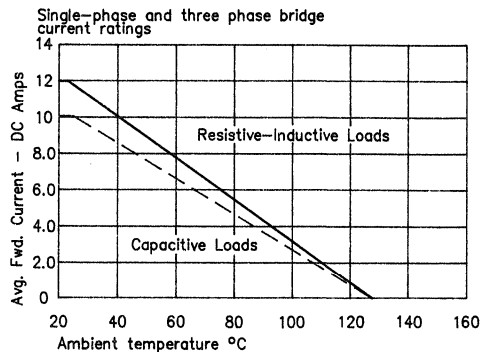
Dimensions			
	Inches	Millimeters	Notes
A	2.25	57.2	1
B	---	---	
C	1.75	44.5	
D	1.75	44.5	
E	1.313	33.35	
F	.875	22.23	

Microsemi		
Catalog Number		Max. PRV Rating
Single Phase	Three Phase	Per Circuit Arm
EH*1B1	EH*1Z1	100
EH*2B1	EH*2Z1	200
EH*3B1	EH*3Z1	300
EH*4B1	EH*4Z1	400
EH*5B1	EH*5Z1	500
EH*6B1	EH*6Z1	600
EH*7B1	EH*7Z1	700
EH*8B1	EH*8Z1	800
EH*9B1	EH*9Z1	900
EH*10B1	EH*10Z1	1000
EH*12B1	EH*12Z1	1200
EH*14B1	EH*14Z1	1400
EH*16B1	EH*16Z1	1600

\*Add S for Stud Terminal or F for Faston Terminal

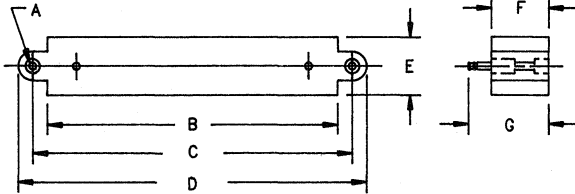
- High current encapsulated assembly
- Single and three phase available
- Full Wave Bridge rating of 1600 PRV
- Completely sealed, compact, corrosion and moisture resistant
- Available in a variety of circuit configurations

Electrical Characteristics	
Circuit:	Single phase and three phase full wave bridge
AC Input:	Up to 1600 PRV
DC Output:	Up to 12 Amps DC (25°C Amb.—Chassis mounted)
Surge Current	
Rating:	250 Amps peak for one cycle (25°C Amb.)
Loads:	Resistive, Inductive, Capacitive, Continuous
Duty Cycle:	Continuous
Cooling:	Convection
Design Features:	The series EH diodes are housed in an epoxy sealed case. Convenient faston or stud terminals as specified.





# High Voltage Encapsulated Assemblies EF Half Wave Series



Dimensions		
Inches	Millimeters	Notes
A	---	1
B	5.50	139.7
C	6.00	152.4
D	6.625	168.3
E	1.25	31.8
F	1.25	31.8
G	1.688	42.88

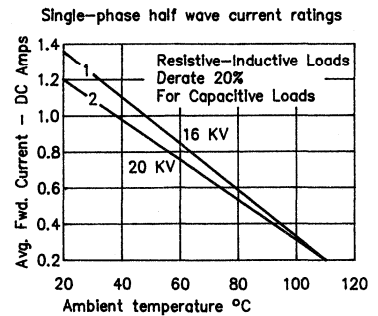
Note 1: .2031" (5.159 mm) Dia. Hole

Microsemi Catalog Number	Max. PRV Rating Per Circuit Arm
EF#H16	16 KV
EF#H20	20 KV

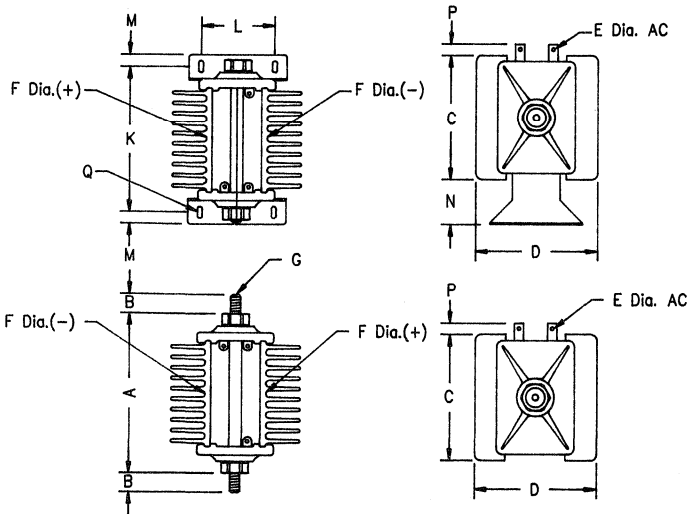
\*Add T for Turret Terminals  
 \*Add F for Faston Terminals  
 \*Add L for Flexible Lead (min length-4")  
 \*Add I for 6-32 Internally Threaded Connections

- Encapsulated assembly
- Half Wave
- Half Wave rating of 20,000 PRV
- Completely sealed, compact, corrosion and moisture resistant
- Available in a variety of circuit configurations

Electrical Characteristics	
Circuit:	Single half wave
AC Input:	Up to 20,000 PRV
DC Output:	Up to 1.25 Amps DC (see curve)
Surge Current	
Rating:	50 Amps peak for one cycle (25°C Amb.)
Loads:	Resistive, inductive, Capacitive, Continuous
Duty Cycle:	Continuous
Cooling:	Convection
Design Features:	Diodes housed in an epoxy sealed case; easily soldered faston terminals of flexible leads



# Rectipoint Silicon Power Rectifiers



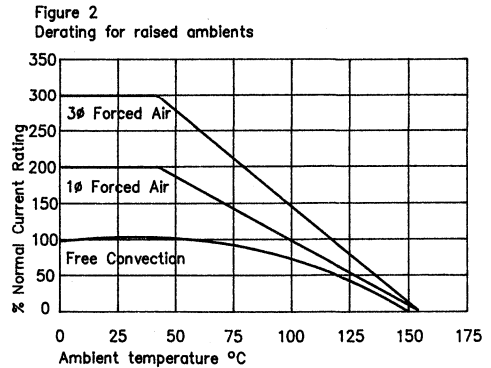
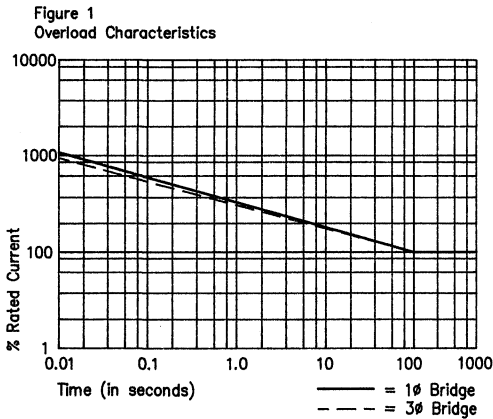
Dimensions				
X Type		Y Type		
Inches	Millimeters	Inches	Millimeters	
A	4.31	109.4	4.0	101.6
B	.625	15.87	0.5	12.7
C	4.0	101.6	2.5	63.5
D	3.12	79.2	2.56	65.0
E	.201	5.10	1.77	4.495
F	.265	6.731	.198	5.029
G	3/8-16UNC-3A		5/16-18UNC-3A	
K	3.93	15.87	3.75	95.2
L	1.5	101.6	1.25	31.7
M	.281	79.2	.281	7.137
N	.875	5.10	.937	23.79
P	.625	6.731	.625	15.87
Q	3/16x5/16 ---		3/16x5/16 ---	

Type of Circuit Rated Continuous DC			
Microsemi Catalog Number	Type of Circuit	Amperes at 40°C. Maximum Ambient Temperature	
		Natural Convection	Forced Air at 800 LFM
Y20-B1-1	1 Phase	10	20
Y21-B1-1	Bridge		
Y20-Z1-1	4-1-1-B	14	28
	3 Phase	12	36
	Bridge		
Y21-Z1-1	6-1-1-Z	22	66
X20-B1-1	1 Phase	15	30
X21-B1-1	Bridge	25	50
X34-B1-1	4-1-1-B	35	70
X37-B1-1		43	86
X20-Z1-1	3 Phase	18	54
X21-Z1-1	Bridge	28	84
X34-Z1-1	6-1-1-B	35	105
X37-Z1-1		43	130

- Complete bridge with heatsinks – no assembly required
- Available in single or three phase bridge assemblies
- Available with bracket or bolt mounting
- Can be supplied with either DO-4 or DO-5 rectifiers
- Blocking voltages to 1600V

# Rectipoint Silicon Power Rectifiers

Code Number Identification							
Size of Heat Sink	Type of Diode	Peak Reverse Voltage	Type of Circuit	Number of Diodes in Series	Type of Mounting	Number of Diodes in Parallel	Special Features
X-3"x4" Y-2 1/2"x2 3/4"	20 21 34 37	20-200 30-300 40-400 60-600 80-800 90-900 100-1000 120-1200 160-1600	B-1 Phase Bridge Z-3 Phase Bridge	1	N-Stud B-Brackets	1	S-Surge Suppressor Furnished
<p><b>Electrical Specifications</b>                      Current range - 10 to 43 amperes (86 amperes with forced air cooling of 800 LFM) in single phase bridge 12 to 43 amperes (130 amperes with forced air of 800 LFM) in three-phase bridge, Input voltage - up to 460 volts RMS.                      Ambient temperature: -65 to 150°C, operating frequency: up to 10,000 Hz.</p> <p><b>Material Specifications</b>                      The finned heat sinks are corrosion resistant aluminum alloy. The end plates are molded from glass filled polyester resin. This material is non-flammable and self extinguishing and shows no heat distortion at 200°C. It has a tensile strength of approximately 8000 lbs. per square inch and a dielectric strength in excess of 300 volts per mil.</p>							



# Silicon Power Rectifier Assemblies Plate Heatsink

- Complete bridge with heatsinks – no assembly required
- Available in single or three phase bridge assemblies
- Available with bracket or bolt mounting
- Can be supplied with either DO-4 or DO-5 rectifiers
- Blocking voltages to 1600V

Silicon Power Rectifier Plate Heatsink Assembly Coding System

K
34
20
B
I
E
B
I
S

Size of Heat Sink	Type of Diode	Peak Reverse Voltage	Type of Circuit	Number of Diodes in Series	Type of Finish	Type of Mounting	Number of Diodes in Parallel	Special Feature
E-2"x2"	20	20-200	Single Phase	Per leg	E-Commercial T-High Humidity salt spray F-Fungicide	B-Stud with brackets or insulating board with mounting bracket N-Stud with no bracket C-Bolt BC-Bolt mounting with one bracket	Per leg	Surge Suppressor
K-3"x3"	21		H-Half Wave					
G-5"x5"	34		C-Center Tap Positive					
N-7"x7"	37		N-Center Tap Negative					
	42	30-300	D-Doubler					
	43		B-Bridge					
	504		M-Open Bridge					
		40-400	Three Phase					
		50-500	Z-Bridge					
		60-600	X-Center Tap					
			Y-Half Wave DC Positive					
		80-800	Q-Half Wave DC Negative					
		100-1000	W-Double Wave					
		120-1200	V-Open Bridge					
		160-1600						

# Extruded Heatsink Power Assemblies

- Current ratings available from 40A to 1200A depending on air flow and circuit
- Contact Factory for specific applications
- Constructed with iridite coated aluminum extrusions for efficient heat transfer
- High Temperature insulation used for mounting brackets

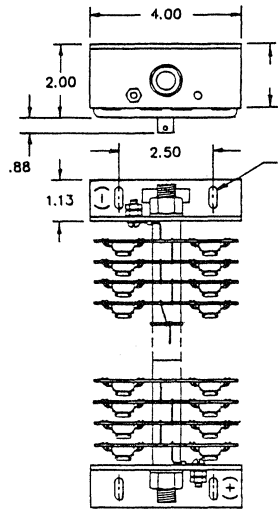
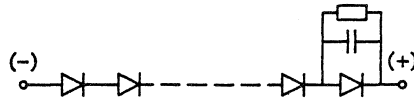
Code Number Identification

D
AK
12
HA
F

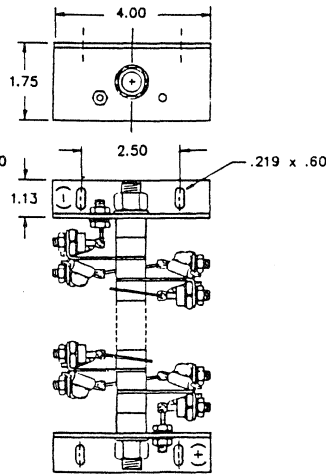
D	Device Code	Line Volt RMS	PRV	Circuit	Heatsink Size	Devices Per Sink	Mounting
D-Stud mount	AK-34 diode	12 - 120V	300V	H-1 Phase half wave	A-1 1/4x4x3 1/2	1	F-Floor
extruded	AN-37 diode	24 - 240V	600V	D-1 Phase half wave	B-1 1/4x4x5	2	W-Wall
K-Flat pack	AP-43 diode	48 - 480V	1200V	doubler	C-1 1/4x4x5	3	
extruded	AU-504 diode			C-1 Phase center tap(+)	D-1 1/4x4x5	1	
M-Module	CH-050 SCR			N-1 Phase center tap(-)	F-4x4x5	1	
extruded	CM-070 SCR			B-1 Phase bridge	G-4x4x6	2	
	CO-150 SCR			Z-3 Phase bridge	H-4x4x6	3	
	CX-300 SCR			X-6 Phase star	J-4x4x9	2	
	ED-050/37 (SCR/diode)			W-3 Phase double wave	L-5x5x6	1	
	EJ-070/43 (SCR/diode)			A-1 Phase AC switch	M-5x5x6	2	
	EN-150/504 (SCR/diode)			F-3 Phase AC switch	N-5x5x6	3	
					P-5x5x9	2	
					S-5x6x2 1/4	1	



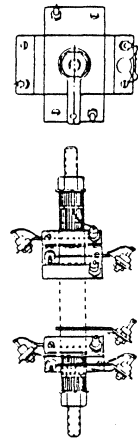
# HIGH VOLTAGE RECTIFIER ASSEMBLIES



PHV3--  
PHV6--



CHV21--  
CHV34--  
CHV37--



JHV21H-- LHV37H--  
JHV34H-- LHV43H--  
LHV34H-- SHV43H--  
JHV37H--

CATALOG NUMBER *	SURGE CURRENT (A)	1 $\phi$ IF (AV) (A) at 40°C at				IF (AV) (A) at 40°C OIL
		0 LFM	200 LFM	500 LFM	1000 LFM	
PHV3--	200	3.0	4.5	6.0	7.0	8.0
PHV6--	400	6.0	9.0	12	13	20
CHV21--	250	7.0	10	13	14	20
JHV21H--	250	7.25	13.5	15	15	22
CHV34--	700	9.0	15	25	25	45
CHV34H--	700	11	19	27	31	45
LHV34H--	700	13.5	20	29	33	45
JHV36H--	1200	12.5	20	30	50	65
LHV36H--	1200	15	23	32	55	65
CHV37--	1500	11	17	28	50	68
CHV37H--	1500	13.5	22	34	55	70
LHV37H--	1500	16.5	25	40	60	75
LHV43H--	2500	29	40	55	70	90
SHV43H--	2500	44	60	85	105	120

\* 8KV to 80KV Available. Add voltage in KV. Doubler configuration to 40KV is available.

# *Section H*

## *Chips*

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# Discrete Semiconductor Chips

Microsemi-Colorado's family of power rectifier and SCR chips are passivated with a multi-layer passivation consisting of poly silicon, silicon nitride, and pyrolitic glass. This state of the art passivation is coupled with precision controlled diffusion geometry to provide a stable chip having high surge capability, rugged construction and uniform electric field.

General purpose rectifiers utilizing this construction are available in current ranges of 1A to 300A with voltage capability to 1600V. Ultra fast recovery rectifiers are available in current ranges of 1A to 70A with voltages up to 800V. SCR's are available in current ranges of 8A through 40A with voltage capability of up to 1200V.

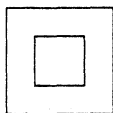
Schottky rectifiers are all guard ring protected for reverse energy capability. These chips are 100% reverse energy tested. Barrier design for the Schottky chips is either a tungsten barrier or a hybrid tungsten platinum barrier. Both barriers are less subject to degradation during high temperature soldering operations than most other commercially available barriers.

Devices are available as chips or with molybdenum disks attached for greater ease of handling and protection against stresses induced by thermal mismatch of the silicon chip to the heat sink material utilized. Standard chip contact metal is silver, but gold or aluminum are available upon special request.

Chips are shipped either in chip carrier trays or in freon, which serves to protect against both contamination and mechanical shock.

## PLANAR

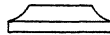
Figure 1



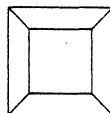
(Top View)

## MESA

Figure 2

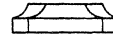


(Side View)



(Top View)

Figure 3



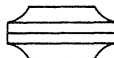
(Side View)



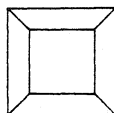
(Top View)

## DOUBLE MESA

Figure 4

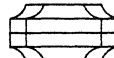


(Side View)

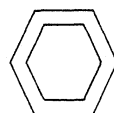


(Top View)

Figure 5



(Side View)



(Top View)

GENERAL PURPOSE RECTIFIERS

INDUSTRY STANDARD P/N	MICROSEMI- COLORADO CHIP P/N	AVERAGE FORWARD CURRENT (I <sub>0</sub> )	DIE SIZE	ANODE PAD SIZE	FIGURE
1N248-1N250C	CH248-CH250C	20	.180x.180	.144x.144	2
1N411B-1N413B	CH411B-CH413B	50	.248x.248	.210x.210	2
1N1064B-1N1069	CH1064-CH1069	5	.080x.080	.055x.055	2
1N1124-1N1128	CH1124-CH1128	3	.066x.066	.045x.045	2
1N1183-1N1190	CH1183-CH1190	40	.248x.248	.210x.210	2
1N1183A-1N1190A	CH1183A-CH1190A	40	.248x.248	.210x.210	2
1N1191-1N1198	CH1191-CH1198	25	.180x.180	.144x.144	2
1N1191A-1N1198A	CH1191A-CH1198A	25	.180x.180	.144x.144	2
1N1199-1N1206	CH1199-CH1206	12	.150x.150	.119x.119	2
1N1199A-1N1206A	CH1199A-CH1206A	12	.150x.150	.119x.119	2
1N1199B-1N1206B	CH1199B-CH1206B	12	.150x.150	.119x.119	2
1N1301-1N1306	CH1301-CH1306	37	.248x.248	.210x.210	2
1N1341-1N1348	CH1341-CH1348	6	.150x.150	.119x.119	2
1N1341A-1N1348A	CH1341A-CH1348A	6	.150x.150	.119x.119	2
1N1341B-1N1348B	CH1341B-CH1348B	6	.150x.150	.119x.119	2
1N1396-1N1403	CH1396-CH1403	70	.330x.330	.292x.292	2
1N1434-1N1438	CH1434-CH1438	30	.180x.180	.144x.144	2
1N1581-1N1587	CH1581-CH1587	3	.072x.072	.052x.052	2
1N1612-1N1616	CH1612-CH1616	5	.080x.080	.055x.055	2
1N1660-1N1666	CH1660-CH1666	116	.444x.444	.406x.406	2
1N1670-1N1676	CH1670-CH1676	240	.672 HEX	.634	3
1N2021-1N2025	CH2021-CH2025	10	.150x.150	.119x.119	2
1N2054-1N2068	CH2054-CH2068	250	.672 HEX	.634	3
1N2128-1N2138	CH2128-CH2138	60	.275x.275	.237x.237	2
1N2128A-1N2138A	CH2128A-CH2138A	60	.275x.275	.237x.237	2
1N2154-1N2160	CH2154-CH2160	25	.248x.248	.210x.210	2
1N2228-1N2264	CH2228-CH2264	10	.150x.150	.119x.119	2
1N2228A-1N2264A	CH2228A-CH2264A	10	.150x.150	.119x.119	2
1N2272-1N2280	CH2272-CH2280	6	.248x.248	.210x.210	2
1N2426-1N2445	CH2426-CH2445	150	.444x.444	.406x.406	2
1N2458-1N2467	CH2458-CH2467	60	.275x.275	.237x.237	2
1N2491-1N2497	CH2491-CH2497	6	.150x.150	.119x.119	2
1N2598	CH2598	12	.150x.150	.119x.119	2
1N2784-1N2785	CH2784-CH2785	22	.150x.150	.119x.119	2
1N2786-1N2800	CH2786-CH2800	10	.150x.150	.119x.119	2
1N3139-1N3142	CH3139-CH3142	70	.330x.330	.292x.292	2
1N3161-1N3170	CH3161-CH3170	175	.672 HEX	.634	3
1N3171-1N3174	CH3171-CH3174	240	.672 HEX	.634	3
1N3171A-1N3174A	CH3171A-CH3174A	240	.672 HEX	.634	3
1N3208-1N3214	CH3208-CH3214	15	.180x.180	.144x.144	2
1N3260-1N3274	CH3260-CH3274	160	.444x.444	.406x.406	2
1N3288-1N3297	CH3288-CH3297	100	.394 HEX	.356	3
1N3288A-1N3297A	CH3288A-CH3297A	100	.444x.444	.406x.406	2
1N3615-1N3624	CH3615-CH3624	16	.180x.180	.144x.144	2
1N3670-1N3673	CH3670-CH3673	12	.150x.150	.119x.119	2
1N3670A-1N3673A	CH3670A-CH3673A	12	.150x.150	.119x.119	2
1N3735-1N3744	CH3735-CH3744	250	.672 HEX	.634	3
1N3765-1N3768	CH3765-CH3768	30	.180x.180	.144x.144	2

INDUSTRY STANDARD P/N	MICROSEMI- COLORADO CHIP P/N	AVERAGE FORWARD CURRENT (I <sub>0</sub> )	DIE SIZE	ANODE PAD SIZE	FIGURE
1N4044-1N4056	CH4044-CH4056	275	.672 HEX	.634	3
1N4136-1N4138	CH4136-CH4138	70	.275x.275	.237x.237	2
1N4506-1N4511	CH4506-CH4511	12	.150x.150	.119x.119	2
1N4525-1N4530	CH4525-CH4530	35	.248x.248	.210x.210	2
1N4587-1N4596	CH4587-CH4596	150	.444x.444	.406x.406	2
1N5331	CH5331	12	.150x.150	.119x.119	2
1N5332	CH5332	35	.248x.248	.210x.210	2
1N6262	CH6262	85	.330x.330	.292x.292	2

#### FAST RECTIFIERS

1N3879-1N3883	CH3879-CH3883	6	.090x.090	.074x.074	2
1N3879A-1N3883A	CH3879A-CH3883A	6	.090x.090	.074x.074	2
1N3889-1N3893	CH3889-CH3893	12	.110x.110	.094x.094	2
1N3889A-1N3893A	CH3889A-CH3893A	12	.110x.110	.094x.094	2
1N3899-1N3903	CH3899-CH3903	20	.133x.133	.117x.117	2
1N3909-1N3913	CH3909-CH3913	30	.165x.165	.145x.145	2

#### ULTRAFAST RECTIFIERS

1N5802-1N5806	CH5802-CH5806	2	.032x.032	.024x.024	2
1N5812-1N5816	CH5812-CH5816	20	.133x.133	.117x.117	2
1N6304-1N6306	CH6304-CH6306	70	.196x.196	.178x.178	2

#### SCHOTTKY RECTIFIERS

1N5828	CH5828	15	.125x.125	.113x.113	2
1N5834	CH5834	40	.180x.180	.172x.172	2
1N6095-1N6096	CH6095-CH6096	25	.165x.165	.147x.147	2
1N6097-1N6098	CH6097-CH6098	50	.196x.196	.184x.184	2
1N5817-1N5819	CH5817-CH5819	1	.040x.040	.034x.034	2
1N5820-1N5822	CH5820-CH5822	3	.072x.072	.064x.064	2

#### SCR's

2N1792-2N1807	CH1792-CH1807	70	.450x.450	.400x.400	4
2N1909-2N1916	CH1909-CH1916	70	.450x.450	.400x.400	4
2N2023-2N2031	CH2023-CH2031	70	.450x.450	.400x.400	4
2N4361-2N4377	CH4361-CH4377	70	.450x.450	.400x.400	4

See the following pages for additional chip geometries and ratings (beyond JEDEC type equivalents) currently available from MSC-Colorado.

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SCHOTTKY RECTIFIER CHIPS - GUARD RING PROTECTED

AVERAGE FORWARD CURRENT (I <sub>0</sub> )	DIE SIZE	ANODE PAD SIZE	V <sub>RRM</sub>	I <sub>FSM</sub>	V <sub>f</sub> @ I <sub>0</sub>	T <sub>J</sub>	I <sub>RRM</sub> @125°C	FIGURE
1A	.040	.034	15-20	50	.45V	150	25ma	1
1A	.040	.034	30-40	50	.55V	150	25ma	1
1A	.040	.034	40-50	75	.58V	150	10ma	1
1A	.040	.034	40-60	75	.69V	175	.5ma	1
1A	.040	.034	80-100	75	.81V	175	.5ma	1
3A	.072	.064	15-20	150	.46V	150	75ma	1
3A	.072	.064	30-40	150	.50V	150	75ma	1
3A	.072	.064	40-50	150	.52V	150	75ma	1
3A	.072	.064	40-60	150	.62V	175	2ma	1
3A	.072	.064	80-100	150	.81V	175	5ma	1
4A	.080	.072	40-60	200	.62V	175	3ma	1
5A	.090	.082	20-30	300	.49V	150	90ma	1
5A	.090	.082	40-50	300	.62V	175	10ma	1
5A	.090	.082	60	300	.65V	175	10ma	1
5A	.090	.082	80-100	300	.80V	175	10ma	1
10A	.110	.102	25-45	400	.62V	175	10ma	1
10A	.110	.102	35-95	400	.52V	150	100ma	1
10A	.110	.102	80-90	400	.77V	175	10ma	1
16A	.125	.113	25-45	500	.65V	175	10ma	1
16A	.125	.113	80-90	500	.85V	175	10ma	1
25A	.165	.147	25-45	600	.58V	150	300ma	1
25A	.165	.147	35-50	600	.68V	175	10ma	1
25A	.165	.147	80-90	600	.82V	175	10ma	1
35A	.180	.172	10-20	700	.43V	150	500ma	1
35A	.180	.172	35-50	700	.67V	175	10ma	1
40A	.196	.184	30-45	800	.53V	150	500ma	1
40A	.196	.184	35-50	800	.68V	175	20ma	1
80A	.215	.200	35-50	1200	.74V	175	20ma	1
80A	.215	.200	60	1200	.77V	175	20ma	1
80A	.215	.200	80-90	1200	.92V	175	20ma	1
100A	.250	.240	35-50	1500	.76V	175	30ma	1
100A	.250	.240	60	1500	.79V	175	30ma	1
100A	.250	.240	80-90	1500	.90V	175	30ma	1
150A	.306	.292	20-40	2500	.54V	150	800ma	1
150A	.306	.292	30-50	2500	.72	175	50ma	1
150A	.306	.292	60	2500	.75	175	50ma	1
150A	.306	.292	80-90	2500	.90	175	50ma	1

GLASS PASSIVATED ULTRAFAST DIODE CHIPS

AVERAGE FORWARD CURRENT (I <sub>0</sub> )	DIE SIZE	ANODE PAD SIZE	V <sub>RRM</sub>	I <sub>FSM</sub>	V <sub>f</sub> @ I <sub>0</sub>	T <sub>J</sub>	I <sub>RRM</sub> @125°C	t <sub>rr</sub>	FIGURE
1A	.032	.024	50-200V	25A	.975V	175°C	.5ma	30ns	2
1.5A	.045	.029	50-200V	30A	.975V	175°C	.5ma	30ns	2
1A	.045	.029	200-500V	25A	1.25V	175°C	.5ma	45ns	2
1A	.045	.029	500-800V	22A	1.35V	175°C	.5ma	60ns	2
2.5A	.060	.041	50-200V	50A	.975V	175°C	.5ma	30ns	2
2A	.060	.041	200-300V	42A	1.25V	175°C	.5ma	45ns	2
2A	.060	.041	500-800V	35A	1.35V	175°C	.5ma	60ns	2
3A	.072	.056	50-200V	110A	.975V	175°C	1ma	30ns	2
3A	.072	.056	200-500V	90A	1.25V	175°C	1ma	45ns	2
3A	.072	.056	500-800V	75A	1.35V	175°C	1ma	60ns	2
8A	.090	.074	50-200V	180A	.975V	175°C	1ma	30ns	2
8A	.090	.074	200-500V	150A	1.25V	175°C	1ma	45ns	2
8A	.090	.074	500-800V	125A	1.35V	175°C	1ma	60ns	2
15A	.110	.094	50-200V	325A	.975V	175°C	1ma	35ns	2
15A	.110	.094	200-500V	275A	1.25V	175°C	1ma	50ns	2
15A	.110	.094	500-800V	225A	1.35V	175°C	1ma	60ns	2
25A	.133	.117	50-200V	500A	.975V	175°C	1ma	35ns	2
25A	.133	.117	200-500V	420A	1.25V	175°C	1ma	50ns	2
25A	.133	.117	500-800V	350A	1.35V	175°C	1ma	70ns	2
30A	.165	.145	50-200V	600A	.975V	175°C	1ma	35ns	2
30A	.165	.145	200-500V	500A	1.25V	175°C	1ma	50ns	2
30A	.165	.145	500-800V	420A	1.35V	175°C	1ma	70ns	2
60A	.196	.178	50-200V	860A	.975V	175°C	2ma	50ns	2
60A	.196	.178	200-500V	720A	1.25V	175°C	2ma	60ns	2
60A	.196	.178	500-800V	600A	1.35V	175°C	2ma	75ns	2
70A	.215	.195	50-200V	1000A	.975V	175°C	2ma	50ns	2
70A	.215	.195	200-500V	800A	1.25V	175°C	2ma	60ns	2
70A	.215	.195	500-800V	700A	1.35V	175°C	2ma	75ns	2



GLASS PASSIVATED DIODE

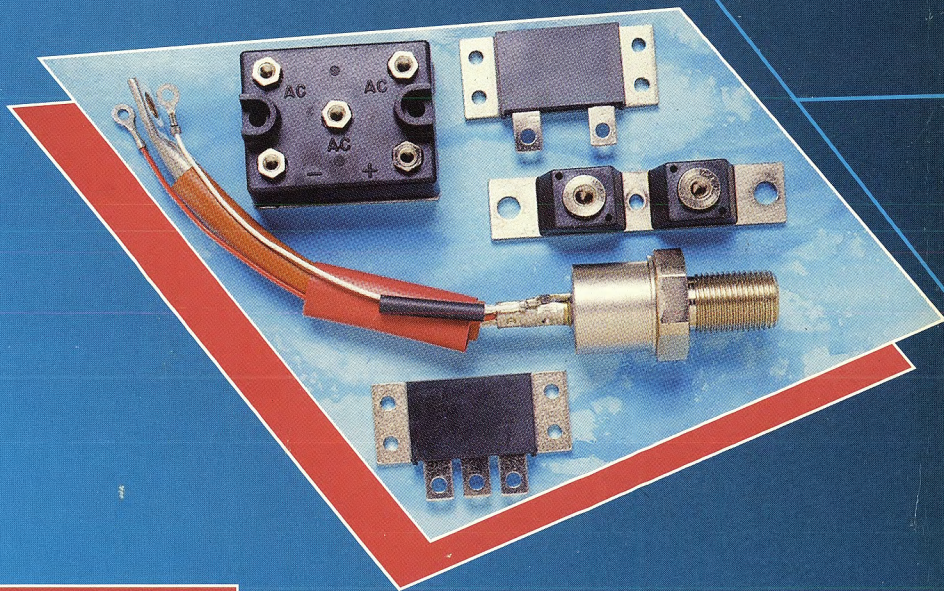
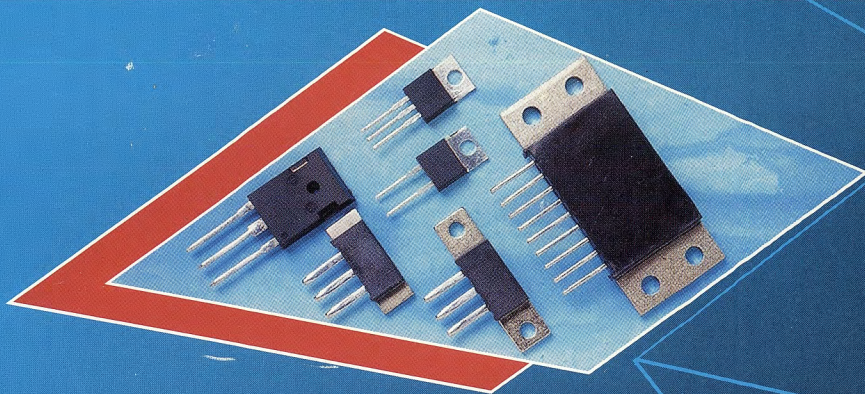
AVERAGE FORWARD CURRENT (I <sub>0</sub> )	DIE SIZE	ANODE PAD SIZE	V <sub>RRM</sub>	I <sub>FSM</sub>	V <sub>f</sub> @ I <sub>0</sub>	T <sub>J</sub>	I <sub>RRM</sub> @125°C	FIGURE
1	.045	.025	200-1000V	15	1.1V	200°C	.5ma	2
2	.060	.034	200-1000V	25	1.1V	200°C	.5ma	2
2.5	.066	.045	200-1000V	35	1.1V	200°C	.5ma	2
3	.072	.052	200-1000V	50	1.1V	200°C	.5ma	2
4	.080	.055	200-1000V	55	1.1V	200°C	1.0ma	2
6	.100	.076	200-1000V	100	1.1V	200°C	1.0ma	2
12	.110	.088	200-1000V	150	1.1V	200°C	1.0ma	2
18	.120	.095	200-1000V	170	1.1V	200°C	1.0ma	2
25	.150	.119	200-1200V	250	1.1V	200°C	1.5ma	2
30	.180	.144	200-1200V	400	1.1V	200°C	1.5ma	2
50	.248	.210	200-1200V	800	1.1V	200°C	2.0ma	2
70	.275	.237	200-1200V	1000	1.1V	200°C	5.0ma	2
85	.330	.292	200-1200V	1500	1.1V	200°C	3.0ma	2
100	.394	.356	200-1200V	1800	1.1V	200°C	3.0ma	3
150	.444	.406	200-1200V	2500	1.1V	200°C	5.0ma	2
150	.488	.470	200-1200V	2500	1.1V	-200°C	5.0ma	3
300	.672	.634	200-1200V	5500	1.1V	200°C	10.0ma	3

GLASS PASSIVATED SCR CHIPS

8A	.180 SQ	50-1200V	200A	1.2V	125°C	3.5ma	4
16A	.248 SQ	50-1200V	400A	1.2V	125°C	5ma	4
40A	.394 HEX	50-1200V	1000A	1.2V	125°C	6ma	5
80A	.450 SQ	50-1200V	1800A	1.2V	125°C	8ma	4
150A	.672 HEX	50-1200V	3000A	1.2V	125°C	15ma	5



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