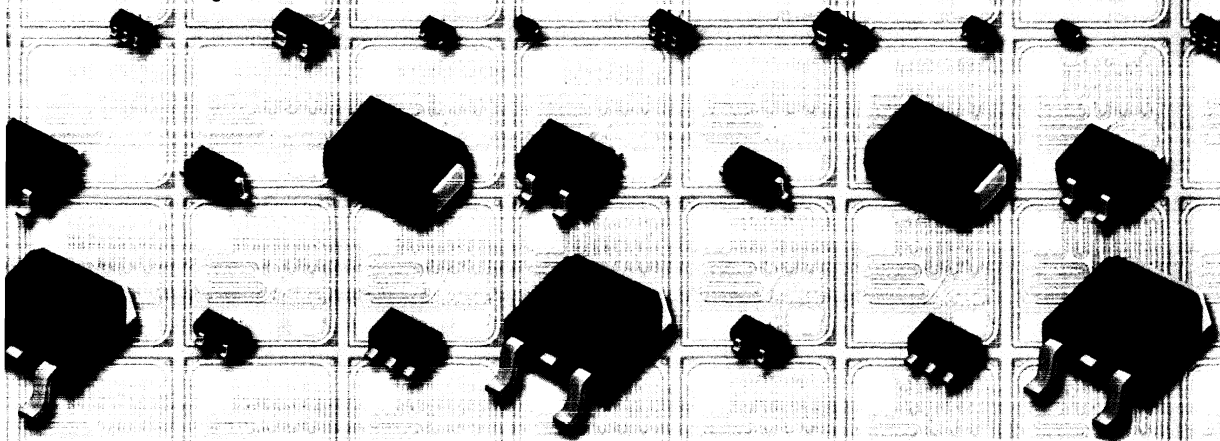


CentralTM
Semiconductor Corp.

The Future of SMD

**Surface Mount Devices
Databook
2001-2002**



CERTIFICATE



TUV Rheinland
of North America, Inc.

hereby certifies that

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788, USA

has established and applies
a quality system for
**the Design and Manufacture of Discrete
Semiconductors.**

An audit was performed, Report No. 7654A

Proof has been furnished that the requirements according to
ISO 9001 / ANSI/ASQC Q9001-1994 / EN ISO 9001
are fulfilled.

Certificate Registration No.

74 300 7654A

The certificate is valid from
October 24, 2000

The certificate is valid until
October 23, 2003

Newtown, CT, November 9, 2000

Worthington, MA, November 9, 2000


President




Manager, Quality Registration Office

New To This Edition ..

SMD DATA BOOK 2001-2002



Ultra Low Leakage Diodes in SOT-23.

Central is introducing a family of Energy Efficient Devices, EED's, for the segment of the electronics market that demands both small size and very low leakage currents, typically 100pA. Applications include laptops, cell phones, PDA's and any of the new battery powered portable devices. Available in multiple configurations for maximum versatility.

- | | | |
|-------------|----------------------------|--------------|
| • CMPD6001 | Single Diode | see page 198 |
| • CMPD6001A | Dual Common Anode Diodes | see page 198 |
| • CMPD6001C | Dual Common Cathode Diodes | see page 198 |
| • CMPD6001S | Dual, In Series Diodes | see page 198 |

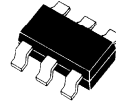


Low Leakage, High Voltage Switching Diodes in SOT-23 Case.

Central is now offering a 200 Volt, Low Leakage Switching Diode in the popular SOT-23 surface mount package. With leakage currents of 1.0nA these components are perfect for applications where size and power constraints are prime considerations. Available configurations include: single, dual common anode, common cathode, or dual in series.

- | | | |
|-------------|----------------------------|--------------|
| • CMPD3003 | Single Diode | see page 190 |
| • CMPD3003A | Dual Common Anode Diodes | see page 190 |
| • CMPD3003C | Dual Common Cathode Diodes | see page 190 |
| • CMPD3003S | Dual, In Series Diodes | see page 190 |

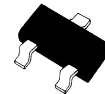
Triple Isolated Diodes in SOT-26 package



When reduced board space is required, our new Triple Isolated Diodes integrate three individual galvanically isolated devices into a single SOT-26 package.

- CMXD2004 Triple High Voltage Switching Diodes see page 344
- CMXD4448 Triple Switching Diodes see page 346
- CMXSH-3 Triple Schottky Diodes see page 348

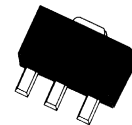
High Voltage PNP Transistor in SOT-23 Case.



Our new CMPTA94 High Voltage PNP Transistor is complementary to our popular CMPTA44 device. Both devices handle a collector-emitter voltage of 400V.

- CMPTA94 PNP High Voltage Transistor see page 270

High Voltage NPN Transistor in SOT-89 Case.



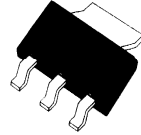
Now our popular CZTA44 device has been packaged in a SOT-89 case. The new CXTA44 is a High Voltage NPN Transistor designed to utilize less board space than the SOT-223 device while maintaining a collector-emitter voltage of 400V.

- CXTA44 NPN High Voltage Transistor see page 410

New To This Edition ...

Continued

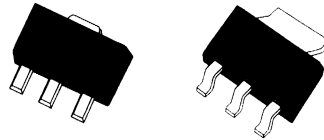
Extremely High Gain Darlington in SOT-223 package.



Our newest Darlington transistors, the CZT250K with a $h_{FE} = 250,000$ and the CZT900K with a $h_{FE} = 900,000$ offer extremely high gain for such applications as lighting controllers, solenoid driver, meter bridge circuits and solid-state relays.

- CZT250K High Gain Darlington see page 420
- CZT900K High Gain Darlington see page 426

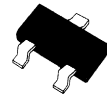
5 Amp Power Transistors in both SOT89 AND SOT-223 Cases.



The latest addition to our POWER Transistor family is the CXT3150 in the SOT-89 case and the CZT3150 in the SOT-223 case. These new 5 Amp NPN Power Transistors offer high speed up to a frequency of 200 MHz. Ideal for applications requiring high current, high gain and a fast switching speed in a small surface mount package.

- CXT3150 NPN 5 Amp Power Transistor in SOT-89 see page 394
- CZT3150 NPN 5 Amp Power Transistor in SOT-223 see page 438

Chopper Transistor now available in SOT-23 Case.

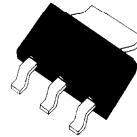


Central continues its commitment to manufacturing popular devices discontinued by other manufacturers through the **EOL-LIFE SUPPORT** program. The CMPT404A is a drop on replacement for the discontinued Motorola MMBT404A.

Central currently manufactures over 1,400 **EOL-LIFE SUPPORT** devices.

- CMPT404A Chopper Transistor see page 214

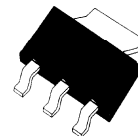
New Higher Voltage, High Current Power Transistors in SOT-223 case.



The CZT651 NPN Power Transistor and the CZT751 PNP Power Transistor are a 2 Amp complementary devices based on our popular CBCP68 and CBCP69 transistors. Both offer a collector-emitter voltage of 60V and are suited for applications requiring a higher voltage general-purpose transistor in a space saving surface mount package.

- CZT651 NPN Power Transistor see page 422
- CZT751 PNP Power Transistor see page 424

PNP 60 Volt High Gain Darlington in SOT-223 package.



Introducing the CZTA77 PNP Darlington Transistor. This new device offers extremely high gain with a collector-emitter voltage of 60V. The CZTA77 is a complementary version of our popular CZTA27 NPN Darlington.

- CZTA77 PNP Darlington Transistor see page 458

New To This Edition ... Continued

3000 Watt Transient Voltage Suppressor in SMC Case.



For TVS applications that demand higher power, these two new 3000W series of devices will meet your challenge. Available in uni-polar and bi-polar, both series are specified by breakdown voltage.

Available series:

- 3SMC5.0A thru 3000W uni-polar TVS see page 84
3SMC170A
- 3SMC5.0CA thru 3000W bi-polar TVS see page 86
3SMC170CA

On the Drawing Board

Coming Soon

Dual Transistors in an SOT-26 package



- CMXT2222A Dual NPN Transistors
- CMXT2907A Dual PNP Transistors
- CMXT3904 Dual NPN Transistors
- CMXT3906 Dual PNP Transistors
- CMXT2207 Complementary pair - NPN & PNP Transistor
- CMXT3946 Complementary pair - NPN & PNP Transistor

ULTRAmini™ Diodes and Transistors in SOD-523 and SOT-523 packages

- CMOD2004 High Voltage Switching Diode
 - CMOD4448 Switching Diode
 - CMOD6001 Ultra Low Leakage Diode
 - CMOSH-3 Schottky Diode
- SOD-523
- CMUT2222A NPN Transistors
 - CMUT2907A PNP Transistors
 - CMUT3904 NPN Transistors
 - CMUT3906 PNP Transistors
- SOT-523

ULTRAmini™

Selected, Special and Custom SMDs

In addition to our standard surface mounted devices, Central Semiconductor is committed to building Selected, Special, and Custom SMDs.

SELECTED SMD

A selected SMD is a standard device that is selected for an additional or tightened electrical parameter(s).

For example:

CMPT2222A selected for higher voltage

The standard BV_{CEO} is 40 volts min and a customer's application required 60 volts min.

CZT3019 selected for higher gain

The standard h_{FE} is 100 min and 300 max and a customer's special selection requirement was 160 min, 300 max.

CMPZ5240B selected for tighter tolerance

The standard tolerance is $\pm 5\%$ and a customer required a $\pm 2\%$ tolerance.

SPECIAL SMD

A Special SMD is required when a selection of a standard device is not possible. Normally, this is accomplished through a special diffusion of a standard process.

For example:

CMPD2003 with ultra low leakage

A special diffusion is required to yield a leakage level far below the standard I_R of 100nA max.

CXT3904 with extremely high gain

A special diffusion is required to yield a minimum h_{FE} above the standard range of 100 min, 300 max. (example: a range of 320 min, 500 max)

CMR1U-04 with higher voltage

A special diffusion can be performed to yield a B_{VR} of 600 volts min, instead of 400 volts min.

CUSTOM SMD

A Custom SMD may be developed for a unique customer requirement. Custom devices can be obtained by either assembling one of our standard chips into a different case or by developing a completely new device.

For example:

CXSH-4 is a custom device that was developed for a customer requirement. This device is a Schottky Rectifier (normally built in a MELF or SMB case) assembled into an SOT-89 case to meet a very tight height restriction.

CBR1F-D020S is a custom device. Our standard SMD Bridge Rectifier is built with general purpose chips; this application requires fast recovery chips.

While other manufacturers shy away from Selected, Special and Custom devices, Central is committed to meeting Customer needs for Selected and Special SMDs.

Central will review and determine feasibility of Custom devices.

Selected, Special and Custom SMDs (Cont.)

Examples of **Central's** Solutions to customer problems.

Problem: A major PC manufacturer was designing a new palm top computer which required Schottky Rectifiers with an extremely low profile (under 2mm) in the power management section of its circuitry. All standard package types (SMA, SMB, MELF) have device heights greater than 2mm.



Solution: Central took the chip from its CMSH1-40M SMA and assembled it into an SOT-89 case normally reserved for transistors. A new standard device, CXSH-4, was born.

Problem: A major network card manufacturer required a rectifier with a switching speed of 35ns or less in order to make their design work properly. The Ultra Fast Rectifier CMR1U-02, with a switching speed of 50ns, was not fast enough.



Solution: Central's new Super Fast Rectifiers, the CMR1S-02 series, in the SMB case were designed to fill that need by guaranteeing a switching speed of 35ns.

Problem: A network systems manufacturer required a Bridge Rectifier with a switching speed under 100ns in order to improve its overall circuit efficiency.



Solution: Central assembled four chips from its CMR1U-02 Ultra Fast Rectifier into the SMDIP Bridge Rectifier case to create the CBR1U-D020S Ultra Fast Bridge Rectifier.

Problem: A major manufacturer of network cards in a PC Card format needed to pack additional features into a PCMCIA Type II card. Their original design required two individual SOT-23's.



Solution: Central squeezed two CMPZ52XXB Zener Diode chips into one SOT-23 package, yielding the customer a 50% reduction in board space.

Problem: A manufacturer of PC card instruments required a Bipolar Power Transistor to be used in their design. DPAKs are not suitable to fit into PCMCIA Type II cards, so a lower profile Small Signal package was required.



Solution: Central increased the die attach pad on the SOT-223 lead frame to accommodate the much larger Power Transistor chip. Central's CZT2955 and its Power223 series were born.

Problem: A major manufacturer of Process Control units used in caustic environments such as paper mills, refineries and power plants, was in need of transistors built without silver in the manufacturing process. Silver (combined with caustic fumes) can cause silver migration.



Solution: The industry's standard lead frames for Small Signal Transistors utilize silver plating in the die attach area. Central set up a special line to plate gold in the die attach area to meet the customer's requirements.

Visit our website for the latest
product information and updates on
all devices manufactured by
**CentralTM
Semiconductor Corp.**



www.centrasemi.com

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1MN10	CMXD4448	EM	51	346	6CWF20F	CUD6-02C	EM	63	380
10BQ015	CMSH1-20ML	EM	65	316	6CWQ03F	CSHD6-40C	EM	67	366
10MF2	CMR1U-02M	EM	62	294	6CWQ04F	CSHD6-40C	EM	67	366
10MQ040	CMSH1-40M	EM	65	314	6CWQ05F	CSHD6-60C	EM	67	368
10MQ060	CMSH1-60M	EM	65	314	6CWQ06F	CSHD6-60C	EM	67	368
1N6478	CMR1-02M	EM	60	286	BAL99	CMPD914	CE	50	182
1N6479	CMR1-02M	EM	60	286	BAR42	CMPSH-3	SE	51	212
1N6481	CMR1-04M	EM	60	286	BAR43	CMPSH-3	EM	51	212
1N6482	CMR1-06M	EM	60	286	BAR43A	CMPSH-3A	EM	51	212
1N6483	CMR1-10M	EM	60	286	BAR43C	CMPSH-3C	EM	51	212
1N6484	CMR1-10M	EM	60	286	BAR43S	CMPSH-3S	EM	51	212
1S2835	CMPD2836	EM	50	188	BAS16	CMPD 914	EM	50	182
1S2836	CMPD2836	EM	50	188	BAS17	CBAS17	EM	52	98
1S2837	CMPD2838	EM	50	188	BAS19	CMPD2003	EM	50	186
1S2838	CMPD2838	EM	50	188	BAS20	CMPD2003	EM	50	186
1SMB5.0A thru	1SMB5.0A thru	EM	58	72	BAS21	CMPD2003	EM	50	186
1SMB170A	1SMB170A	EM	58	72	BAS28	BAS28	EM	50	90
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1SMB170CA	1SMB170CA	EM	58	74	BAS31	CMPD1001S	EM	50	184
1SMC5.0A thru	1SMC5.0A thru	EM	58	76	BAS32	CLL4448	EM	50	146
1SMC170A	1SMC170A	EM	58	76	BAS32L	CLL4448	EM	50	146
1SMC5.0CA thru	1SMC5.0CA thru	EM	58	78	BAS35	CMPD1001A	EM	50	184
1SMC170CA	1SMC170CA	EM	58	78	BAS40	CMPSH-3	SE	51	212
1SR154-100	CMR1-02M	EM	60	286	BAS40-04	CMPSH-3S	SE	51	212
1SR154-200	CMR1-02M	EM	60	286	BAS40-05	CMPSH-3C	SE	51	212
1SR154-400	CMR1-04M	EM	60	286	BAS40-06	CMPSH-3A	SE	51	212
1SR154-600	CMR1-06M	EM	60	286	BAS40-07	CMFSH-3i	EM	51	168
1SR154-800	CMR1-10M	EM	60	286	BAS56	BAS56	EM	50	92
1SR159-200	CMR1U-02M	EM	62	294	BAS70	CMPD6263	EM	51	200
1SR56-100	CMR1F-02M	EM	61	288	BAS70-04	CMPD6263S	EM	51	200
1SR56-200	CMR1F-02M	EM	61	288	BAS70-05	CMPD6263C	EM	51	200
1SR56-400	CMR1F-04M	EM	61	288	BAS70-06	CMPD6263A	EM	51	200
1.5SMC6.8A thru	1.5SMC6.8A thru	EM	59	80	BAT17	CMPD6263	SE	51	200
1.5SMC200A	1.5SMC200A	EM	59	80	BAT18	CMPD6263	EM	51	200
1.5SMC6.8CA thru	1.5SMC6.8CA thru	EM	59	82	BAT54	CMPSH-3	EM	51	212
1.5SMC200CA	1.5SMC200CA	EM	59	82	BAT54A	CMPSH-3A	EM	51	212
2N7002	2N7002	EM	45	88	BAT54C	CMPSH-3C	EM	51	212
30BQ015	CMSH3-20L	EM	66	326	BAT54S	CMPSH-3S	EM	51	212
30WF10F	CUD3-02	EM	62	378	BAT64	CMPSH-3	EM	51	212
30WF20F	CUD3-02	EM	62	378	BAT74	CMFSH-3i	EM	51	168
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30WF40F	(special order)	—	—	*	BAV101	CLL2003	EM	50	138
30WQ03F	CSHD3-40	EM	66	358	BAV102	CLL2003	EM	50	138
30WQ04F	CSHD3-40	EM	66	358	BAV103	CLL2003	EM	50	138
30WQ05F	CSHD3-60	EM	66	360	BAV105	CLL4150	EM	50	144
30WQ06F	CSHD3-60	EM	66	360	BAV23	CMFD2004i	EM	50	166
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3SMC170A	3SMC170A	EM	58	84	BAV70	CMPD2838	EM	50	188
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3SMC170CA	3SMC170CA	EM	58	86	BAV74	CMPD2838	EM	50	188
50WF10F	CUD6-02C	EM	63	380	BAV99	CMPD7000	EM	50	202
50WF20F	CUD6-02C	EM	63	380	BAV99	CMPD7000	EM	50	202
50WF30F	(special order)	—	—	*	BAV99WT1	CMSD7000	EM	50	310
50WF40F	(special order)	—	—	*	BAW101	BAW101	EM	50	94
6CWF10F	CUD6-02C	EM	63	380	BAW56	CMPD2836	EM	50	188

CE	Closest equivalent (slight to significant electrical and/or mechanical differences).	EM	Exact electrical and mechanical.
SE	Exact mechanical equivalent, slight electrical differences.	SM	Exact electrical equivalent, slight mechanical differences.

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BAW56WT1	CMSD2836	EM	50	306	BC868	CBCX68	EM	47	102
BAY84	CMPD5001S	EM	50	196	BC869	CBCX69	EM	47	102
BAY85	CMPD2004	EM	50	186	BCF29	BCF29	EM	44	*
BAY85S	CMPD2004S	EM	50	186	BCF30	BCF30	EM	44	*
BC807	BC807	EM	44	*	BCF32	BCF32	EM	44	*
BC807.16	BC807.16	EM	44	*	BCF33	BCF33	EM	44	*
BC807.25	BC807.25	EM	44	*	BCF70	BCF70	EM	44	*
BC807.40	BC807.40	EM	44	*	BCF81	BCF81	EM	44	*
BC808	BC808	EM	44	*	BCEP28	CZTA64	EM	48	450
BC808.16	BC808.16	EM	44	*	BCEP29	CZTA14	EM	48	450
BC808.25	BC808.25	EM	44	*	BCEP48	(special order)	—	—	*
BC808.40	BC808.40	EM	44	*	BCEP49	(special order)	—	—	*
BC817	BC817	EM	44	*	BCEP51, -10, -16	CZT4033	EM	48	442
BC817.16	BC817.16	EM	44	*	BCEP52, -10, -16	CZT4033	EM	48	442
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BC817.40	BC817.40	EM	44	*	BCEP54, -10, -16	CZT3019	EM	48	436
BC818	BC818	EM	44	*	BCEP55, -10, -16	CZT3019	EM	48	436
BC818.16	BC818.16	EM	44	*	BCEP56, -10, -16	CZT3019	EM	48	436
BC818.25	BC818.25	EM	44	*	BCEP68	CBCP68	EM	48	100
BC818.40	BC818.40	EM	44	*	BCEP69	CBCP69	EM	48	100
BC846	BC846	EM	44	*	BCV26	BCV26	EM	44	*
BC846A	BC846A	EM	44	*	BCV27	BCV27	EM	44	*
BC846B	BC846B	EM	44	*	BCV28	CXTA64	EM	47	404
BC847	BC847	EM	44	*	BCV29	CXTA14	EM	47	404
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BC847B	BC847B	EM	44	*	BCV47	BCV47	EM	44	*
BC847C	BC847C	EM	44	*	BCV48	BCV48	EM	—	*
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BC848A	BC848A	EM	44	*	BCV71	BCV71	EM	44	*
BC848B	BC848B	EM	44	*	BCV72	BCV72	EM	44	*
BC848C	BC848C	EM	44	*	BCW29	BCW29	EM	44	*
BC849	BC849	EM	44	*	BCW30	BCW30	EM	44	*
BC849B	BC849B	EM	44	*	BCW31	BCW31	EM	44	*
BC849C	BC849C	EM	44	*	BCW32	BCW32	EM	44	*
BC850	BC850	EM	44	*	BCW33	BCW33	EM	44	*
BC850B	BC850B	EM	44	*	BCW60	BCW60	EM	45	*
BC850C	BC850C	EM	44	*	BCW60A	BCW60A	EM	45	*
BC856	BC856	EM	44	*	BCW60B	BCW60B	EM	45	*
BC856A	BC856A	EM	44	*	BCW60C	BCW60C	EM	45	*
BC856B	BC856B	EM	44	*	BCW60D	BCW60D	EM	45	*
BC857	BC857	EM	44	*	BCW61	BCW61	EM	45	*
BC857B	BC857B	EM	44	*	BCW61A	BCW61A	EM	45	*
BC857C	BC857C	EM	44	*	BCW61B	BCW61B	EM	45	*
BC858	BC858	EM	44	*	BCW61C	BCW61C	EM	45	*
BC858A	BC858A	EM	44	*	BCW61D	BCW61D	EM	45	*
BC858B	BC858B	EM	44	*	BCW65	BCW65	EM	45	*
BC858C	BC858C	EM	44	*	BCW65A	BCW65A	EM	45	*
BC859	BC859	EM	44	*	BCW65B	BCW65B	EM	45	*
BC859A	BC859A	EM	44	*	BCW65C	BCW65C	EM	45	*
BC859B	BC859B	EM	44	*	BCW66	BCW66	EM	45	*
BC859C	BC859C	EM	44	*	BCW66F	BCW66F	EM	45	*
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BC860A	BC860A	EM	44	*	BCW66H	BCW66H	EM	45	*
BC860B	BC860B	EM	44	*	BCW67	BCW67	EM	45	*
BC860C	BC860C	EM	44	*					



CE	Closest equivalent (slight to significant electrical and/or mechanical differences).	EM	Exact electrical and mechanical.
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* Special Order

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BCW67A	BCW67A	EM	45	*	BFN38	CZTA42	EM	48	454
BCW67B	BCW67B	EM	45	*	BFN39	CZTA92	EM	48	454
BCW67C	BCW67C	EM	45	*	BFS17	CMPT5179	EM	43	244
BCW68	BCW68	EM	45	*	BFS18	BFS18	EM	*	*
BCW68F	BCW68F	EM	45	*	BFS19	BFS19	EM	*	*
BCW68G	BCW68G	EM	45	*	BFS20	BFS20	EM	*	*
BCW68H	BCW68H	EM	45	*	BSR12	CMPT3640	SE	42	230
BCW69	BCW69	EM	45	*	BSR13	BSR13	EM	45	*
BCW70	BCW70	EM	45	*	BSR14	BSR14	EM	45	*
BCW71	BCW71	EM	45	*	BSR15	BSR15	EM	45	*
BCW72	BCW72	EM	45	*	BSR16	BSR16	EM	45	*
BCW81	BCW81	EM	45	*	BSR17	BSR17	EM	45	*
BCW89	BCW89	EM	45	*	BSR17A	BSR17A	EM	45	*
BCX17	BCX17	EM	45	*	BSR30	CXT4033	SE	47	398
BCX18	BCX18	EM	45	*	BSR31	CXT4033	SE	47	398
BCX19	BCX19	EM	45	*	BSR32	CXT4033	SE	47	398
BCX20	BCX20	EM	45	*	BSR33	CXT4033	SE	47	398
BCX51, -10, -16	CXT4033	EM	47	398	BSR40	CXT3019	SE	47	392
BCX52, -10, -16	CXT4033	EM	47	398	BSR41	CXT3019	SE	47	392
BCX53, -10, -16	CXT4033	EM	47	398	BSR42	CXT3019	SE	47	392
BCX54, -10, -16	CXT3019	EM	47	392	BSR43	CXT3019	SE	47	392
BCX55, -10, -16	CXT3019	EM	47	392	BSS63	(special order)	---	---	*
BCX56, -10, -16	CXT3019	EM	47	392	BSS64	(special order)	---	---	*
BCX68	CBCX68	EM	47	102	BST15	CXTA92	EM	47	408
BCX69	CBCX69	EM	47	102	BST16	CXTA92	SE	47	408
BCX70	BCX70	EM	45	*	BST39	CXTA42	SE	47	408
BCX70G	BCX70G	EM	45	*	BST40	CXTA42	EM	47	408
BCX70H	BCX70H	EM	45	*	BST50	CXTA14	CE	47	404
BCX70J	BCX70J	EM	45	*	BST51	CXTA27	EM	47	406
BCX70K	BCX70K	EM	45	*	BST52	CXTA28	EM	---	*
BCX71	BCX71	EM	45	*	BST60	CXTA64	CE	47	404
BCX71G	BCX71G	EM	45	*	BST61	(special order)	---	---	*
BCX71H	BCX71H	EM	45	*	BST62	(special order)	---	---	*
BCX71J	BCX71J	EM	45	*	BSV52	BSV52	EM	45	*
BCX71K	BCX71K	EM	45	*	BYD17D	CMR1-02M	CE	60	286
BF554	BF554	EM	---	*	BYD17G	CMR1-06M	CE	60	286
BF599	BF599	EM	---	*	BYD17J	CMR1-06M	CE	60	286
BF620	CXTA42	EM	47	408	BYD17K	CMR1-10M	CE	60	286
BF621	CXTA92	EM	47	408	BYD17M	CMR1-10M	CE	60	286
BF622	CXTA42	EM	47	408	BYD37D	CMR1F-02M	CE	61	288
BF623	CXTA92	EM	47	408	BYD37G	CMR1F-06M	CE	61	288
BF720	CZTA42	EM	48	454	BYD37J	CMR1F-06M	CE	61	288
BF721	CZTA92	EM	48	454	BYD37K	CMR1F-10M	CE	61	288
BF722	CZTA42	EM	48	454	BYD37M	CMR1F-10M	CE	61	288
BF723	CZTA92	EM	48	454	BYD77A	CMR1U-01M	CE	62	294
BF822	BF822	EM	---	*	BYD77B	CMR1U-01M	CE	62	294
BF823	BF823	EM	---	*	BYD77C	CMR1U-02M	CE	62	294
BFN16	BFN16	EM	---	*	BYD77D	CMR1U-02M	CE	62	294
BFN17	BFN17	EM	---	*	BYD77E	CMR1U-04M	CE	62	294
BFN18	BFN18	EM	---	*	BYD77F	CMR1U-04M	CE	62	294
BFN19	BFN19	EM	---	*	BYD77G	CMR1U-04M	CE	62	294
BFN22	BFN22	EM	---	*	BYM10- 50	CMR1-02M	EM	60	286
BFN23	BFN23	EM	---	*	BYM10- 100	CMR1-02M	EM	60	286
BFN36	CZTA42	EM	48	454	BYM10- 200	CMR1-02M	EM	60	286
BFN37	CZTA92	EM	48	454	BYM10- 400	CMR1-04M	EM	60	286

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Industry Part Number	Central Part Number	Code	Selection Guide	Data Sheet	Industry Part Number	Central Part Number	Code	Selection Guide	Data Sheet
BYM10- 600	CMR1-06M	EM	60	286	CCLM3500	CCLM3500	EM	57	112
BYM10- 800	CMR1-10M	EM	60	286	CCLM4500	CCLM4500	EM	57	112
BYM10-1000	CMR1-10M	EM	60	286	CCLM5750	CCLM5750	EM	57	112
BYM11- 50	CMR1F-02M	EM	61	288	CJD 31C	CJD 31C	EM	49	114
BYM11- 100	CMR1F-02M	EM	61	288	CJD 32C	CJD 32C	EM	49	114
BYM11- 200	CMR1F-02M	EM	61	288	CJD 41C	CJD 41C	EM	49	116
BYM11- 400	CMR1F-06M	EM	61	288	CJD 42C	CJD 42C	EM	49	116
BYM11- 600	CMR1F-06M	EM	61	288	CJD 44H11	CJD 44H11	EM	49	118
BYM11- 800	CMR1F-10M	EM	61	288	CJD 45H11	CJD 45H11	EM	49	118
BYM11-1000	CMR1F-10M	EM	61	288	CJD 47	CJD 47	EM	49	120
BYM12- 50	CMR1U-01M	EM	62	294	CJD 50	CJD 50	EM	49	120
BYM12-100	CMR1U-01M	EM	62	294	CJD 112	CJD 112	EM	49	122
BYM12-150	CMR1U-02M	EM	62	294	CJD 117	CJD 117	EM	49	122
BYM12-200	CMR1U-02M	EM	62	294	CJD 122	CJD 122	EM	49	124
BYM12-300	CMR1U-04M	EM	62	294	CJD 127	CJD 127	EM	49	124
BYM12-400	CMR1U-04M	EM	62	294	CJD 200	CJD 200	EM	49	126
BYM13-20	CMSH1-20M	EM	65	314	CJD 210	CJD 210	EM	49	126
BYM13-30	CMSH1-40M	EM	65	314	CJD 340	CJD 340	EM	49	128
BYM13-40	CMSH1-40M	EM	65	314	CJD 350	CJD 350	EM	49	128
BYM13-50	CMSH1-60M	EM	65	314	CJD 2955	CJD 2955	EM	49	130
BYM13-60	CMSH1-60M	EM	65	314	CJD 3055	CJD 3055	EM	49	130
BZX84C3V3 thru	BZX84C3V3 thru	EM	54	96	CJD13003	CJD13003	EM	49	132
BZX84C33	BZX84C33	EM	54	96	CLL 457A	CLL 457A	EM	52	134
CBAS17	CBAS17	EM	52	98	CLL 459A	CLL 459A	EM	52	134
CBCP68	CBCP68	EM	48	100	CLL 914	CLL 914	EM	—	136
CBCP69	CBCP69	EM	48	100	CLL2003	CLL2003	EM	—	138
CBCX68	CBCX68	EM	47	102	CLL3595	CLL3595	EM	52	140
CBCX69	CBCX69	EM	47	102	CLL4099 thru	CLL4099 thru	EM	55	142
CBR1-D020S	CBR1-D020S	EM	68	104	CLL4125	CLL4125	EM	55	142
CBR1-D040S	CBR1-D040S	EM	68	104	CLL4150	CLL4150	EM	—	144
CBR1-D060S	CBR1-D060S	EM	68	104	CLL4448	CLL4448	EM	—	146
CBR1-D100S	CBR1-D100S	EM	68	104	CLL4614 thru	CLL4614 thru	EM	55	148
CBR1F-D020S	CBR1F-D020S	EM	68	—	CLL4627	CLL4627	EM	55	148*
CBR1F-D040S	CBR1F-D040S	EM	68	—	CLL4678 thru	CLL4678 thru	EM	55	150
CBR1F-D060S	CBR1F-D060S	EM	68	—	CLL4717	CLL4717	EM	55	150
CBR1F-D100S	CBR1F-D100S	EM	68	—	CLL4729A thru	CLL4729A thru	EM	56	152
CBR1U-D010S	CBR1U-D010S	EM	68	106	CLL4764A	CLL4764A	EM	56	152*
CBR1U-D020S	CBR1U-D020S	EM	68	106	CLL5221B thru	CLL5221B thru	EM	55	154
CBRHD-02	CBRHD-02	EM	68	108	CLL5267B	CLL5267B	EM	55	154
CBRHD-04	CBRHD-04	EM	68	108	CLLR1-02	CMR1-02M		60	286
CBRHD-06	CBRHD-06	EM	68	108	CLLR1-04	CMR1-04M		60	286
CBRHD-10	CBRHD-10	EM	68	108*	CLLR1-06	CMR1-06M		60	286
CCLHM080	CCLHM080	EM	57	110	CLLR1-10	CMR1-10M		60	286
CCLHM100	CCLHM100	EM	57	110	CLLR1F-02	CMR1F-02M		61	288
CCLHM120	CCLHM120	EM	57	110	CLLR1F-06	CMR1F-06M		61	288
CCLHM150	CCLHM150	EM	57	110	CLLR1F-10	CMR1F-10M		61	288
CCLM0035	CCLM0035	EM	57	112	CLLR1U-01	CMR1U-01M		62	292
CCLM0130	CCLM0130	EM	57	112	CLLR1U-02	CMR1U-02M		62	292
CCLM0300	CCLM0300	EM	57	112	CLLR1U-04	CMR1U-04M		62	292
CCLM0500	CCLM0500	EM	57	112	CLLRH-02	CLLRH-02	EM	60	156
CCLM0750	CCLM0750	EM	57	112	CLLRH-04	CLLRH-04	EM	60	156
CCLM1000	CCLM1000	EM	57	112	CLLRH-06	CLLRH-06	EM	60	156
CCLM1500	CCLM1500	EM	57	112	CLLSH1-20	CMSH1-20M		65	314
CCLM2000	CCLM2000	EM	57	112	CLLSH1-40	CMSH1-40M		65	314
CCLM2700	CCLM2700	EM	57	112	CLLSH1-60	CMSH1-60M		65	314



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CMDSH-3	CMDSH-3	EM	51	158	CMPFJ310	CMPFJ310	EM	46	*
CMDSH2-3	CMDSH2-3	EM	51	160	CMPSS5061	CMPSS5061	EM	69	210
CMDZ2L4 thru	CMDZ2L4 thru	EM	53	162	CMPSS5062	CMPSS5062	EM	69	210
CMDZ36L	CMDZ36L	EM	53	162	CMPSS5063	CMPSS5063	EM	69	210
CMDZ5221B thru	CMDZ5221B thru	EM	53	164	CMPSS5064	CMPSS5064	EM	69	210
CMDZ5261B	CMDZ5261B	EM	53	164	CMPSSH-3	CMPSSH-3	EM	51	212
CMFD2004i	CMFD2004i	EM	50	166	CMPSSH-3A	CMPSSH-3A	EM	51	212
CMF5H-3i	CMF5H-3i	EM	51	168	CMPSSH-3C	CMPSSH-3C	EM	51	212
CMHD2003	CMHD2003	EM	50	*	CMPSSH-3S	CMPSSH-3S	EM	51	212
CMHD4448	CMHD4448	EM	50	*	CMPT404A	CMPT404A	EM	43	214
CMHSH-3	CMHSH-3	EM	51	*	CMPT 918	CMPT 918	EM	43	216
CMHZ5221B thru	CMHZ5221B thru	EM	55	*	CMPT 930	CMPT 930	EM	42	218
CMHZ5265B	CMHZ5265B	EM	55	*	CMPT2222A	CMPT2222A	EM	42	220
CMPD914	CMPD914	EM	50	182	CMPT2369	CMPT2369	EM	42	222
CMPD1001	CMPD1001	EM	50	184	CMPT2484	CMPT2484	EM	42	224
CMPD1001A	CMPD1001A	EM	50	184	CMPT2907A	CMPT2907A	EM	42	226
CMPD1001S	CMPD1001S	EM	50	184	CMPT3019	CMPT3019	EM	42	228
CMPD2003	CMPD2003	EM	50	186	CMPT3640	CMPT3640	EM	42	230
CMPD2003C	CMPD2003C	EM	50	186	CMPT3646	CMPT3646	EM	42	232
CMPD2003S	CMPD2003S	EM	50	186	CMPT3904	CMPT3904	EM	42	234
CMPD2004	CMPD2004	EM	50	186	CMPT3906	CMPT3906	EM	42	234
CMPD2004C	CMPD2004C	EM	50	186	CMPT4033	CMPT4033	EM	42	236
CMPD2004S	CMPD2004S	EM	50	186	CMPT4401	CMPT4401	EM	42	238
CMPD2836	CMPD2836	EM	50	188	CMPT4403	CMPT4403	EM	42	238
CMPD2838	CMPD2838	EM	50	188	CMPT5086	CMPT5086	EM	42	240
CMPD3003	CMPD3003	EM	52	190	CMPT5087	CMPT5087	EM	42	240
CMPD3003A	CMPD3003A	EM	52	190	CMPT5088	CMPT5088	EM	42	242
CMPD3003C	CMPD3003C	EM	52	190	CMPT5089	CMPT5089	EM	42	242
CMPD3003S	CMPD3003S	EM	52	190	CMPT5179	CMPT5179	EM	43	244
CMPD4150	CMPD4150	EM	50	192	CMPT5401	CMPT5401	EM	43	246
CMPD4448	CMPD4448	EM	50	194	CMPT5551	CMPT5551	EM	43	248
CMPD5001	CMPD5001	EM	50	196	CMPT6427	CMPT6427	EM	43	250
CMPD5001S	CMPD5001S	EM	50	196	CMPT6428	CMPT6428	EM	42	252
CMPD6001	CMPD6001	EM	52	198	CMPT6429	CMPT6429	EM	42	252
CMPD6001A	CMPD6001A	EM	52	198	CMPT6517	CMPT6517	EM	43	254
CMPD6001C	CMPD6001C	EM	52	198	CMPT6520	CMPT6520	EM	43	254
CMPD6001S	CMPD6001S	EM	52	198	CMPT8099	CMPT8099	EM	42	256
CMPD6263	CMPD6263	EM	51	200	CMPT8599	CMPT8599	EM	42	256
CMPD6263A	CMPD6263A	EM	51	200	CMPTA06	CMPTA06	EM	42	258
CMPD6263C	CMPD6263C	EM	51	200	CMPTA13	CMPTA13	EM	43	260
CMPD6263S	CMPD6263S	EM	51	200	CMPTA14	CMPTA14	EM	43	260
CMPD7000	CMPD7000	EM	50	202	CMPTA27	CMPTA27	EM	43	262
CMPF4391	CMPF4391	EM	46	204	CMPTA29	CMPTA29	EM	43	264
CMPF4392	CMPF4392	EM	46	204	CMPTA42	CMPTA42	EM	43	266
CMPF4393	CMPF4393	EM	46	204	CMPTA44	CMPTA44	EM	43	268
CMPF4416A	CMPF4416A	EM	46	206	CMPTA56	CMPTA56	EM	42	258
CMPF5460	CMPF5460	EM	46	*	CMPTA63	CMPTA63	EM	43	260
CMPF5461	CMPF5461	EM	46	*	CMPTA64	CMPTA64	EM	43	260
CMPF5462	CMPF5462	EM	46	*	CMPTA92	CMPTA92	EM	43	266
CMPF5484	CMPF5484	EM	46	208	CMPTA94	CMPTA94	EM	43	270
CMPF5485	CMPF5485	EM	46	208	CMPTH10	CMPTH10	EM	43	272
CMPF5486	CMPF5486	EM	46	208	CMPZ4099 thru	CMPZ4099 thru	EM	54	274
CMPFJ174	CMPFJ174	EM	46	*	CMPZ4124	CMPZ4124	EM	54	274
CMPFJ175	CMPFJ175	EM	46	*	CMPZ4614 thru	CMPZ4614 thru	EM	54	276*
CMPFJ176	CMPFJ176	EM	46	*	CMPZ4627	CMPZ4627	EM	54	276*

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CMPZ4678 thru	CMPZ4678 thru	EM	54	278*	CMSH1-20M	CMSH1-20M	EM	65	314
CMPZ4717	CMPZ4717	EM	54	278*	CMSH1-20ML	CMSH1-20ML	EM	65	316
CMPZ5221B thru	CMPZ5221B thru	EM	54	280	CMSH1-40	CMSH1-40	EM	65	312
CMPZ5262B	CMPZ5262B	EM	54	280	CMSH1-40M	CMSH1-40M	EM	65	314
CMPZDA2V7 thru	CMPZDA2V7 thru	EM	54	282	CMSH1-40ML	CMSH1-40ML	EM	65	316
CMPZDA33V	CMPZDA33V	EM	54	282	CMSH1-60	CMSH1-60	EM	65	312
CMR1-02	CMR1-02	EM	60	284	CMSH1-60M	CMSH1-60M	EM	65	314
CMR1-02M	CMR1-02M	EM	60	286	CMSH2-100	CMSH2-100	EM	65	318
CMR1-04	CMR1-04	EM	60	284	CMSH2-100M	CMSH2-100M	EM	65	322
CMR1-04M	CMR1-04M	EM	60	286	CMSH2-20	CMSH2-20	EM	65	318
CMR1-06	CMR1-06	EM	60	284	CMSH2-20L	CMSH2-20L	EM	65	320
CMR1-06M	CMR1-06M	EM	60	286	CMSH2-20M	CMSH2-20M	EM	65	322
CMR1-10	CMR1-10	EM	60	284	CMSH2-40	CMSH2-40	EM	65	318
CMR1-10M	CMR1-10M	EM	60	286	CMSH2-40L	CMSH2-40L	EM	65	320
CMR1F-02M	CMR1F-02M	EM	61	288	CMSH2-40M	CMSH2-40M	EM	65	322
CMR1F-04M	CMR1F-04M	EM	61	288	CMSH2-60	CMSH2-60	EM	65	318
CMR1F-06M	CMR1F-06M	EM	61	288	CMSH2-60M	CMSH2-60M	EM	65	322
CMR1F-10M	CMR1F-10M	EM	61	288	CMSH3-100	CMSH3-100	EM	66	324
CMR1S-01	CMR1S-01	EM	64	290	CMSH3-100M	CMSH3-100M	EM	66	328
CMR1S-02	CMR1S-02	EM	64	290	CMSH3-20	CMSH3-20	EM	66	324
CMR1U-01	CMR1U-01	EM	62	292	CMSH3-20L	CMSH3-20L	EM	66	326
CMR1U-01M	CMR1U-01M	EM	62	294	CMSH3-20M	CMSH3-20M	EM	66	328
CMR1U-02	CMR1U-02	EM	62	292	CMSH3-40	CMSH3-40	EM	66	324
CMR1U-02M	CMR1U-02M	EM	62	294	CMSH3-40L	CMSH3-40L	EM	66	326
CMR1U-04	CMR1U-04	EM	62	292	CMSH3-40M	CMSH3-40M	EM	66	328
CMR1U-04M	CMR1U-04M	EM	62	294	CMSH3-60	CMSH3-60	EM	66	324
CMR1U-06	CMR1U-06	EM	62	292	CMSH3-60M	CMSH3-60M	EM	66	328
CMR1U-06M	CMR1U-06M	EM	62	294	CMSH5-100	CMSH5-100	EM	66	330
CMR1U-10	CMR1U-10	EM	62	292	CMSH5-20	CMSH5-20	EM	66	330
CMR1U-10M	CMR1U-10M	EM	62	294	CMSH5-40	CMSH5-40	EM	66	330
CMR2-02	CMR2-02	EM	60	296	CMSH5-60	CMSH5-60	EM	66	330
CMR2-04	CMR2-04	EM	60	296	CMSSH-3	CMSSH-3	EM	51	332
CMR2-06	CMR2-06	EM	60	296	CMSSH-3A	CMSSH-3A	EM	51	332
CMR2-10	CMR2-10	EM	60	296	CMSSH-3C	CMSSH-3C	EM	51	332
CMR2U-01	CMR2U-01	EM	62	298	CMSSH-3S	CMSSH-3S	EM	51	332
CMR2U-02	CMR2U-02	EM	62	298	CMST2222A	CMST2222A	EM	46	334
CMR2U-04	CMR2U-04	EM	62	298	CMST2907A	CMST2907A	EM	46	336
CMR2U-06	CMR2U-06	EM	62	298	CMST3904	CMST3904	EM	46	338
CMR3-02	CMR3-02	EM	60	300	CMST3906	CMST3906	EM	46	338
CMR3-04	CMR3-04	EM	60	300	CMSZ5221B thru	CMSZ5221B thru	EM	53	340
CMR3-06	CMR3-06	EM	60	300	CMSZ5261B	CMSZ5261B	EM	53	340
CMR3-10	CMR3-10	EM	60	300	CMSZDA3V0 thru	CMSZDA3V0 thru	EM	53	342
CMR3U-01	CMR3U-01	EM	62	302	CMSZDA33V	CMSZDA33V	EM	53	342
CMR3U-02	CMR3U-02	EM	62	302	CMXD2004	CMXD2004	EM	51	344
CMR3U-04	CMR3U-04	EM	62	302	CMXD4448	CMXD4448	EM	51	346
CMR3U-06	CMR3U-06	EM	62	302	CMXSH-3	CMXSH-3	EM	51	348
CMR3U-10	CMR3U-10	EM	62	302	CMZ5342B thru	CMZ5342B thru	EM	56	350
CMSD2004S	CMSD2004S	EM	50	304	CMZ5388B	CMZ5388B	EM	56	350
CMSD2836	CMSD2836	EM	50	306	CMZ5921B thru	CMZ5921B thru	EM	56	352
CMSD2838	CMSD2838	EM	50	306	CMZ5956B	CMZ5956B	EM	56	352
CMSD4448	CMSD4448	EM	50	308	CQ89D	CQ89D	EM	69	354
CMSD7000	CMSD7000	EM	50	310	CQ89DS	CQ89DS	EM	69	356
CMSH1-100	CMSH1-100	EM	65	312	CQ89M	CQ89M	EM	69	354
CMSH1-100M	CMSH1-100M	EM	65	314	CQ89MS	CQ89MS	EM	69	356
CMSH1-20	CMSH1-20	EM	65	312	CQ89N	CQ89N	EM	69	354

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Industry Part Number	Central Part Number	Code	Selection Guide	Data Sheet	Industry Part Number	Central Part Number	Code	Selection Guide	Data Sheet
CQ89NS	CQ89NS	EM	69	356	CZT3150	CZT3150	EM	49	438
CSHD10-45L	CSHD10-45L	EM	67	372	CZT3904	CZT3904	EM	48	440
CSHD3-100	CSHD3-100	EM	66	362	CZT3906	CZT3906	EM	48	440
CSHD3-40	CSHD3-40	EM	66	358	CZT4033	CZT4033	EM	48	442
CSHD3-60	CSHD3-60	EM	66	360	CZT5338	CZT5338	EM	49	444
CSHD5-25L	CSHD5-25L	EM	66	364	CZT5401	CZT5401	EM	48	446
CSHD6-100C	CSHD6-100C	EM	67	370	CZT5551	CZT5551	EM	48	448
CSHD6-40C	CSHD6-40C	EM	67	366	CZTA14	CZTA14	EM	48	450
CSHD6-60C	CSHD6-60C	EM	67	368	CZTA27	CZTA27	EM	48	452
CSHDD16-100C	CSHDD16-100C	EM	67	376	CZTA42	CZTA42	EM	48	454
CSHDD16-40C	CSHDD16-40C	EM	67	376	CZTA44	CZTA44	EM	48	456
CSHDD16-60C	CSHDD16-60C	EM	67	376	CZTA64	CZTA64	EM	48	450
CSHDD8-100	CSHDD8-100	EM	67	374	CZTA77	CZTA77	EM	48	458
CSHDD8-40	CSHDD8-40	EM	67	374	CZTA92	CZTA92	EM	48	454
CSHDD8-60	CSHDD8-60	EM	67	374	D1F10	CMR1-02M	EM	60	286
CUD3-02	CUD3-02	EM	62	378	D1F20	CMR1-02M	EM	60	286
CUD6-02C	CUD6-02C	EM	63	380	D1F40	CMR1-04M	EM	60	286
CUDD8-02	CUDD8-02	EM	63	382	D1F60	CMR1-06M	EM	60	286
CUDD8-04	CUDD8-04	EM	63	382	D1FK20	CMR1F-02M	EM	61	288
CUDD8-08	CUDD8-08	EM	63	382	D1FK40	CMR1F-04M	EM	61	288
CUDD16-02C	CUDD16-02C	EM	63	384	D1FL20	CMR1U-02M	EM	62	294
CUDD16-04C	CUDD16-04C	EM	63	384	D1FS4	CMRH1-40M	EM	65	314
CUDD16-08C	CUDD16-08C	EM	63	384	DA204K	CMPD7000	EM	50	202
CXSH-4	CXSH-4	EM	65	386	DAN202VAK	CMPD2838	EM	50	188
CXT2222A	CXT2222A	EM	47	388	DAN212K	CMPD914	EM	50	182
CXT2907A	CXT2907A	EM	47	390	DAN217	CMPD7000	EM	50	202
CXT3019	CXT3019	EM	47	392	DAP202K	CMPD2836	EM	50	188
CXT3150	CXT3150	EM	47	394	DAP202VAK	CMPD2836	EM	50	188
CXT3904	CXT3904	EM	47	396	DF005S	CBR1-D020S	EM	68	104
CXT3906	CXT3906	EM	47	396	DF01S	CBR1-D020S	EM	68	104
CXT4033	CXT4033	EM	47	398	DF02S	CBR1-D020S	EM	68	104
CXT5401	CXT5401	EM	47	400	DF04S	CBR1-D040S	EM	68	104
CXT5551	CXT5551	EM	47	402	DF06S	CBR1-D060S	EM	68	104
CXTA14	CXTA14	EM	47	404	DF08S	CBR1-D100S	EM	68	104
CXTA27	CXTA27	EM	47	406	DF10S	CBR1-D100S	EM	68	104
CXTA42	CXTA42	EM	47	408	DFA08C	CMR1F-02M	EM	61	288
CXTA44	CXTA44	EM	47	410	DFA08E	CMR1F-04M	EM	61	288
CXTA64	CXTA64	EM	47	404	DL4001	CMR1-02M	EM	60	286
CXTA92	CXTA92	EM	47	408	DL4002	CMR1-02M	EM	60	286
CZS5064	CZS5064	EM	*	412	DL4003	CMR1-04M	EM	60	286
CZSH-4	CZSH-4	EM	65	414	DL4004	CMR1-04M	EM	60	286
CZT31C	CZT31C	EM	49	416	DL4729A thru	CLL4729A thru	EM	56	152
CZT32C	CZT32C	EM	49	416	DL4764A	CLL4764A	EM	56	152
CZT122	CZT122	EM	49	418	DL5817	CMRH1-20M	EM	65	314
CZT127	CZT127	EM	49	418	DL5818	CMRH1-40M	EM	65	314
CZT250K	CZT250K	EM	48	420	DL5819	CMRH1-40M	EM	65	314
CZT651	CZT651	EM	48	422	DLA11C	CMR1U-02M	EM	62	294
CZT751	CZT751	EM	48	424	DSM10C	CMR1-02M	EM	60	286
CZT900K	CZT900K	EM	48	426	DSM10E	CMR1-04M	EM	60	286
CZT2000	CZT2000	EM	48	428	DSM10G	CMR1-06M	EM	60	286
CZT2222A	CZT2222A	EM	48	430	DTZ 5.1 thru	CMDZ 5L1 thru	SE	53	162
CZT2907A	CZT2907A	EM	48	432	DTZ36	CMDZ36L	SE	53	162
CZT2955	CZT2955	EM	49	434	EGL41A	CMR1U-01M	EM	62	294
CZT3019	CZT3019	EM	48	436	EGL41B	CMR1U-01M	EM	62	294
CZT3055	CZT3055	EM	49	434	EGL41C	CMR1U-02M	EM	62	294

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Industry Part Number	Central Part Number	Code	Selection Guide	Data Sheet	Industry Part Number	Central Part Number	Code	Selection Guide	Data Sheet
EGL41D	CMR1U-02M	EM	62	294	FMMTA14	CMPTA14	EM	43	260
EGL41E	CMR1U-04M	EM	62	294	FMMTA20	CMPT3904	EM	42	234
EGL41F	CMR1U-04M	EM	62	294	FMMTA42	CMPTA42	EM	43	266
EGL41G	CMR1U-04M	EM	62	294	FMMTA43	CMPTA42	EM	43	266
ES1A	CMR1U-01M	EM	62	294	FMMTA55	CMPTA56	EM	42	258
ES1B	CMR1U-01M	EM	62	294	FMMTA56	CMPTA56	EM	42	258
ES1C	CMR1U-02M	EM	62	294	FMMTA70	CMPT3906	EM	42	234
ES1D	CMR1U-02M	EM	62	294	FMMTA92	CMPTA92	EM	43	266
ES2A	CMR2U-01	EM	62	298	FMMTA93	CMPTA92	EM	43	266
ES2B	CMR2U-01	EM	62	298	FTSO 706	CMPT2369	EM	42	222
ES2C	CMR2U-02	EM	62	298	FTSO 706A	CMPT2369	EM	42	222
ES2D	CMR2U-02	EM	62	298	FTSO 918	CMPT918	EM	43	216
ES3A	CMR3U-01	EM	62	302	FTSO 930	CMPT2484	SE	42	224
ES3B	CMR3U-01	EM	62	302	FTSO 930A	CMPT2484	SE	42	224
ES3C	CMR3U-02	EM	62	302	FTSO2218	CMPT2222A	SE	42	220
ES3D	CMR3U-02	EM	62	302	FTSO2218A	CMPT2222A	SE	42	220
FCX458	CXTA44	SE	47	410	FTSO2219	CMPT2222A	EM	42	220
FDLL 914A	CLL4448	EM	—	146	FTSO2219A	CMPT2222A	EM	42	220
FDLL 914B	CLL4448	EM	—	146	FTSO2221	CMPT2222A	SE	42	220
FDLL 916A	CLL4448	EM	—	146	FTSO2221A	CMPT2222A	SE	42	220
FDLL 916B	CLL4448	EM	—	146	FTSO2222	CMPT2222A	EM	42	220
FDLL4148	CLL914	EM	—	136	FTSO2222A	CMPT2222A	EM	42	220
FDLL4149	CLL4448	EM	—	146	FTSO2369	CMPT2369	EM	42	222
FDLL4150	CLL4150	EM	—	144	FTSO2369A	(special order)	—	—	*
FDLL4446	CLL4448	EM	—	146	FTSO2484	CMPT2484	EM	42	224
FDLL4447	CLL4448	EM	—	146	FTSO2904	CMPT2907A	SE	42	226
FDLL4448	CLL4448	EM	—	146	FTSO2904A	CMPT2907A	SE	42	226
FDLL4449	CLL4448	EM	—	146	FTSO2905	CMPT2907A	EM	42	226
FDSO1201	CMPD914/4448	SE	—	182/194	FTSO2905A	CMPT2907A	EM	42	226
FDSO1203	CMPD7000	SE	50	202	FTSO2906	CMPT2907A	SE	42	226
FDSO1204	CMPD2838	SE	50	188	FTSO2906A	CMPT2907A	SE	42	226
FDSO1205	CMPD2836	SE	50	188	FTSO2907	CMPT2907A	EM	42	226
FDSO4148	CMPD914	EM	50	182	FTSO2907A	CMPT2907A	EM	42	226
FMMD 914	CMPD914	EM	50	182	FTSO3563	CMPT918	SE	43	216
FMMD6050	CMPD4448	EM	50	194	FTSO3638	CMPT4403	SE	42	238
FMMT558	CMPTA94	SE	43	270	FTSO3638A	CMPT4403	SE	42	238
FMMT 918	CMPT918	EM	43	216	FTSO3639	CMPT3640	EM	42	230
FMMT2222	CMPT2222A	EM	42	220	FTSO3640	CMPT3640	EM	42	230
FMMT2222A	CMPT2222A	EM	42	220	FTSO3646	CMPT3646	EM	42	232
FMMT2369	CMPT2369	EM	42	222	FTSO3903	CMPT3904	SE	42	234
FMMT2369A	(special order)	—	—	*	FTSO3904	CMPT3904	EM	42	234
FMMT2484	CMPT2484	EM	42	224	FTSO3905	CMPT3906	SE	42	234
FMMT2907	CMPT2907A	EM	42	226	FTSO3906	CMPT3906	EM	42	234
FMMT2907A	CMPT2907A	EM	42	226	FTSO4123	CMPT3904	SE	42	234
FMMT3903	CMPT3904	SE	42	234	FTSO4124	CMPT3904	SE	42	234
FMMT3904	CMPT3904	EM	42	234	FTSO4125	CMPT3906	SE	42	234
FMMT3905	CMPT3906	SE	42	234	FTSO4126	CMPT3906	SE	42	234
FMMT3906	CMPT3906	EM	42	234	FTSO4209	CMPT3640	SE	42	230
FMMT4124	CMPT3904	SE	42	234	FTSO4248	CMPT3640	SE	42	230
FMMT4125	CMPT3906	SE	42	234	FTSO4258	CMPT3640	SE	42	230
FMMT5087	CMPT5087	EM	42	240	FTSO4274	CMPT2369	SE	42	222
FMMTA05	CMPTA06	EM	42	258	FTSO4275	CMPT2369	SE	42	222
FMMTA06	CMPTA06	EM	42	258	FTSO4400	CMPT4401	SE	42	238
FMMTA12	CMPTA13	SE	43	260	FTSO4401	CMPT4401	EM	42	238
FMMTA13	CMPTA13	EM	43	260	FTSO4402	CMPT4403	SE	42	238



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FTSO4403	CMPT4403	EM	42	238	MBAS16	CMPD914	EM	50	182
FTSO5086	CMPT5086	EM	42	240	MBAV70	CMPD2838	EM	50	188
FTSO5087	CMPT5087	EM	42	240	MBAV99	CMPD7000	EM	50	202
FTSO5088	CMPT5088	EM	42	242	MBAW56	CMPD2836	EM	50	188
FTSO5089	CMPT5089	EM	42	242	MBRA130	CMSH1-40M	SE	65	314
FTSO5400	CMPT5401	EM	43	246	MBRA140	CMSH1-40M	EM	65	314
FTSO5401	CMPT5401	EM	43	246	MBRA160	CMSH1-60M	EM	65	314
FTSO5550	CMPT5551	EM	43	248	MBRD340	CSHD3-40	EM	66	358
FTSO5551	CMPT5551	EM	43	248	MBRD360	CSHD3-60	EM	66	360
FTSO5769	CMPT2369	SE	42	222	MBRD640CT	CSHD6-40C	EM	67	366
FTSO5770	CMPT918	SE	43	216	MBRD660CT	CSHD6-60C	EM	67	368
FTSO5771	CMPT3640	SE	42	230	MBRD835L	CSHD10-45L	SE	67	372
FTSOA05	CMPTA06	EM	42	258	MBRL120	CMSH1-20M	EM	65	314
FTSOA06	CMPTA06	EM	42	258	MBRL130	CMSH1-40M	EM	65	314
FTSOA12	CMPTA13	SE	43	260	MBRL140	CMSH1-40M	EM	65	314
FTSOA13	CMPTA13	EM	43	260	MBRO520	CMDSH2-3	CE	51	160
FTSOA14	CMPTA14	EM	43	260	MBRO530	CMDSH2-3	CE	51	160
FTSOA20	CMPT3904	EM	42	234	MBRO540	(special order)	—	—	*
FTSOA42	CMPTA42	EM	43	266	MBRS120	CMSH1-20	EM	65	312
FTSOA43	CMPTA42	EM	43	266	MBRS130	CMSH1-40	EM	65	312
FTSOA55	CMPTA56	EM	42	258	MBRS140	CMSH1-40	EM	65	312
FTSOA56	CMPTA56	EM	42	258	MBRS170	CMSH1-100	EM	65	312
FTSOA70	CMPT3906	EM	42	234	MBRS340T3	CMSH3-40	EM	66	324
FTSOL01	CMPT5551	EM	43	248	MBRS360T3	CMSH3-60	EM	66	324
FTSOL51	CMPT5401	EM	43	246	MJD31C	CJD31C	EM	49	114
GF1A	CMR1-02	EM	60	284	MJD32C	CJD32C	EM	49	114
GF1B	CMR1-02	EM	60	284	MJD41C	CJD41C	EM	49	116
GF1D	CMR1-02	EM	60	284	MJD42C	CJD42C	EM	49	116
GF1G	CMR1-04	EM	60	284	MJD47	CJD47	EM	49	120
GF1J	CMR1-06	EM	60	284	MJD50	CJD50	EM	49	120
GF1K	CMR1-10	EM	60	284	MJD112	CJD112	EM	49	122
GF1M	CMR1-10	EM	60	284	MJD117	CJD117	EM	49	122
GL41A	CMR1-02M	SM	60	286	MJD122	CJD122	EM	49	124
GL41B	CMR1-02M	SM	60	286	MJD127	CJD127	EM	49	124
GL41D	CMR1-02M	SM	60	286	MJD200	CJD200	EM	49	126
GL41G	CMR1-04M	SM	60	286	MJD210	CJD210	EM	49	126
GL41J	CMR1-06M	SM	60	286	MJD340	CJD340	EM	49	128
GL41K	CMR1-10M	SM	60	286	MJD350	CJD350	EM	49	128
GL41M	CMR1-10M	SM	60	286	MJD2955	CJD2955	EM	49	130
GLL4735A thru	CLL4735A thru	EM	56	152	MJD3055	CJD3055	EM	49	130
GLL4763A	CLL4763A	EM	56	152	MJD13003	CJD13003	EM	49	132
LL103A	CMHSH-3	SM	51	174	MJD44H11	CJD44H11	EM	49	118
LL103B	CMHSH-3	SM	51	174	MJD45H11	CJD45H11	EM	49	118
LL103C	CMHSH-3	SM	51	174	MLL 746A thru	CLL5226B thru	EM	55	154
LL4148	CLL914	EM	—	136	MLL759A	CLL5242B	EM	55	154
LL4150	CLL4150	EM	—	144	MLL957B thru	CLL5235B thru	EM	55	154
LL4448	CLL4448	EM	—	146	MLL 972B	CLL5256B	SE	55	154
M1MA141KT1	CMSD4448	EM	50	308	MML4001	CMR1-02M	EM	60	286
M1MA141WKT1	CMSD2838	EM	50	306	MML4002	CMR1-02M	EM	60	286
M1MA142KT1	CMSD4448	EM	50	308	MML4003	CMR1-02M	EM	60	286
M1MA142WKT1	CMSD2838	EM	50	306	MML4004	CMR1-04M	EM	60	286
MB2S	CBRHD-02	EM	68	108	MML4625	CLL4625	EM	55	148
MB4S	CBRHD-04	EM	68	108	MML4626	CLL4626	EM	55	148
MB6S	CBRHD-06	EM	68	108	MML4627	CLL4627	EM	55	148
MBAL99	CMPD914	EM	50	182	MML4678 thru	CLL4678 thru	EM	55	150

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MLL4717	CLL4717	EM	55	150	MMBT3906	CMPT3906	EM	42	234
MLL4729A thru	CLL4729A thru	EM	56	152	MMBT4123	CMPT3904	SE	42	234
MLL4764A	CLL4764A	EM	56	152	MMBT4124	CMPT3904	SE	42	234
MLL5226B thru	CLL5226B thru	EM	55	154	MMBT4125	CMPT3906	SE	42	234
MLL5257B	CLL5257B	EM	55	154	MMBT4126	CMPT3906	SE	42	234
MMBD101	CMPD6263	EM	51	200	MMBT4401	CMPT4401	EM	42	238
MMBD301	CMP SH-3	SE	51	212	MMBT4403	CMPT4403	EM	42	238
MMBD330 T1	CMSSH-3	EM	51	332	MMBT5086	CMPT5086	EM	42	240
MMBD352	CMPD6263S	SE	51	200	MMBT5087	CMPT5087	EM	42	240
MMBD701	CMPD6263	SE	51	200	MMBT5088	CMPT5088	EM	42	242
MMBD914	CMPD914	EM	50	182	MMBT5089	CMPT5089	EM	42	242
MMBD1000LT1	CMPD6001	EM	52	198	MMBT5401	CMPT5401	EM	43	246
MMBD1005LT1	CMPD6001A	EM	52	198	MMBT5551	CMPT5551	EM	43	248
MMBD1010LT1	CMPD6001C	EM	52	198	MMBT6427	CMPT6427	EM	43	250
MMBD1201	CMPD3003	EM	52	190	MMBT6428	CMPT6428	EM	42	252
MMBD1203	CMPD3003S	EM	52	190	MMBT6429	CMPT6429	EM	42	252
MMBD1204	CMPD3003C	EM	52	190	MMBT6517	CMPT6517	EM	43	254
MMBD1205	CMPD3003A	EM	52	190	MMBT6520	CMPT6520	EM	43	254
MMBD2835	CMPD2836	EM	50	188	MMBT8099	CMPT8099	EM	42	256
MMBD2836	CMPD2836	EM	50	188	MMBT8599	CMPT8599	EM	42	256
MMBD2837	CMPD2838	EM	50	188	MMBT930	CMPT930	EM	42	218
MMBD2838	CMPD2838	EM	50	188	MMBTA05	CMPTA06	EM	42	258
MMBD6050	CMPD4448	EM	50	188	MMBTA06	CMPTA06	EM	42	258
MMBD6100	CMPD2838	EM	50	188	MMBTA13	CMPTA13	EM	43	260
MMBD7000	CMPD7000	EM	50	202	MMBTA14	CMPTA14	EM	43	260
MMBF4391	CMPF4391	EM	46	204	MMBTA20	CMPT3904	EM	42	234
MMBF4392	CMPF4392	EM	46	204	MMBTA27	CMPTA27	EM	43	262
MMBF4393	CMPF4393	EM	46	204	MMBTA42	CMPTA42	EM	43	266
MMBF4416	CMPF4416A	EM	46	206	MMBTA43	CMPTA42	EM	43	266
MMBF5484	CMPF5484	EM	46	208	MMBTA44	CMPTA44	EM	43	268
MMBF5486	CMPF5486	EM	46	208	MMBTA56	CMPTA56	EM	42	258
MMBR2857	CMPT5179	EM	43	244	MMBTA63	CMPTA63	EM	43	260
MMBR5179	CMPT5179	EM	43	244	MMBTA64	CMPTA64	EM	43	260
MMBS5060	CMPS5060	EM	69	210	MMBTA70	CMPT3906	EM	42	234
MMBS5061	CMPS5061	EM	69	210	MMBTA92	CMPTA92	EM	43	266
MMBS5062	CMPS5062	EM	69	210	MMBTA93	CMPTA92	EM	43	266
MMBS5063	CMPS5063	EM	69	210	MMBTH10	CMPTH10	EM	43	272
MMBS5064	CMPS5064	EM	69	210	MMBZ15VA	CMFZDA15V	CE	54	282
MMBT404A	CMPT404A	EM	43	214	MMBZ15VD	CMFZDA15V	CE	54	282
MMBT918	CMPT918	EM	43	216	MMBZ20VA	CMFZDA20V	CE	54	282
MMBT2222	CMPT2222A	EM	42	220	MMBZ27VC	CMFZDA27V	CE	54	282
MMBT2222A	CMPT2222A	EM	42	220	MMBZ5221 thru	CMFZ5221B thru	EM	54	280
MMBT2222AW	CMST2222A	EM	46	334	MMBZ5259	CMFZ5259B	EM	54	280
MMBT2369	CMPT2369	EM	42	222	MMBZ5V6A	CMFZDA5V6	CE	54	282
MMBT2484	CMPT2484	EM	42	224	MMBZ6V2A	CMFZDA6V2	CE	54	282
MMBT2907	CMPT2907A	EM	42	226	MMST-A06	CMPTA06	EM	42	258
MMBT2907A	CMPT2907A	EM	42	226	MMST-A13	CMPTA13	EM	43	260
MMBT2907AW	CMST2907A	EM	46	336	MMST-A14	CMPTA14	EM	43	260
MMBT3638	CMPT4403	SE	42	238	MMST-A20	CMPT3904	EM	42	234
MMBT3638A	CMPT4403	SE	42	238	MMST-A56	CMPTA56	EM	42	258
MMBT3640	CMPT3640	EM	42	230	MMST-A63	CMPTA63	EM	43	260
MMBT3646	CMPT3646	EM	42	232	MMST-A64	CMPTA64	EM	43	260
MMBT3903	CMPT3904	SE	42	234	MMST-A70	CMPT3906	EM	42	234
MMBT3904	CMPT3904	EM	42	234	MMST918	CMPT918	EM	43	216
MMBT3904W	CMST3904	EM	46	338	MMST2222	CMPT2222A	EM	42	220



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Industry Part Number	Central Part Number	Code	Selection Guide	Data Sheet	Industry Part Number	Central Part Number	Code	Selection Guide	Data Sheet
MMST2222A	CMPT2222A	EM	42	220	PMBD 101	CMPD6263	SE	51	200
MMST2907	CMPT2907A	EM	42	226	PMBD 352	CMPD6263S	SE	51	200
MMST2907A	CMPT2907A	EM	42	226	PMBD 914	CMPD914	EM	50	182
MMST3904	CMPT3904	EM	42	234	PMBD2835	CMPD2836	EM	50	188
MMST3906	CMPT3906	EM	42	234	PMBD2836	CMPD2836	EM	50	188
MMST4124	CMPT3904	SE	42	234	PMBD2837	CMPD2838	EM	50	188
MMST4126	CMPT3906	SE	42	234	PMBD2838	CMPD2838	EM	50	188
MMST4401	CMPT4401	EM	42	238	PMBD6050	CMPD4448	EM	50	194
MMST4403	CMPT4403	EM	42	238	PMBD6100	CMPD2838	EM	50	188
MMST5086	CMPT5086	EM	42	240	PMBD7000	CMPD7000	EM	50	202
MMST5087	CMPT5087	EM	42	240	PMBF4391	CMPF4391	EM	46	204
MMST5088	CMPT5088	EM	42	242	PMBF4392	CMPF4392	EM	46	204
MMST5089	CMPT5089	EM	42	242	PMBF4393	CMPF4393	EM	46	204
MMSZ2V4thru	BZV55C2V4thru	SM		*	PMBT2222	CMPT2222A	EM	42	220
MMSZ33	BZV55C33	SM		*	PMBT2222A	CMPT2222A	EM	42	220
MMSZ4678 thru	CLL4678 thru	SM	55	150	PMBT2369	CMPT2369	EM	42	222
MMSZ4717	CLL4717	SM	55	150	PMBT2907	CMPT2907A	EM	42	226
MMSZ5226B thru	CMHZ5226B thru	EM	55	*	PMBT2907A	CMPT2907A	EM	42	226
MMSZ5257B	CMHZ5257B	EM	55	*	PMBT3640	CMPT3640	EM	42	230
MRA4003	CMR1-02M	EM	60	286	PMBT3903	CMPT3904	SE	42	234
MRA4004	CMR1-04M	EM	60	286	PMBT3904	CMPT3904	EM	42	234
MRA4005	CMR1-06M	EM	60	286	PMBT3906	CMPT3906	EM	42	234
MRA4006	CMR1-10M	EM	60	286	PMBT4123	CMPT3904	SE	42	234
MRA4007	CMR1-10M	EM	60	286	PMBT4124	CMPT3904	SE	42	234
MRA4935	CMR1F-02M	EM	61	288	PMBT4125	CMPT3906	SE	42	234
MRA4936	CMR1F-04M	EM	61	288	PMBT4126	CMPT3906	SE	42	234
MRA4937	CMR1F-06M	EM	61	288	PMBT4401	CMPT4401	EM	42	238
MURD320	CUD3-02	EM	62	378	PMBT4403	CMPT4403	EM	42	238
MURD620CT	CUD6-02C	EM	63	380	PMBT5086	CMPT5086	EM	42	240
MURS105	CMR1U-01	EM	62	292	PMBT5087	CMPT5087	EM	42	240
MURS110	CMR1U-01	EM	62	292	PMBT5088	CMPT5088	EM	42	242
MURS115	CMR1U-02	EM	62	292	PMBT5089	CMPT5089	EM	42	242
MURS120	CMR1U-02	EM	62	292	PMBT5400	CMPT5401	EM	43	246
MURS130	CMR1U-04	EM	62	292	PMBT5401	CMPT5401	EM	43	246
MURS140	CMR1U-04	EM	62	292	PMBT5551	CMPT5551	EM	43	248
MURS320T3	CMR3U-02	EM	62	302	PMBT6429	CMPT6429	EM	42	252
MURS340	CMR3U-04	EM	62	302	PMBTA05	CMPTA06	EM	42	258
MURS360	CMR3U-06	EM	62	302	PMBTA06	CMPTA06	EM	42	258
MURS360T3	CMR3U-06	EM	62	302	PMBTA13	CMPTA13	EM	43	260
MXT2222	CXT2222A	EM	47	388	PMBTA14	CMPTA14	EM	43	260
MXT2222A	CXT2222A	EM	47	388	PMBTA20	CMPT3904	EM	42	234
MXT2907	CXT2907A	EM	47	390	PMBTA42	CMPTA42	EM	43	266
MXT2907A	CXT2907A	EM	47	390	PMBTA43	CMPTA42	EM	43	266
MXT3904	CXT3904	EM	47	396	PMBTA55	CMPTA56	EM	42	258
MXT3906	CXT3906	EM	47	396	PMBTA56	CMPTA56	EM	42	258
MXTA14	CXTA14	EM	47	404	PMBTA63	CMPTA63	EM	43	260
MXTA27	CXTA27	EM	47	406	PMBTA64	CMPTA64	EM	43	260
MXTA42	CXTA42	EM	47	408	PMBTA70	CMPT3906	EM	42	234
MXTA43	CXTA42	EM	47	408	PMBTA92	CMPTA92	EM	43	266
MXTA92	CXTA92	EM	47	408	PMBTA93	CMPTA92	EM	43	266
MXTA93	CXTA92	EM	47	408	PMBZ5221B thru	CMPZ5221B thru	EM	54	280
P6SMB6.8A thru	P6SMB6.8A thru	EM	59	460	PMBZ5261B	CMPZ5261B	EM	54	280
P6SMB200A	P6SMB200A	EM	59	460	PMLL4148	CLL914	EM	50	136
P6SMB6.8CA thru	P6SMB6.8CA thru	EM	59	462	PMLL4150	CLL4150	EM	50	144
P6SMB200CA	P6SMB200CA	EM	59	462	PMLL4151	CLL4448	SE	50	146

CE	Closest equivalent (slight to significant electrical and/or mechanical differences).	EM	Exact electrical and mechanical.
SE	Exact mechanical equivalent, slight electrical differences.	SM	Exact electrical equivalent, slight mechanical differences.

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Industry Part Number	Central Part Number	Code	Selection Guide	Data Sheet	Industry Part Number	Central Part Number	Code	Selection Guide	Data Sheet
PMLL4153	CLL4448	SE	50	146	RF1B	CMR1U-01	EM	62	292
PMLL4446	CLL4448	EM	50	146	RF1D	CMR1U-02	EM	62	292
PMLL4448	CLL4448	EM	50	146	RF1G	CMR1U-04	EM	62	292
PMLL5226 thru	CLL5226B thru	EM	55	154	RGL41A	CMR1F-02M	EM	61	288
PMLL5257	CLL5257B	EM	55	154	RGL41B	CMR1F-02M	EM	61	288
PMST2222A	CMST2222A	EM	46	334	RGL41D	CMR1F-02M	EM	61	288
PMST2907A	CMST2907A	EM	46	336	RGL41G	CMR1F-06M	EM	61	288
PMST3904	CMST3904	EM	46	338	RGL41J	CMR1F-06M	EM	61	288
PMST3906	CMST3906	EM	46	338	RGL41K	CMR1F-10M	EM	61	288
PRLL4001	CMR1-02M	CE	60	286	RGL41M	CMR1F-10M	EM	61	288
PRLL4002	CMR1-02M	CE	60	286	RLR4001	CMR1-02	EM	60	284
PRLL5817	CMSH1-20M	CE	65	314	RLR4002	CMR1-02	EM	60	284
PRLL5818	CMSH1-40M	CE	65	314	RLR4003	CMR1-02	EM	60	284
PRLL5819	CMSH1-40M	CE	65	314	RLR4004	CMR1-04	EM	60	284
PXT2222	CXT2222A	EM	47	388	RLS4148	CLL914	EM	50	136
PXT2222A	CXT2222A	EM	47	388	RLS4149	CLL914	EM	50	136
PXT2907	CXT2907A	EM	47	390	RLS4150	CLL4150	EM	50	144
PXT2907A	CXT2907A	EM	47	390	RLS4151	CLL4448	SE	50	146
PXT3904	CXT3904	EM	47	396	RLS4152	CLL4448	SE	50	146
PXT3906	CXT3904	EM	47	396	RLS4153	CLL4448	SE	50	146
PXT4401	CXT2222A	SE	47	388	RLS4154	CLL4448	EM	50	146
PXT4403	CXT2907A	SE	47	390	RLS4446	CLL4448	EM	50	146
PXTA14	CXTA14	EM	47	404	RLS4447	CLL4448	EM	50	146
PXTA27	CXTA27	EM	47	406	RLS4448	CLL4448	EM	50	146
PXTA42	CXTA42	EM	47	408	RLS4449	CLL4448	EM	50	146
PXTA64	CXTA64	EM	47	404	RLS4450	CLL4150	SE	50	144
PXTA92	CXTA92	EM	47	408	RLS4454	CLL4448	EM	50	146
PZT651	CZT651	EM	48	422	RLZ5227B thru	CLL5227B thru	EM	55	154
PZT751	CZT751	EM	48	424	RLZ5257B	CLL5257B	EM	55	154
PZT2222	CZT2222A	EM	48	430	RS1A	CMR1F-02M	EM	61	288
PZT2222A	CZT2222A	EM	48	430	RS1B	CMR1F-02M	EM	61	288
PZT2907	CZT2907A	EM	48	432	RS1D	CMR1F-02M	EM	61	288
PZT2907A	CZT2907A	EM	48	432	RS1G	CMR1F-04M	EM	61	288
PZT3904	CZT3904	EM	48	440	RS1J	CMR1F-06M	EM	61	288
PZT3906	CZT3906	EM	48	440	RS2A	CMR2U-01	EM	62	298
PZTA13	CZTA14	EM	48	450	RS2B	CMR2U-01	EM	62	298
PZTA14	CZTA14	EM	48	450	RS2D	CMR2U-02	EM	62	298
PZTA42	CZTA42	EM	48	454	RS2G	CMR2U-04	EM	62	298
PZTA43	CZTA42	EM	48	454	RS3A	CMR3U-01	EM	62	302
PZTA63	CZTA64	EM	48	450	RS3B	CMR3U-01	EM	62	302
PZTA64	CZTA64	EM	48	450	RS3D	CMR3U-02	EM	62	302
PZTA92	CZTA92	EM	48	454	RS3G	CMR3U-04	EM	62	302
PZTA93	CZTA92	EM	48	454	RS3J	CMR3U-06	EM	62	302
RB031B-40	CSHD3-40	EM	66	358	RXT-A14	CXTA14	EM	47	404
RB035B-40	CSHD6-40C	EM	67	366	RXT-A64	CXTA64	EM	47	404
RB110C	CXSH-4	EM	65	386	RXT2222A	CXT2222A	EM	47	388
RB160L-40	CMSH1-40M	EM	65	314	RXT2907A	CXT2907A	EM	47	390
RB400D	CMPSH-3	SE	51	212	RXT3904	CXT3904	EM	47	396
RB420D	CMPSH-3	SE	51	212	RXT3906	CXT3906	EM	47	396
RB421D	CMPSH-3	SE	51	212	RXTA27	CXTA27	EM	47	406
RB425D	CMPSH-3C	SE	51	212	S1A	CMR1-02M	EM	60	286
RB705D	CMSH1-20	EM	65	312	S1B	CMR1-02M	EM	60	286
RB731U	CMXSH-3	CE	52	348	S1D	CMR1-02M	EM	60	286
RD411D	CMPSH-3	SE	51	212	S1G	CMR1-04M	EM	60	286
RF1A	CMR1U-01	EM	62	292	S1J	CMR1-06M	EM	60	286

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CE	Closest equivalent (slight to significant electrical and/or mechanical differences).	EM	Exact electrical and mechanical.
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Industry Part Number	Central Part Number	Code	Selection Guide	Data Sheet	Industry Part Number	Central Part Number	Code	Selection Guide	Data Sheet
S1ZB10	CBRHD-02	EM	68	108	SMBT4401	CMPT4401	EM	42	238
S1ZB20	CBRHD-02	EM	68	108	SMBT4403	CMPT4403	EM	42	238
S1ZB40	CBRHD-04	EM	68	108	SMBT5086	CMPT5086	EM	42	240
S1ZB60	CBRHD-06	EM	68	108	SMBT5087	CMPT5087	EM	42	240
S2A	CMR2-02	EM	60	296	SMBT5088	CMPT5088	EM	42	242
S2B	CMR2-02	EM	60	296	SMBTA05	CMPTA06	EM	42	258
S2D	CMR2-02	EM	60	296	SMBTA06	CMPTA06	EM	42	258
S2G	CMR2-04	EM	60	296	SMBTA13	CMPTA13	EM	43	260
S2J	CMR2-06	EM	60	296	SMBTA14	CMPTA14	EM	43	260
S2K	CMR2-10	EM	60	296	SMBTA20	CMPT3904	EM	42	234
S2M	CMR2-10	EM	60	296	SMBTA42	CMPTA42	EM	43	266
S3A	CMR3-02	EM	60	300	SMBTA43	CMPTA42	EM	43	266
S3B	CMR3-02	EM	60	300	SMBTA55	CMPTA56	EM	42	258
S3D	CMR3-02	EM	60	300	SMBTA56	CMPTA56	EM	42	258
S3G	CMR3-04	EM	60	300	SMBTA63	CMPTA63	EM	43	260
S3J	CMR3-06	EM	60	300	SMBTA64	CMPTA64	EM	43	260
S3K	CMR3-10	EM	60	300	SMBTA70	CMPT3904	EM	42	234
S3M	CMR3-10	EM	60	300	SMBTA92	CMPTA92	EM	43	266
SGL41-20	CMSH1-20M	EM	65	314	SMBTA93	CMPTA92	EM	43	266
SGL41-30	CMSH1-40M	EM	65	314	SMCJ5.0A thru	1SMC5.0A thru	EM	58	76
SGL41-40	CMSH1-40M	EM	65	314	SMCJ170A	1SMC170A	EM	58	76
SGL41-50	CMSH1-60M	EM	65	314	SMCJ5.0CA thru	1SMC5.0CA thru	EM	58	78
SGL41-60	CMSH1-60M	EM	65	314	SMCJ170CA	1SMC170CA	EM	58	78
SM4001	CMR1-02M	EM	60	286	SO 517	CMPTA13	EM	43	260
SM4002	CMR1-02M	EM	60	286	SO 642	CMPTA42	EM	43	266
SM4003	CMR1-02M	EM	60	286	SO 692	CMPTA92	EM	43	266
SM4004	CMR1-04M	EM	60	286	SO 918	CMPT918	EM	43	216
SM4005	CMR1-06M	EM	60	286	SO 930	CMPT2484	SE	42	224
SM4006	CMR1-10M	EM	60	286	SO1711	CMPT2222A	SE	42	220
SM4007	CMR1-10M	EM	60	286	SO1893	CMPT2222A	SE	42	220
SM4933	CMR1F-02M	EM	61	288	SO2221	CMPT2222A	SE	42	220
SM4934	CMR1F-02M	EM	61	288	SO2221A	CMPT2222A	SE	42	220
SM4935	CMR1F-02M	EM	61	288	SO2222	CMPT2222A	EM	42	220
SM4936	CMR1F-06M	EM	61	288	SO2222A	CMPT2222A	EM	42	220
SM4937	CMR1F-06M	EM	61	288	SO2369	CMPT2369	EM	42	222
SMBD 914	CMPD914	EM	50	182	SO2369A	(special order)	—	—	*
SMBD2835	CMPD2836	EM	50	188	SO2484	CMPT2484	EM	42	224
SMBD2836	CMPD2836	EM	50	188	SO2894	CMPT3640	EM	42	230
SMBD2837	CMPD2836	EM	50	188	SO2906	CMPT2907A	SE	42	226
SMBD2838	CMPD2838	EM	50	188	SO2906A	CMPT2907A	SE	42	226
SMBD6050	CMPD4448	EM	50	194	SO2907	CMPT2907A	EM	42	226
SMBD6100	CMPD2838	EM	50	188	SO2907A	CMPT2907A	EM	42	226
SMBD7000	CMPD7000	EM	50	202	SO3903	CMPT3904	SE	42	234
SMBJ5.0A thru	1SMB5.0A thru	EM	58	72	SO3904	CMPT3904	EM	42	234
SMBJ170A	1SMB170A	EM	58	72	SO3905	CMPT3906	SE	42	234
SMBJ5.0CA thru	1SMB5.0CA thru	EM	58	74	SO3906	CMPT3906	EM	42	234
SMBJ170CA	1SMB170CA	EM	58	74	SO4401	CMPT4401	EM	42	238
SMBT2222	CMPT2222A	EM	42	220	SO4403	CMPT4403	EM	42	238
SMBT2222A	CMPT2222A	EM	42	220	SO5400	CMPT5401	EM	43	246
SMBT2907	CMPT2907A	EM	42	226	SO5401	CMPT5401	EM	43	246
SMBT2907A	CMPT2907A	EM	42	226	SO5550	CMPT5551	EM	43	248
SMBT3904	CMPT3904	EM	42	234	SO5551	CMPT5551	EM	43	248
SMBT3906	CMPT3906	EM	42	234	SOA05	CMPTA06	EM	42	258
SMBT4124	CMPT3904	SE	42	234	SOA06	CMPTA06	EM	42	258
SMBT4126	CMPT3906	SE	42	234	SOA55	CMPTA56	EM	42	258

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Industry Part Number	Central Part Number	Code	Selection Guide	Data Sheet	Industry Part Number	Central Part Number	Code	Selection Guide	Data Sheet
SOA56	CMPTA56	EM	42	258	TMPT2907A	CMPT2907A	EM	42	226
SS12	CMSH1-20M	EM	65	314	TMPT3638	CMPT4403	SE	42	238
SS13	CMSH1-40M	EM	65	314	TMPT3638A	CMPT4403	SE	42	238
SS14	CMSH1-40M	EM	65	314	TMPT3798	CMPT5086	SE	42	240
SS15	CMSH1-60M	EM	65	314	TMPT3903	CMPT3904	SE	42	234
SS16	CMSH1-60M	EM	65	314	TMPT3904	CMPT3904	EM	42	234
SS22	CMSH2-20	EM	65	318	TMPT3905	CMPT3906	SE	42	234
SS23	CMSH2-40	EM	65	318	TMPT3906	CMPT3906	EM	42	234
SS24	CMSH2-40	EM	65	318	TMPT4124	CMPT3904	SE	42	234
SS25	CMSH2-60	EM	65	318	TMPT4125	CMPT3906	SE	42	234
SS26	CMSH2-60	EM	65	318	TMPT4126	CMPT3906	SE	42	234
SS32	CMSH3-20	EM	66	324	TMPT4401	CMPT4401	EM	42	238
SS33	CMSH3-40	EM	66	324	TMPT4402	CMPT4403	SE	42	238
SS34	CMSH3-40	EM	66	324	TMPT4403	CMPT4403	EM	42	238
SS35	CMSH3-60	EM	66	324	TMPT5086	CMPT5086	EM	42	240
SS36	CMSH3-60	EM	66	324	TMPT5087	CMPT5087	EM	42	240
SST4391	CMPF4391	EM	46	204	TMPT5088	CMPT5088	EM	42	242
SST4392	CMPF4392	EM	46	204	TMPT5401	CMPT5401	EM	43	246
SST4393	CMPF4393	EM	46	204	TMPT5550	CMPT5551	EM	43	248
SST4416	CMPF4416A	EM	46	206	TMPT5551	CMPT5551	EM	43	248
SXT2222A	CXT2222A	EM	47	388	TMPTA05	CMPTA06	EM	42	258
SXT2907A	CXT2907A	EM	47	390	TMPTA06	CMPTA06	EM	42	258
SXT3904	CXT3904	EM	47	396	TMPTA12	CMPTA13	SE	43	260
SXT3906	CXT3906	EM	47	396	TMPTA13	CMPTA13	EM	43	260
SXTA42	CXTA42	EM	47	408	TMPTA14	CMPTA14	EM	43	260
SXTA43	CXTA42	EM	47	408	TMPTA20	CMPT3904	EM	42	234
SXTA92	CXTA92	EM	47	408	TMPTA42	CMPTA42	EM	43	266
SXTA93	CXTA92	EM	47	408	TMPTA43	CMPTA42	EM	43	266
TM4729A thru	CLL4729A thru	EM	56	152	TMPTA55	CMPTA56	EM	42	258
TM4752A	CLL4752A	EM	56	152	TMPTA56	CMPTA56	EM	42	258
TMM5226B thru	CLL5226B thru	EM	55	154	TMPTA63	CMPTA63	EM	43	260
TMM5257B	CLL5257B	EM	55	154	TMPTA64	CMPTA64	EM	43	260
TMPD 914	CMPD914	EM	50	182	TMPTA70	CMPT3906	EM	42	234
TMPD2835	CMPD2836	EM	50	188	TMPTA92	CMPTA92	EM	43	266
TMPD2836	CMPD2836	EM	50	188	TMPTA93	CMPTA92	EM	43	266
TMPD2837	CMPD2838	EM	50	188	TMPZ5229 thru	CMPTZ5229B thru	EM	54	280
TMPD2838	CMPD2838	EM	50	188	TMPZ5257	CMPTZ5257B	EM	54	280
TMPD4148	CMPD914	EM	50	182	U1BC44	CMR1-02M	EM	60	286
TMPD4150	CMPD4150	EM	50	192	U1DC44	CMR1-02M	EM	60	286
TMPD4448	CMPD4448	EM	50	194	U1GC44	CMR1-04M	EM	60	286
TMPD6050	CMPD4448	EM	50	194	U1JC44	CMR1-06M	EM	60	286
TMPD6100	CMPD2838	EM	50	188	UO5B4B48	CBRHD-02	EM	68	108
TMPD7000	CMPD7000	EM	50	202	UO5D4B48	CBRHD-02	EM	68	108
TMPF4391	CMPF4391	EM	46	204	UO5G4B48	CBRHD-04	EM	68	108
TMPF4392	CMPF4392	EM	46	204	UO5J4B48	CBRHD-06	EM	68	108
TMPF4393	CMPF4393	EM	46	204	ZC2800E	CMPD6263	SE	51	200
TMPT 918	CMPT918	EM	43	216	ZC2810E	CMPD6263	SE	51	200
TMPT2221	CMPT2222A	SE	42	220	ZC2811E	CMPD6263	SE	51	200
TMPT2221A	CMPT2222A	SE	42	220	ZC5800E	CMPD6263	SE	51	200
TMPT2222	CMPT2222A	EM	42	220	ZM4729A thru	CLL4729A	EM	56	152
TMPT2222A	CMPT2222A	EM	42	220	ZM4764A	CLL4764A	EM	56	152
TMPT2484	CMPT2484	EM	42	224					
TMPT2906	CMPT2907A	SE	42	226					
TMPT2906A	CMPT2907A	SE	42	226					
TMPT2907	CMPT2907A	EM	42	226					



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* Special Order

Leaded to Surface Mount Equivalents

<u>LEADED</u>	<u>SMD</u>	<u>CASE</u>	<u>COMMENTS</u>
1N457A	CMPT3003	SOT-23	
1N459A	CMPT3003	SOT-23	
1N 914	BAS28 CLL 914 CMPD 914 CMPD2836 CMPD2838 CMPD7000 CMXD4448	SOT-143 SOD-80 SOT-23 SOT-23 SOT-23 SOT-23 SOT-26	Dual, Isolated Leadless Switching Diode Single Switching Diode Dual, Common Anode Dual, Common Cathode Dual, In Series Triple Isolated Diodes
1N 914B	CLL4448 CMPD4448	SOD-80 SOT-23	
1N3600	BAS56 CLL4150 CMPD4150	SOT-143 SOD-80 SOT-23	Dual High Current Diode, Isolated Leadless Switching Diode Single Switching Diode
1N3070	CMPD2004 CMXD2004	SOT-23 SOT-26	Triple Isolated Diodes
1N3595	CMPT3003	SOT-23	
1N4001	CMR1-02 CMR1-02M	SMB SMA	
1N4002	CMR1-02 CMR1-02M	SMB SMA	
1N4003	CMR1-04 CMR1-04M	SMB SMA	
1N4004	CMR1-04 CMR1-04M	SMB SMA	
1N4005	CMR1-06 CMR1-06M	SMB SMA	
1N4006	CMR1-10 CMR1-10M	SMB SMA	
1N4007	CMR1-10 CMR1-10M	SMB SMA	

Leaded to Surface Mount Equivalents (Continued)

<u>LEADED</u>	<u>SMD</u>	<u>CASE</u>	<u>COMMENTS</u>
1N4099 thru 1N4124	CLL4099 thru CLL4125 CMPZ4099 thru CMPZ4124	SOT-23	
1N4148	BAS28 CLL 914 CMPD 914 CMPD2836 CMPD2838 CMPD7000 1N4150	SOT-143 SOD-80 SOT-23 SOT-23 SOT-23 SOT-23 SOT-23 BAS56	Dual, Isolated Leadless Switching Diode Single Switching Diode Dual, Common Anode Dual, Common Cathode Dual, In Series SOT-143 Dual High Current
Diode, Isolated	CLL4150 CMPD4150	SOD-80 SOT-23	Leadless Switching Diode Single Switching Diode
1N4448	CLL4448 CMPD2836 CMPD2838 CMPD4448 CMPD7000 CMXD4448	SOD-80 SOT-23 SOT-23 SOT-23 SOT-23 SOT-26	Leadless Switching Diode Dual, Common Anode Dual, Common Cathode Single Switching Diode Dual, In Series Triple Isolated Diodes
1N4728A thru 1N4764A	CLL4729A thru CLL4764A	MELF	
1N4933	CMR1U-01 CMR1U-01M	SMB SMA	
1N4934	CMR1U-01 CMR1U-01M	SMB SMA	
1N4935	CMR1U-02 CMR1U-02M	SMB SMA	
1N4936	CMR1U-04 CMR1U-04M	SMB SMA	
1N4937	CMR1U-06 CMR1U-06M	SMB SMA	



Leaded to Surface Mount Equivalents (Continued)

<u>LEADED</u>	<u>SMD</u>	<u>CASE</u>	<u>COMMENTS</u>
1N5221B thru 1N5261B	CLL5226B thru CLL5257B CMPZ5221B thru CMPZ5261B	SOD-80 SOT-23	
1N5400 thru 1N5408	CMR3-02 thru CMR3-10	SMC SMC	
1N5817	CMSH1-20 CMSH1-20M	SMB SMA	
1N5818	CMSH1-40 CMSH1-40M	SMB SMA	
1N5819	CMSH1-40 CMSH1-40M	SMB SMA	
1N5921B thru 1N5956B	CMZ5921B thru CMZ5956B	SMA	
1N6263	CMPD6263 CMPD6263A CMPD6263C CMPD6263S	SOT-23 SOT-23 SOT-23 SOT-23	Single Configuration Dual, Common Anode Dual, Common Cathode Dual, In Series
2N 918	CMPT 918	SOT-23	
2N2222A	CMPT2222A CXT2222A CZT2222A	SOT-23 SOT-89 SOT-223	
2N2369	CMPT2369	SOT-23	
2N2484	CMPT2484	SOT-23	
2N2907A	CMPT2907A CXT2907A CZT2907A	SOT-23 SOT-89 SOT-223	
2N3019	CXT3019 CZT3019	SOT-89 SOT-223	

Leaded to Surface Mount Equivalents (Continued)

<u>LEADED</u>	<u>SMD</u>	<u>CASE</u>	<u>COMMENTS</u>
2N3055	CJD3055 CZT3055	DPAK SOT-223	
2N3904	CMPT3904 CXT3904 CZT3904	SOT-23 SOT-89 SOT-223	
2N3906	CMPT3906 CXT3906 CZT3906	SOT-23 SOT-89 SOT-223	
2N4033	CXT4033 CZT4033	SOT-89 SOT-223	
2N4391	CMPT4391	SOT-23	
2N4392	CMPT4392	SOT-23	
2N4393	CMPT4393	SOT-23	
2N4401	CMPT4401	SOT-23	
2N4403	CMPT4403	SOT-23	
2N4416A	CMPT4416A	SOT-23	
2N5060 thru 2N5064	CMPT5064	SOT-23	
2N5086	CMPT5086	SOT-23	
2N5087	CMPT5087	SOT-23	
2N5088	CMPT5088	SOT-23	
2N5089	CMPT5089	SOT-23	
2N5179	CMPT5179	SOT-23	
2N5401	CMPT5401 CXT5401 CZT5401	SOT-23 SOT-89 SOT-223	
2N5460	CMPT5460	SOT-23	Special order, consult factory



Leaded to Surface Mount Equivalents (Continued)

<u>LEADED</u>	<u>SMD</u>	<u>CASE</u>	<u>COMMENTS</u>
2N5461	CMPF5461	SOT-23	Special order, consult factory
2N5462	CMPF5462	SOT-23	Special order, consult factory
2N5485	CMPF5485	SOT-23	Special order, consult factory
2N5551	CMPT5551 CXT5551 CZT5551	SOT-23 SOT-89 SOT-223	
2N6427	CMPT6427	SOT-23	
2N6428	CMPT6428	SOT-23	
2N6429	CMPT6429	SOT-23	
2N6517	CMPT6517	SOT-23	
2N6520	CMPT6520	SOT-23	
CDSH-4	CMPSH-3 CMPSH-3A CMPSH-3C CMPSH-3S CMXSH-3	SOT-23 SOT-23 SOT-23 SOT-23 SOT-26	Single Configuration Dual, Common Anode Dual, Common Cathode Dual, In Series Triple Isolated Diode
CSSD2003	CLL2003 CMPD2003	SOD-80 SOT-23	
D44H11	CJD44H11	DPAK	
D45H11	CJD45H11	DPAK	
MJ2955	CJD2955 CZT2955	DPAK SOT-223	
MPS404A	CMPT404A	SOT-23	
MPS650	CBCP68 CBCX68	SOT-223 SOT-89	
MPS651	CZT651	SOT-223	
MPS750	CBCP69 CBCX69	SOT-223 SOT-89	

Leaded to Surface Mount Equivalents (Continued)

<u>LEADED</u>	<u>SMD</u>	<u>CASE</u>	<u>COMMENTS</u>
MPS751	CZT751	SOT-223	
MPS8099	CMPT8099	SOT-23	
MPS8599	CMPT8599	SOT-23	
MPSA06	CMPTA06	SOT-23	
MPSA13	CMPTA13	SOT-23	
MPSA14	CMPTA14 CXTA14 CZTA14	SOT-23 SOT-89 SOT-223	
MPSA27	CMPTA27 CXTA27 CZTA27	SOT-23 SOT-89 SOT-223	
MPSA42	CMPTA42 CXTA42 CZTA42	SOT-23 SOT-89 SOT-223	
MPSA44	CMPTA44 CZTA44 CZTA44	SOT-23 SOT-223 SOT-223	High Voltage Transistor
MPSA56	CMPTA56	SOT-23	
MPSA63	CMPTA63	SOT-23	
MPSA64	CMPTA64 CXTA64 CZTA64	SOT-23 SOT-89 SOT-223	
MPSA77	CZTA77	SOT-223	
MPSA92	CMPTA92 CXTA92 CZTA92	SOT-23 SOT-89 SOT-223	
MPSA94	CMPTA94 CXTA94 CZTA94	SOT-23 SOT-89 SOT-223	



Leaded to Surface Mount Equivalents (Continued)

<u>LEADED</u>	<u>SMD</u>	<u>CASE</u>	<u>COMMENTS</u>
MPSH10	CMPTH10	SOT-23	
PN3640	CMPT3640	SOT-23	
PN3646	CMPT3646	SOT-23	
TIP31A, B, C	CJD31C CZT31C	DPAK SOT-223	
TIP32A, B, C	CJD32C CZT32C	DPAK SOT-223	
TIP41A, B, C	CJD41C	DPAK	
TIP42A, B, C	CJD42C	DPAK	
TIP47	CJD47	DPAK	
TIP50	CJD50	DPAK	
TIP110, TIP111, TIP112	CJD112	DPAK	
TIP115, TIP116, TIP117	CJD117	DPAK	
TIP120, TIP121, TIP122	CJD122 CZT122	DPAK SOT-23	
TIP125, TIP126, TIP127	CJD127 CZT127	DPAK SOT-223	
TIP2955	CJD2955	DPAK	
TIP3055	CJD3055	DPAK	

Marking Codes

Marking Code	Part Number	Marking Code	Part Number	Marking Code	Part Number
1 A	BC846A	4P	CMDZ24L	8 GC	CMSZ5232B
1 A8	CMSZ5250B	5A	BC807.16	8 HC	CMSZ5233B
1 B	BC846B	5B	BC807.25	8 JC	CMSZ5234B
1 B8	CMSZ5251B	5C	BC807.40	8 KC	CMSZ5235B
1 C8	CMSZ5252B	5CC	CMSD7000	8 LC	CMSZ5236B
1 D8	CMSZ5253B	5E	BC808.16	8 MC	CMSZ5237B
1 E	BC847A	5F	BC808.25	8 NC	CMSZ5238B
1 E8	CMSZ5254B	5G	BC808.40	8 P	CMDZ36L
1 F	BC847B	5P	CMDZ27L	8 PC	CMSZ5239B
1 F8	CMSZ5255B	6A	BC817.16	8 QC	CMSZ5240B
1 FF	CMPT5551	6B	BC817.25	8 RC	CMSZ5241B
1 G	BC847C	6B	CMPF5484	8 SC	CMSZ5242B
1 G8	CMSZ5256B	6B1	CMPF5485	8 TC	CMSZ5243B
1 H8	CMSZ5257B	6BG	CMPF4416A	8 UC	CMSZ5244B
1 J	BC848A	6C	BC817.40	8 VC	CMSZ5245B
1 J8	CMSZ5258B	6E	BC818.16	8 WC	CMSZ5246B
1 K	BC848B	6E	CMPF5460	8 XC	CMSZ5247B
1 K8	CMSZ5259B	6E1	CMPF5461	8 YC	CMSZ5248B
1 L	BC848C	6E2	CMPF5462	8 ZC	CMSZ5249B
1 L8	CMSZ5260B	6F	BC818.25	10W	CMSZDA27V
1 M8	CMSZ5261B	6G	BC818.40	11W	CMSZDA30V
1 P	CMDZ18L	6G	CMPF4393	12W	CMSZDA33V
2 B	BC849B	6H	CMPF5486	18 A	CMPZ5221B
2 C	BC849C	6J	CMPF4391	18 B	CMPZ5222B
2 F	BC850B	6K	CMPF4392	18 C	CMPZ5223B
2 G	BC850C	6P	CMDZ30L	18 D	CMPZ5224B
2 P	CMDZ20L	6S	CMPFJ176	18 E	CMPZ5225B
3A	BC856A	6T	CMPFJ310	81A	CMPZ5250B
3B	BC856B	6W	CMPFJ175	81B	CMPZ5251B
3E	BC857A	6X	CMPFJ174	81C	CMPZ5252B
3F	BC857B	7P	CMDZ33L	81D	CMPZ5253B
3G	BC857C	8 A1	CMSZ5221B	81E	CMPZ5254B
3J	BC858A	8 AC	CMSZ5226B	81F	CMPZ5255B
3K	BC858B	8 B1	CMSZ5222B	81G	CMPZ5256B
3L	BC858C	8 BC	CMSZ5227B	81H	CMPZ5257B
3P	CMDZ22L	8 C1	CMSZ5223B	81J	CMPZ5258B
4A	BC859A	8 CC	CMSZ5228B	81K	CMPZ5259B
4B	BC859B	8 D1	CMSZ5224B	81L	CMPZ5260B
4C	BC859C	8 DC	CMSZ5229B	81M	CMPZ5261B
4E	BC860A	8 E1	CMSZ5225B	9 5D	CMSSH-3
4F	BC860B	8 EC	CMSZ5230B	702	2N7002
4G	BC860C	8 FC	CMSZ5231B	A 2C	CMSD2836



Marking Codes (Continued)

Marking Code	Part Number	Marking Code	Part Number	Marking Code	Part Number
A 5D	CMSSH-3S	C 1Q	CMPT5088	C 7V5C	P6SMB7.5CA
A 61	BAS28	C 1R	CMPT5089	C 8	BCF30
A 6C	CMSD2838	C 1U	CMPT2484	C 8A	CMPZ5226B
A 82	CMPD2003	C 1V	CMPT6427	C 8B	CMPZ5227B
A 91	CBAS17	C 1X	CMPT 930	C 8C	CMPZ5228B
AA	BCW60A	C 1Z	CMPT6517	C 8D	CMPZ5229B
AAD	CMPD4448	C 2	BCW30	C 8E	CMPZ5230B
AB	BCW60B	C 2A	CMPT3906	C 8F	CMPZ5231B
ABA	CMPD4150	C 2D	CMPTA92	C 8G	CMPZ5232B
AC	BCW60C	C 2F	CMPT2907A	C 8H	CMPZ5233B
AD	BCW60D	C 2G	CMPTA56	C 8J	CMPZ5234B
AG	BCX70G	C 2J	CMPT3640	C 8K	CMPZ5235B
AH	BCX70H	C 2L	CMPT5401	C 8L	CMPZ5236B
AJ	BCX70J	C 2N	CMPT404A	C 8M	CMPZ5237B
AK	BCX70K	C 2P	CMPT5086	C 8N	CMPZ5238B
B1D	CMSSH-3A	C 2Q	CMPT5087	C 8P	CMPZ5239B
B2	BSV52	C 2R	CMPT3646	C 8Q	CMPZ5240B
B2D	CMSSH-3C	C 2T	CMPT4403	C 8R	CMPZ5241B
BA	BCW61A	C 2U	CMPTA63	C 8S	CMPZ5242B
BB	BCW61B	C 2V	CMPTA64	C 8T	CMPZ5243B
BC	BCW61C	C 2W	CMPT8599	C 8U	CMPZ5244B
BD	BCW61D	C 2X	CMPT4401	C 8V	CMPZ5245B
BG	BCX71G	C 2Z	CMPT6520	C 8V2A	P6SMB8.2A
BH	BCX71H	C 3A	CMPT3019	C 8V2A	1.5SMC8.2A
BJ	BCX71J	C 3B	CMPT 918	C 8V2C	1.5SMC8.2CA
BK	BCX71K	C 3C	CMPD2003C	C 8V2C	P6SMB8.2CA
C 02	CMR1-02	C 3E	CMPTH10	C 8W	CMPZ5246B
C 02M	CMR1-02M	C 3I	CMFSH3i	C 8X	CMPZ5247B
C 04	CMR1-04	C 3S	CMPD2003S	C 8Y	CMPZ5248B
C 04M	CMR1-04M	C 3Z	CMPTA44	C 8Z	CMPZ5249B
C 06	CMR1-06	C 4A	CMPT4033	C 9V1A	P6SMB9.1A
C 06M	CMR1-06M	C 5C	CMPD7000	C 9V1A	1.5SMC9.1A
C 1	BCW29	C 5D	CMPD 914	C 9V1C	1.5SMC9.1CA
C 1A	CMPT3904	C 6V8A	P6SMB6.8A	C 9V1C	P6SMB9.1CA
C 1D	CMPTA42	C 6V8A	1.5SMC6.8A	C 10	CMR1-10
C 1G	CMPTA06	C 6V8C	1.5SMC6.8CA	C 10A	P6SMB10A
C 1J	CMPT2369	C 6V8C	P6SMB6.8CA	C 10A	1.5SMC10A
C 1K	CMPT6428	C 7	BCF29	C 10C	1.5SMC10CA
C 1L	CMPT6429	C 7H	CMPT5179	C 10C	P6SMB10CA
C 1M	CMPTA13	C 7V5A	P6SMB7.5A	C 10M	CMR1-10M
C 1N	CMPTA14	C 7V5A	1.5SMC7.5A	C 11A	P6SMB11A
C 1P	CMPT2222A	C 7V5C	1.5SMC7.5CA	C 11A	1.5SMC11A

Marking Codes (Continued)

Marking Code	Part Number	Marking Code	Part Number	Marking Code	Part Number
C 11C	1.5SMC11CA	C 30C	P6SMB30CA	C 82A	1.5SMC82A
C 11C	P6SMB11CA	C 33A	P6SMB33A	C 82C	1.5SMC82CA
C 12A	P6SMB12A	C 33A	1.5SMC33A	C 82C	P6SMB82CA
C 12A	1.5SMC12A	C 33C	1.5SMC33CA	C 91A	P6SMB91A
C 12C	1.5SMC12CA	C 33C	P6SMB33CA	C 91A	1.5SMC91A
C 12C	P6SMB12CA	C 36A	P6SMB36A	C 91C	1.5SMC91CA
C 13A	P6SMB13A	C 36A	1.5SMC36A	C 91C	P6SMB91CA
C 13A	1.5SMC13A	C 36C	1.5SMC36CA	C94	CMPTA94
C 13C	1.5SMC13CA	C 36C	P6SMB36CA	C100A	P6SMB100A
C 13C	P6SMB13CA	C 39A	P6SMB39A	C100A	1.5SMC100A
C 15A	P6SMB15A	C 39A	1.5SMC39A	C100C	1.5SMC100CA
C 15A	1.5SMC15A	C 39C	1.5SMC39CA	C100C	P6SMB100CA
C 15C	1.5SMC15CA	C 39C	P6SMB39CA	C110A	P6SMB110A
C 15C	P6SMB15CA	C 43A	P6SMB43A	C110A	1.5SMC110A
C 16A	P6SMB16A	C 43A	1.5SMC43A	C110C	1.5SMC110CA
C 16A	1.5SMC16A	C 43C	1.5SMC43CA	C110C	P6SMB110CA
C 16C	1.5SMC16CA	C 43C	P6SMB43CA	C120A	P6SMB120A
C 16C	P6SMB16CA	C 47A	P6SMB47A	C120A	1.5SMC120A
C 18A	P6SMB18A	C 47A	1.5SMC47A	C120C	1.5SMC120CA
C 18A	1.5SMC18A	C 47C	1.5SMC47CA	C120C	P6SMB120CA
C 18C	1.5SMC18CA	C 47C	P6SMB47CA	C130A	P6SMB130A
C 18C	P6SMB18CA	C 51A	P6SMB51A	C130A	1.5SMC130A
C 20A	P6SMB20A	C 51A	1.5SMC51A	C130C	1.5SMC130CA
C 20A	1.5SMC20A	C 51C	1.5SMC51CA	C130C	P6SMB130CA
C 20C	1.5SMC20CA	C 51C	P6SMB51CA	C150A	P6SMB150A
C 20C	P6SMB20CA	C 56A	P6SMB56A	C150A	1.5SMC150A
C 22A	P6SMB22A	C 56A	1.5SMC56A	C150C	1.5SMC150CA
C 22A	1.5SMC22A	C 56C	1.5SMC56CA	C150C	P6SMB150CA
C 22C	1.5SMC22CA	C 56C	P6SMB56CA	C160A	P6SMB160A
C 22C	P6SMB22CA	C 62A	P6SMB62A	C160A	1.5SMC160A
C 24A	P6SMB24A	C 62A	1.5SMC62A	C160C	1.5SMC160CA
C 24A	1.5SMC24A	C 62C	1.5SMC62CA	C160C	P6SMB160CA
C 24C	1.5SMC24CA	C 62C	P6SMB62CA	C170A	P6SMB170A
C 24C	P6SMB24CA	C 68A	P6SMB68A	C170A	1.5SMC170A
C 27A	P6SMB27A	C 68A	1.5SMC68A	C170C	1.5SMC170CA
C 27A	1.5SMC27A	C 68C	P6SMB68CA	C170C	P6SMB170CA
C 27C	1.5SMC27CA	C 68C	1.5SMC68CA	C180A	P6SMB180A
C 27C	P6SMB27CA	C 75A	P6SMB75A	C180A	1.5SMC180A
C 29	CMPTA29	C 75A	1.5SMC75A	C180C	1.5SMC180CA
C 30A	P6SMB30A	C 75C	1.5SMC75CA	C180C	P6SMB180CA
C 30A	1.5SMC30A	C 75C	P6SMB75CA	C200A	P6SMB200A
C 30C	1.5SMC30CA	C 82A	P6SMB82A	C200A	1.5SMC200A

CODES

Marking Codes (Continued)

Marking Code	Part Number	Marking Code	Part Number	Marking Code	Part Number
C200C	1.5SMC200CA	C5374B	CMZ5374B	C5948B	CMZ5948B
C200C	P6SMB200CA	C5375B	CMZ5375B	C5949B	CMZ5949B
C202	CMR2-02	C5376B	CMZ5376B	C5950B	CMZ5950B
C204	CMR2-04	C5377B	CMZ5377B	C5951B	CMZ5951B
C206	CMR2-06	C5378B	CMZ5378B	C5952B	CMZ5952B
C210	CMR2-10	C5379B	CMZ5379B	C5953B	CMZ5953B
C302	CMR3-02	C5380B	CMZ5380B	C5954B	CMZ5954B
C304	CMR3-04	C5381B	CMZ5381B	C5955B	CMZ5955B
C306	CMR3-06	C5382B	CMZ5382B	C5956B	CMZ5956B
C310	CMR3-10	C5383B	CMZ5383B	CA2	CMPD2836
C5342B	CMZ5342B	C5384B	CMZ5384B	CA6	CMPD2838
C5343B	CMZ5343B	C5385B	CMZ5385B	CBDE	1SMC5.0CA
C5344B	CMZ5344B	C5386B	CMZ5386B	CBDG	1SMC6.0CA
C5345B	CMZ5345B	C5387B	CMZ5387B	CBDK	1SMC6.5CA
C5346B	CMZ5346B	C5388B	CMZ5388B	CBDM	1SMC7.0CA
C5347B	CMZ5347B	C5921B	CMZ5921B	CBDP	1SMC7.5CA
C5348B	CMZ5348B	C5922B	CMZ5922B	CBDR	1SMC8.0CA
C5349B	CMZ5349B	C5923B	CMZ5923B	CBDT	1SMC8.5CA
C5350B	CMZ5350B	C5924B	CMZ5924B	CBDV	1SMC9.0CA
C5351B	CMZ5351B	C5925B	CMZ5925B	CBDX	1SMC10CA
C5352B	CMZ5352B	C5926B	CMZ5926B	CBDZ	1SMC11CA
C5353B	CMZ5353B	C5927B	CMZ5927B	CBEE	1SMC12CA
C5354B	CMZ5354B	C5928B	CMZ5928B	CBEG	1SMC13CA
C5355B	CMZ5355B	C5929B	CMZ5929B	CBEK	1SMC14CA
C5356B	CMZ5356B	C5930B	CMZ5930B	CBEM	1SMC15CA
C5357B	CMZ5357B	C5931B	CMZ5931B	CBEP	1SMC16CA
C5358B	CMZ5358B	C5932B	CMZ5932B	CBER	1SMC17CA
C5359B	CMZ5359B	C5933B	CMZ5933B	CBET	1SMC18CA
C5360B	CMZ5360B	C5934B	CMZ5934B	CBEV	1SMC20CA
C5361B	CMZ5361B	C5935B	CMZ5935B	CBEX	1SMC22CA
C5362B	CMZ5362B	C5936B	CMZ5936B	CBEZ	1SMC24CA
C5363B	CMZ5363B	C5937B	CMZ5937B	CBFE	1SMC26CA
C5364B	CMZ5364B	C5938B	CMZ5938B	CBFG	1SMC28CA
C5365B	CMZ5365B	C5939B	CMZ5939B	CBFK	1SMC30CA
C5366B	CMZ5366B	C5940B	CMZ5940B	CBFM	1SMC33CA
C5367B	CMZ5367B	C5941B	CMZ5941B	CBFP	1SMC36CA
C5368B	CMZ5368B	C5942B	CMZ5942B	CBFR	1SMC40CA
C5369B	CMZ5369B	C5943B	CMZ5943B	CBFT	1SMC43CA
C5370B	CMZ5370B	C5944B	CMZ5944B	CBFV	1SMC45CA
C5371B	CMZ5371B	C5945B	CMZ5945B	CBFX	1SMC48CA
C5372B	CMZ5372B	C5946B	CMZ5946B	CBFZ	1SMC51CA
C5373B	CMZ5373B	C5947B	CMZ5947B	CBGE	1SMC54CA

Marking Codes (Continued)

Marking Code	Part Number	Marking Code	Part Number	Marking Code	Part Number
CBGG	1SMC58CA	CGFM	1SMC33A	CKT	1SMB8.5A
CBGK	1SMC60CA	CGFP	1SMC36A	CKTC	1SMB8.5CA
CBGM	1SMC64CA	CGFR	1SMC40A	CKV	1SMB9.0A
CBGP	1SMC70CA	CGFT	1SMC43A	CKVC	1SMB9.0CA
CBGR	1SMC75CA	CGFV	1SMC45A	CKX	1SMB10A
CBGT	1SMC78CA	CGFX	1SMC48A	CKXC	1SMB10CA
CBGV	1SMC85CA	CGFZ	1SMC51A	CKZ	1SMB11A
CBGX	1SMC90CA	CGGE	1SMC54A	CKZC	1SMB11CA
CBGZ	1SMC100CA	CGGG	1SMC58A	CLE	1SMB12A
CBHE	1SMC110CA	CGGK	1SMC60A	CLEC	1SMB12CA
CBHG	1SMC120CA	CGGM	1SMC64A	CLG	1SMB13A
CBHK	1SMC130CA	CGGP	1SMC70A	CLGC	1SMB13CA
CBHM	1SMC150CA	CGGR	1SMC75A	CLK	1SMB14A
CBHP	1SMC160CA	CGGT	1SMC78A	CLKC	1SMB14CA
CBHR	1SMC170CA	CGGV	1SMC85A	CLM	1SMB15A
CF02M	CMR1F-02M	CGGX	1SMC90A	CLMC	1SMB15CA
CF04M	CMR1F-04M	CGGZ	1SMC100A	CLP	1SMB16A
CF06M	CMR1F-06M	CGHE	1SMC110A	CLPC	1SMB16CA
CF10M	CMR1F-10M	CGHG	1SMC120A	CLR	1SMB17A
CGDE	1SMC5.0A	CGHK	1SMC130A	CLRC	1SMB17CA
CGDG	1SMC6.0A	CGHM	1SMC150A	CLT	1SMB18A
CGDK	1SMC6.5A	CGHP	1SMC160A	CLTC	1SMB18CA
CGDM	1SMC7.0A	CGHR	1SMC170A	CLV	1SMB20A
CGDP	1SMC7.5A	CH1J	CHT2369A	CLVC	1SMB20CA
CGDR	1SMC8.0A	CH1P	CHT2222A	CLX	1SMB22A
CGDT	1SMC8.5A	CH2F	CHT2907A	CLXC	1SMB22CA
CGDV	1SMC9.0A	CH3B	CHT 918	CLZ	1SMB24A
CGDX	1SMC10A	CJP	BAW101	CLZC	1SMB24CA
CGDZ	1SMC11A	CJP	CMFD2004i	CME	1SMB26A
CGEE	1SMC12A	CKB	CMPT8099	CMEC	1SMB26CA
CGEG	1SMC13A	CKE	1SMB5.0A	CMG	1SMB28A
CGEK	1SMC14A	CKEC	1SMB5.0CA	CMGC	1SMB28CA
CGEM	1SMC15A	CKG	1SMB6.0A	CMK	1SMB30A
CGEP	1SMC16A	CKGC	1SMB6.0CA	CMKC	1SMB30CA
CGER	1SMC17A	CKK	1SMB6.5A	CMM	1SMB33A
CGET	1SMC18A	CKKC	1SMB6.5CA	CMMC	1SMB33CA
CGEV	1SMC20A	CKM	1SMB7.0A	CMP	1SMB36A
CGEX	1SMC22A	CKMC	1SMB7.0CA	CMPC	1SMB36CA
CGEZ	1SMC24A	CKP	1SMB7.5A	CMR	1SMB40A
CGFE	1SMC26A	CKPC	1SMB7.5CA	CMRC	1SMB40CA
CGFG	1SMC28A	CKR	1SMB8.0A	CMT	1SMB43A
CGFK	1SMC30A	CKRC	1SMB8.0CA	CMTC	1SMB43CA



Marking Codes (Continued)

Marking Code	Part Number	Marking Code	Part Number	Marking Code	Part Number
CMV	1SMB45A	CS 40M	CMSH1-40M	CU202	CMR2U-02
CMVC	1SMB45CA	CS 40ML	CMSH1-40ML	CU204	CMR2U-04
CMX	1SMB48A	CS 60	CMSH1-60	CU206	CMR2U-06
CMXC	1SMB48CA	CS 60M	CMSH1-60M	CU301	CMR3U-01
CMZ	1SMB51A	CS100	CMSH1-100	CU302	CMR3U-02
CMZC	1SMB51CA	CS2 20	CMSH2-20	CU304	CMR3U-04
CNE	1SMB54A	CS2 20L	CMSH2-20L	CU306	CMR3U-06
CNEC	1SMB54CA	CS2 20M	CMSH2-20M	CU310	CMR3U-10
CNG	1SMB58A	CS2 40	CMSH2-40	D 1	BCW31
CNGC	1SMB58CA	CS2 40L	CMSH2-40L	D 2	BCW32
CNK	1SMB60A	CS2 40M	CMSH2-40M	D 3	BCW33
CNKC	1SMB60CA	CS2 60	CMSH2-60	D 7	BCF32
CNM	1SMB64A	CS2 60M	CMSH2-60M	D 8	BCF33
CNMC	1SMB64CA	CS2100	CMSH2-100	D49	CMPD5001S
CNP	1SMB70A	CS2100M	CMSH2-100M	D53	CMPD2004
CNPC	1SMB70CA	CS3 20	CMSH3-20	D76	CMPD6263
CNR	1SMB75A	CS3 20L	CMSH3-20L	D95	CMPSH-3
CNRC	1SMB75CA	CS3 20M	CMSH3-20M	D96	CMPD6263S
CNT	1SMB78A	CS3 40	CMSH3-40	D97	CMPD6263C
CNTC	1SMB78CA	CS3 40L	CMSH3-40L	D98	CMPD6263A
CNV	1SMB85A	CS3 40M	CMSH3-40M	DA	BCW67A
CNVC	1SMB85CA	CS3 60	CMSH3-60	DA2	CMPD5001
CNX	1SMB90A	CS3 60M	CMSH3-60M	DA5	CMPSH-3S
CNXC	1SMB90CA	CS3100	CMSH3-100	DB	BCW67B
CNZ	1SMB100A	CS3100M	CMSH3-100M	DB1	CMPSH-3A
CNZC	1SMB100CA	CS5 20	CMSH5-20	DB2	CMPSH-3C
CPE	1SMB110A	CS5 40	CMSH5-40	DB6	CMPD2004S
CPEC	1SMB110CA	CS5 60	CMSH5-60	DB7	CMPD2004C
CPG	1SMB120A	CS5100	CMSH5-100	DC	BCW67C
CPGC	1SMB120CA	CSF01	CMR1S-01	DF	BCW68F
CPK	1SMB130A	CSF02	CMR1S-02	DG	BCW68G
CPKC	1SMB130CA	CU01	CMR1U-01	DH	BCW68H
CPM	1SMB150A	CU01M	CMR1U-01M	EA	BCW65A
CPMC	1SMB150CA	CU02	CMR1U-02	EB	BCW65B
CPP	1SMB160A	CU02M	CMR1U-02M	EC	BCW65C
CPPC	1SMB160CA	CU04	CMR1U-04	EF	BCW66F
CPR	1SMB170A	CU04M	CMR1U-04M	EG	BCW66G
CPRC	1SMB170CA	CU06	CMR1U-06	EH	BCW66H
CS 20	CMSH1-20	CU06M	CMR1U-06M	FD	BCV26
CS 20M	CMSH1-20M	CU10	CMR1U-10	FE	BCV46
CS 20ML	CMSH1-20ML	CU10M	CMR1U-10M	FF	BCV27
CS 40	CMSH1-40	CU201	CMR2U-01	FG	BCV47

Marking Codes (Continued)

Marking Code	Part Number	Marking Code	Part Number	Marking Code	Part Number
FG	CMPTA27	ULD	CMPD6001	YP	CMDZ15L
H1	BCW69	ULS	CMPD6001S	YY1	CMPZDA11V
H2	BCW70	UP	CMDZ11L	YY2	CMPZDA12V
H3	BCW89	VP	CMDZ12L	YY3	CMPZDA13V
H7	BCF70	W 6	BZX84C3V3	YY4	CMPZDA15V
K1	BCW71	W 7	BZX84C3V6	YY5	CMPZDA16V
K2	BCW72	W 7W	CMSZDA3V6	YY6	CMPZDA18V
K3	BCW81	W 8	BZX84C3V9	YY7	CMPZDA20V
K7	BCV71	W 8W	CMSZDA3V9	YY8	CMPZDA22A
K8	BCV72	W 9	BZX84C4V3	YY9	CMPZDA24V
K9	BCF81	W 9W	CMSZDA4V3	Z1	BZX84C4V7
L20	CMPD1001	W10	CMPZDA27V	Z1Z	CMSZDA4V7
L21	CMPD1001S	W11	CMPZDA30V	Z2	BZX84C5V1
L22	CMPD1001A	W12	CMPZDA33V	Z2Z	CMSZDA5V1
L51	BAS56	WW7	CMPZDA3V6	Z3	BZX84C5V6
LLA	CMPD3003A	WW8	CMPZDA3V9	Z3Z	CMSZDA5V6
LLC	CMPD3003C	WW9	CMPZDA4V3	Z4	BZX84C6V2
LLO	CMPD3003	X04	CMXD2004	Z4Z	CMSZDA6V2
LLS	CMPD3003S	X48	CMXD4448	Z5	BZX84C6V8
LP	CMDZ5L1	XH3	CMXSH-3	Z5Z	CMSZDA6V8
NP	CMDZ5L6	XP	CMDZ13L	Z6	BZX84C7V5
OP	CMDZ6L2	Y 1	BZX84C11	Z6Z	CMSZDA7V5
P2D	CMPS5064	Y 1Y	CMSZDA11V	Z7	BZX84C8V2
PP	CMDZ6L8	Y 2	BZX84C12	Z7Z	CMSZDA8V2
QP	CMDZ7L5	Y 2Y	CMSZDA12V	Z8	BZX84C9V1
RP	CMDZ8L2	Y 3	BZX84C13	Z8Z	CMSZDA9V1
S1	CMDSH-3	Y 3Y	CMSZDA13V	Z9	BZX84C10
S2	CMDSH2-3	Y 4	BZX84C15	Z9Z	CMSZDA10V
SP	CMDZ9L1	Y 4Y	CMSZDA15V	ZP	CMDZ16L
T1	BCX17	Y 5	BZX84C16	ZZ1	CMPZDA4V7
T2	BCX18	Y 5Y	CMSZDA16V	ZZ2	CMPZDA5V1
T7	BSR15	Y 6	BZX84C18	ZZ3	CMPZDA5V6
T8	BSR16	Y 6Y	CMSZDA18V	ZZ4	CMPZDA6V2
TP	CMDZ10L	Y 7	BZX84C20	ZZ5	CMPZDA6V8
U1	BCX19	Y 7Y	CMSZDA20V	ZZ6	CMPZDA7V5
U2	BCX20	Y 8	BZX84C22	ZZ7	CMPZDA8V2
U7	BSR13	Y 8Y	CMSZDA22V	ZZ8	CMPZDA9V1
U8	BSR14	Y 9	BZX84C24	ZZ9	CMPZDA10V
U9	BSR17	Y 9Y	CMSZDA24V		
U92	BSR17A	Y10	BZX84C27		
ULA	CMPD6001A	Y11	BZX84C30		
ULC	CMPD6001C	Y12	BZX84C33		



Reliability Data - Operating Life

Case	Products	Maximum Failure Rate (FITS) ⁽¹⁾
SOD-80	Switching Diodes, Zener Diodes	360
SOD-123	Switching, Zener & Schottky Diodes	180
SOD-323	Switching, Zener & Schottky Diodes	360
SOD-523	Switching, Zener & Schottky Diodes	360
SMA	General Purpose, High Speed & Schottky Rectifiers	360
SMB	General Purpose, High Speed & Schottky Rectifiers	360
SMC	General Purpose, High Speed & Schottky Rectifiers	300
SOT-23	Transistors, Diodes, MOSFETs	360
SOT-89	Transistors	460
SOT-143	Dual Diodes	360
SOT-223	Transistors	360
SOT-323	Transistors, Diodes	360
SOT-363	Transistors, Diodes	360
SOT-523	Transistors, Diodes	360

(1) 60% Confidence Level

Reliability Data - Environmental

Typical Results for ALL SMD Products

NO.	TEST ITEM	TEST CONDITION	FAILURE RATE
1	HIGH TEMP.	$T_A = 150^\circ\text{C}$, $t=1000$ Hours	0/1200
2	LOW TEMP.	$T_A = -65^\circ\text{C}$, $t=1000$ Hours	0/1200
3	HUMIDITY	$T_A = 85^\circ\text{C}$, RH=85%, $t=1000$ Hours	0/1200
4	TEMPERATURE CYCLING	$150^\circ\text{C}/25^\circ\text{C}/-55^\circ\text{C}$ 15 MIN/<1 MIN/15 MIN 10 CYCLES	0/1200
5	THERMAL SHOCK	LIQUID TO LIQUID $0^\circ\text{C}/100^\circ\text{C}$ 10 CYCLES	0/1200
6	PRESSURE COOKER	$T_A = 121^\circ\text{C}$, $p=15$ PSIG $t=168$ Hours	0/1200
7	SOLDERABILITY	$T_{(\text{SOLDER})} = 245^\circ\text{C}$, $t=5$ SEC.	0/300
8	SOLDER DIP	TOTAL IMMERSION, 265°C , 10 SEC.	0/120



Power Dissipation Data

Power dissipation of a surface mounted discrete semiconductor is dependent on many factors among which are, substrate material/thickness, bonding pad surface area/thickness, and proximity of the device to other components. The most critical of these is substrate material. Due to these variables, power dissipation is listed below as a range.



Power Dissipation

<u>CASE</u>	<u>POWER DISSIPATION RANGE</u>
DKPAK	12.5W - 20W
SOT-23	200mW - 400mW
SOT-89	400mW - 1600mW
SOT-143	200mW - 400mW
SOT-223	1000mW - 2000mW
SOD-80	350mW - 600mW
MELF	900mW - 1200mW
SMA	1000mW - 2000mW
SMB	1000mW - 2000mW

The low end of the power dissipation range relates to device dissipation in ‘free air @ $T_A = 25^\circ\text{C}$.’ The upper end of the range relates to optimum dissipation levels which are attainable when the SMD is mounted on an alumina (ceramic) substrate. Midrange dissipation levels are for traditional glass-epoxy PC boards (FR-4 material). It is important that the design engineer consider all the factors influencing power dissipation for each application.

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Small Signal Transistors U.S Specifications (Preferred Series) SOT-23 Case, 350mW (Continued on next page)

TYPE NO.	BV _{CBO}	BV _{CEO}	BV _{EBO}	I _{CBO} @ V _{CB}		h _{FE}		@ V _{CE} @ I _C		V _{CE} (SAT) @ I _C		C _{ob}	f _T	NF	t _{off}
	(V) MIN	BV _{CE(S)} (V) MIN	(V) MIN	I _{CBO} (nA) MAX	(V) MAX	MIN	MAX	(V)	(mA)	(V)	(mA)	(pF) MAX	(MHz) MIN	(dB) MAX	(ns) MAX

General Purpose Amplifier/Switches Devices are listed in order of descending breakdown voltage.

NPN

CMPT8099	80	80	6.0	100	80	100	300	5.0	1.0	0.4	100	6.0	150	-	-
CMPT2222A	75	40	6.0	10	60	100	300	10.0	150	1.0	500	8.0	300	4.0	285
CMPT3904	60	40	6.0	50*	30	100	300	1.0	10	0.3	50	4.0	300	5.0	250
CMPT4401	60	40	6.0	100*	35	100	300	1.0	150	0.75	500	6.5	200	-	255

PNP

CMPT8599	80	80	5.0	100	80	100	300	5.0	1.0	0.4	100	4.5	150	-	-
CMPT2907A	60	60	5.0	10	50	100	300	10.0	150	1.6	500	8.0	200	-	100
CMPT3906	40	40	5.0	50*	30	100	300	1.0	10	0.4	50	4.5	250	4.0	300
CMPT4403	40	40	5.0	100*	35	100	300	2.0	150	0.75	500	8.5	200	-	255

Saturated Switches Devices are listed in order of descending f_T.

NPN

CMPT2369	40	15	4.5	400	20	40	120	1.0	10	0.25	10	4.0	500	-	18
CMPT3646	40	15	5.0	500*	20	15	-	1.0	300	0.5	300	5.0	350	-	28

PNP

CMPT3640	12	12	4.0	10*	6.0	30	120	0.3	10	0.5	50	3.5	300	-	60
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Low Noise Amplifiers Devices are listed in order of ascending NF.

NPN

CMPT5089	30	25	4.5	50	15	400	1200	5.0	0.1	0.5	10	4.0	50	2.0	-
CMPT930	45	45	5.0	10	45	100	300	5.0	0.01	1.0	10	8.0	30	3.0	-
CMPT2484	60	60	6.0	10	45	250	-	5.0	1.0	0.35	1.0	6.0	-	3.0	-
CMPT5088	35	30	4.5	50	20	300	900	5.0	0.1	0.5	10	4.0	50	3.0	-
CMPT6428	60	50	6.0	10	30	250	650	5.0	0.1	0.6	100	3.0	100	-	-
CMPT6429	55	45	6.0	10	30	500	1,250	5.0	0.1	0.6	100	3.0	100	-	-

PNP

CMPT5087	50	50	3.0	50	35	250	800	5.0	0.1	0.3	10	4.0	40	2.0	-
CMPT5086	50	50	3.0	50	35	150	500	5.0	0.1	0.3	10	4.0	40	3.0	-

High Current Devices are listed in order of descending f_T.

NPN

CMPT3019	120	80	7.0	10	90	100	300	10	150	0.5	500	12	100	4.0	-
CMPTA06	80	80	4.0	100	80	50	-	1.0	100	0.25	100	-	100	-	-

PNP

CMPT4033	80	80	5.0	50	60	100	300	5.0	100	0.5	500	20	100	-	-
CMPTA56	80	80	4.0	100	80	50	-	1.0	100	0.25	100	-	50	-	-



Small Signal Transistors U.S. Specifications (Preferred Series) SOT-23 Case, 350mW (Continued)

TYPE NO.	BVCBO	BVCEO	BVEBO	ICBO @ VCB		hFE		VCES	IC	VCE(SAT) @ IC		COB	fT	NF	toff
	(V) MIN	BVCES (V) MIN	(V) MIN	* ICBO (nA) MAX	(V) MAX	MIN	MAX	(V)	(mA)	(V) MAX	(mA)	(pF) MAX	(MHz) MIN	(dB) MAX	(ns) MAX

High Voltage Devices are listed in order of descending breakdown voltage.

NPN

CMPTA44	450	400	6.0	100	400	30	200	10	10	0.75	50	7.0	20	-	-
CMPT6517	350	350	5.0	50	250	30	200	10	30	1.0	50	6.0	40	-	-
CMPTA42	300	300	6.0	100	200	40	-	10	30	0.5	20	3.0	50	-	-
CMPT5551	180	160	6.0	50	120	80	250	5.0	10	0.2	50	6.0	100	8.0	-

PNP

CMPTA94	450	400	6.0	100	400	50	200	10	10	0.75	50	7.0	20	-	-
CMPT6520	350	350	5.0	50	250	30	200	10	30	1.0	50	6.0	40	-	-
CMPTA92	300	300	5.0	250	200	25	-	10	30	0.5	20	6.0	50	-	-
CMPT5401	160	150	5.0	50	120	60	240	5.0	10	0.5	50	6.0	100	8.0	-

RF Oscillator Devices are listed in order of descending f_T .

NPN

CMPT5179	20	12	2.5	20	15	25	250	1.0	3.0	0.4	10	1.0	900	4.5	-
CMPTH10	30	25	3.0	100	25	60	-	10	4.0	0.5	4.0	0.7	650	-	-
CMPT918	30	15	3.0	10	15	20	-	1.0	3.0	0.4	10	1.7	600	6.0	-

Darlington Devices are listed in order of descending h_{FE} .

NPN

CMPT8427	40	40	12	50	30	20,000	200,000	5.0	100	1.5	500	7.0	130	10	-
CMPTA14	30	30*	10	100	30	20,000	-	5.0	100	1.5	100	-	125	-	-
CMPTA13	30	30*	10	100	30	10,000	-	5.0	100	1.5	100	-	125	-	-
CMPTA27	60	60*	10	100	50	10,000	-	5.0	100	1.5	100	-	125	-	-
CMPTA29	100	100	12	100	80	10,000	-	5.0	100	1.5	100	8.0	125	-	-

PNP

CMPTA64	30	30*	10	100	30	20,000	-	5.0	100	1.5	100	-	125	-	-
CMPTA63	30	30*	10	100	30	10,000	-	5.0	100	1.5	100	-	125	-	-

Chopper Transistor

PNP

CMPT404A	40	35	25	100	10	100	400	0.15	12	0.20	24	40†	-	-	-
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† Typical

NEW

SELECT
GUIDE

NEW



Transistors

SOT-23 Case Proelectron Series 350mW

TYPE NO.	DESCRIPTION	BV _{CEO}	BV _{CEO}	BV _{EBO}	I _{CBO} @ V _{CB}	I _{FE} @ V _{CE} @ I _C		V _{CE} (SAT) @ I _C		C _{ob}	f _T	NF	t _{off}	MARKING	SIMILAR		
		(V) MIN	(V) MIN	(V) MIN	(nA) MAX	(V)	MIN	MAX	(V) (mA)	(V) (mA)	(pF) MAX	(MHz) TYP	(dB) MAX	(ns) MAX	CODE	LEADED DEVICE	
BC807	PNP High Current	50*	45	5.0	100	20	100	600 1.0 100	0.70	500	8.0	100	---	---	BC327		
BC807.16	PNP High Current	50*	45	5.0	100	20	100	250 1.0 100	0.70	500	8.0	100	---	---	BC327.16		
BC807.25	PNP High Current	50*	45	5.0	100	20	160	400 1.0 100	0.70	500	8.0	100	---	5A	BC327.25		
BC807.40	PNP High Current	50*	45	5.0	100	20	250	600 1.0 100	0.70	500	8.0	100	---	5C	BC327.40		
BC808	PNP High Current	30*	25	5.0	100	20	100	600 1.0 100	0.70	500	8.0	100	---	---	BC328		
BC808.16	PNP High Current	30*	25	5.0	100	20	100	250 1.0 100	0.70	500	8.0	100	---	5E	BC328.16		
BC808.25	PNP High Current	30*	25	5.0	100	20	160	400 1.0 100	0.70	500	8.0	100	---	5F	BC328.25		
BC808.40	PNP High Current	30*	25	5.0	100	20	250	600 1.0 100	0.70	500	8.0	100	---	5G	BC328.40		
BC817	NPN High Current	50*	45	5.0	100	20	100	600 1.0 100	0.70	500	5.0	200	---	---	BC337		
BC817.16	NPN High Current	50*	45	5.0	100	20	100	250 1.0 100	0.70	500	5.0	200	---	6A	BC337.16		
BC817.25	NPN High Current	50*	45	5.0	100	20	160	400 1.0 100	0.70	500	5.0	200	---	6B	BC337.25		
BC817.40	NPN High Current	50*	45	5.0	100	20	250	600 1.0 100	0.70	500	5.0	200	---	6C	BC337.40		
BC818	NPN High Current	30*	25	5.0	100	20	100	600 1.0 100	0.70	500	5.0	200	---	---	BC338		
BC818.16	NPN High Current	30*	25	5.0	100	20	100	250 1.0 100	0.70	500	5.0	200	---	6E	BC338.16		
BC818.25	NPN High Current	30*	25	5.0	100	20	160	400 1.0 100	0.70	500	5.0	200	---	6F	BC338.25		
BC818.40	NPN High Current	30*	25	5.0	100	20	250	600 1.0 100	0.70	500	5.0	200	---	6G	BC338.40		
BC846	NPN Low Noise	80	65	6.0	15	30	110	450 5.0 2.0	0.60	100	2.5	300	10	---	BC546		
BC846A	NPN Low Noise	80	65	6.0	15	30	110	220 5.0 2.0	0.60	100	2.5	300	10	---	1A	BC546A	
BC846B	NPN Low Noise	80	65	6.0	15	30	200	450 5.0 2.0	0.60	100	2.5	300	10	---	1B	BC546B	
BC847	NPN Low Noise	50	45	6.0	15	30	110	800 5.0 2.0	0.60	100	2.5	300	10	---	BC547		
BC847A	NPN Low Noise	50	45	6.0	15	30	110	220 5.0 2.0	0.60	100	2.5	300	10	---	1E	BC547A	
BC847B	NPN Low Noise	50	45	6.0	15	30	200	450 5.0 2.0	0.60	100	2.5	300	10	---	1F	BC547B	
BC847C	NPN Low Noise	50	45	6.0	15	30	420	800 5.0 2.0	0.60	100	2.5	300	10	---	1G	BC547C	
BC848	NPN Low Noise	30	30	5.0	15	30	110	800 5.0 2.0	0.60	100	2.5	300	10	---	BC548		
BC848A	NPN Low Noise	30	30	5.0	15	30	110	220 5.0 2.0	0.60	100	2.5	300	10	---	1J	BC548A	
BC848B	NPN Low Noise	30	30	5.0	15	30	200	450 5.0 2.0	0.60	100	2.5	300	10	---	1K	BC548B	
BC848C	NPN Low Noise	30	30	5.0	15	30	420	800 5.0 2.0	0.60	100	2.5	300	10	---	1L	BC548C	
BC849	NPN Low Noise	30	30	5.0	15	30	200	800 5.0 2.0	0.60	100	2.5	300	4.0	---	BC549		
BC849B	NPN Low Noise	30	30	5.0	15	30	200	450 5.0 2.0	0.60	100	2.5	300	4.0	---	2B	BC549B	
BC849C	NPN Low Noise	30	30	5.0	15	30	420	800 5.0 2.0	0.60	100	2.5	300	4.0	---	2C	BC549C	
BC850	NPN Low Noise	50	50	5.0	15	30	200	800 5.0 2.0	0.60	100	2.5	300	3.0	---	BC550		
BC850B	NPN Low Noise	50	50	5.0	15	30	200	450 5.0 2.0	0.60	100	2.5	300	3.0	---	2F	BC550B	
BC850C	NPN Low Noise	50	50	5.0	15	30	420	800 5.0 2.0	0.60	100	2.5	300	3.0	---	2G	BC550C	
BC856	PNP Low Noise	80	65	5.0	15	30	75	800 5.0 2.0	0.65	100	4.5	150	10	---	BC556		
BC856A	PNP Low Noise	80	65	5.0	15	30	125	250 5.0 2.0	0.65	100	4.5	150	10	---	3A	BC556A	
BC856B	PNP Low Noise	80	65	5.0	15	30	220	475 5.0 2.0	0.65	100	4.5	150	10	---	3B	BC556B	
BC857	PNP Low Noise	50	45	5.0	15	30	75	800 5.0 2.0	0.65	100	4.5	150	10	---	BC557		
BC857A	PNP Low Noise	50	45	5.0	15	30	125	250 5.0 2.0	0.65	100	4.5	150	10	---	3E	BC557A	
BC857B	PNP Low Noise	50	45	5.0	15	30	220	475 5.0 2.0	0.65	100	4.5	150	10	---	3F	BC557B	
BC857C	PNP Low Noise	50	45	5.0	15	30	420	800 5.0 2.0	0.65	100	4.5	150	10	---	3G	BC557C	
BC858	PNP Low Noise	30	30	5.0	15	30	75	800 5.0 2.0	0.65	100	4.5	150	10	---	BC558		
BC858A	PNP Low Noise	30	30	5.0	15	30	125	250 5.0 2.0	0.65	100	4.5	150	10	---	3J	BC558A	
BC858B	PNP Low Noise	30	30	5.0	15	30	220	475 5.0 2.0	0.65	100	4.5	150	10	---	3K	BC558B	
BC858C	PNP Low Noise	30	30	5.0	15	30	420	800 5.0 2.0	0.65	100	4.5	150	10	---	3L	BC558C	
BC859	PNP Low Noise	30	30	5.0	15	30	125	800 5.0 2.0	0.65	100	4.5	150	4.0	---	BC559		
BC859A	PNP Low Noise	30	30	5.0	15	30	125	250 5.0 2.0	0.65	100	4.5	150	4.0	---	4A	BC559A	
BC859B	PNP Low Noise	30	30	5.0	15	30	220	475 5.0 2.0	0.65	100	4.5	150	4.0	---	4B	BC559B	
BC859C	PNP Low Noise	30	30	5.0	15	30	420	800 5.0 2.0	0.65	100	4.5	150	4.0	---	4C	BC559C	
BC860	PNP Low Noise	50	45	5.0	15	30	125	800 5.0 2.0	0.65	100	4.5	150	3.0	---	BC560		
BC860A	PNP Low Noise	50	45	5.0	15	30	125	250 5.0 2.0	0.65	100	4.5	150	3.0	---	4E	BC560A	
BC860B	PNP Low Noise	50	45	5.0	15	30	230	475 5.0 2.0	0.65	100	4.5	150	3.0	---	4F	BC560B	
BC860C	PNP Low Noise	50	45	5.0	15	30	420	800 5.0 2.0	0.65	100	4.5	150	3.0	---	4G	BC560C	
BCF29	PNP Low Noise	32	32	5.0	100	32	120	260 5.0 2.0	0.30	10	4.5	150	4.0	---	C7	---	
BCF30	PNP Low Noise	32	32	5.0	100	32	215	500 5.0 2.0	0.30	10	4.5	150	4.0	---	C8	---	
BCF32	NPN Low Noise	32	32	5.0	100	32	200	450 5.0 2.0	0.25	10	2.5	300	4.0	---	D7	---	
BCF33	NPN Low Noise	32	32	5.0	100	32	420	800 5.0 2.0	0.25	10	2.5	300	4.0	---	D8	---	
BCF70	PNP Low Noise	50	45	5.0	100	20	215	500 5.0 2.0	0.30	10	4.5	150	4.0	---	H7	---	
BCF81	NPN Low Noise	50	45	5.0	100	20	420	800 5.0 2.0	0.25	10	2.5	300	4.0	---	K9	---	
BCV26	PNP Darlington	40	30	10	100	30	20,000	---	5.0	100	1.0	100	3.5	220	---	FD	MPSA64
BCV27	NPN Darlington	40	30	10	100	30	20,000	---	5.0	100	1.0	100	3.5	220	---	FF	MPSA14
BCV46	PNP Darlington	80	60	10	100	30	10,000	---	5.0	100	1.0	100	3.5	220	---	FE	MPSA17
BCV47	NPN Darlington	80	60	10	100	30	10,000	---	5.0	100	1.0	100	3.5	220	---	FG	MPSA27
BCV71	NPN Low Noise	80	60	5.0	100	20	110	220 5.0 2.0	0.25	10	2.5	300	10	---	K7	---	
BCV72	NPN Low Noise	80	60	5.0	100	20	200	450 5.0 2.0	0.25	10	2.5	300	10	---	K8	---	
BCW29	PNP Low Noise	32	32	5.0	100	32	120	260 5.0 2.0	0.30	10	4.5	150	10	---	C1	---	
BCW30	PNP Low Noise	32	32	5.0	100	32	215	500 5.0 2.0	0.30	10	4.5	150	10	---	C2	---	
BCW31	NPN Low Noise	32	32	5.0	100	32	110	220 5.0 2.0	0.25	10	2.5	300	10	---	D1	---	
BCW32	NPN Low Noise	32	32	5.0	100	32	200	450 5.0 2.0	0.25	10	2.5	300	10	---	D2	---	
BCW33	NPN Low Noise	32	32	5.0	100	32	420	800 5.0 2.0	0.25	10	2.5	300	10	---	D3	---	

* BV_{CEs}



Transistors

SOT-23 Case Proelectron Series 350mW (Continued)

TYPE NO.	DESCRIPTION	BV _{CBO}	BV _{CEO}	BV _{EBO}	I _{CBO} @ V _{CB}	h _{FE} @ V _{CE} @ I _C		V _{CE (SAT)} @ I _C		C _{ob}	f _T	NF	t _{off}	MARKING	SIMILAR	
		(V) MIN	(V) MIN	(V) MIN	(nA) MAX	MIN	MAX	(V) (mA)	(V) (mA)	(pF) MAX	(MHz) TYP	(dB) MAX	(ns) MAX	CODE	LEADED DEVICE	
BCW60	NPN Low Noise	32*	32	5.0	20	32	130	630	5.0	2.0	0.55	50	2.5	250	6.0	---
BCW60A	NPN Low Noise	32*	32	5.0	20	32	120	220	5.0	2.0	0.55	50	2.5	250	6.0	AA
BCW60B	NPN Low Noise	32*	32	5.0	20*	32	180	310	5.0	2.0	0.55	50	2.5	250	6.0	AB
BCW60C	NPN Low Noise	32*	32	5.0	20*	32	250	460	5.0	2.0	0.55	50	2.5	250	6.0	AC
BCW60D	NPN Low Noise	32*	32	5.0	20*	32	380	630	5.0	2.0	0.55	50	2.5	250	6.0	AD
BCW61	PNP Low Noise	32*	32	5.0	20*	32	120	630	5.0	2.0	0.55	50	4.5	180	6.0	---
BCW61A	PNP Low Noise	32*	32	5.0	20*	32	120	220	5.0	2.0	0.55	50	4.5	180	6.0	BA
BCW61B	PNP Low Noise	32*	32	5.0	20*	32	180	310	5.0	2.0	0.55	50	4.5	180	6.0	BB
BCW61C	PNP Low Noise	32*	32	5.0	20*	32	250	460	5.0	2.0	0.55	50	4.5	180	6.0	BC
BCW61D	PNP Low Noise	32*	32	5.0	20*	32	380	630	5.0	2.0	0.55	50	4.5	180	6.0	BD
BCW65	NPN High Current	60	32	5.0	20	32	100	630	1.0	100	0.70	500	6.0	170	---	---
BCW65A	NPN High Current	60	32	5.0	20	32	100	250	1.0	100	0.70	500	6.0	170	---	EA
BCW65B	NPN High Current	60	32	5.0	20	32	160	400	1.0	100	0.70	500	6.0	170	---	EB
BCW65C	NPN High Current	60	32	5.0	20	32	250	630	1.0	100	0.70	500	6.0	170	---	EC
BCW66	NPN High Current	75	45	5.0	20	45	100	630	1.0	100	0.70	500	6.0	170	---	---
BCW66F	NPN High Current	75	45	5.0	20	45	100	250	1.0	100	0.70	500	6.0	170	---	EF
BCW66G	NPN High Current	75	45	5.0	20	45	160	400	1.0	100	0.70	500	6.0	170	---	EG
BCW66H	NPN High Current	75	45	5.0	20	45	250	630	1.0	100	0.70	500	6.0	170	---	EH
BCW67	PNP High Current	45	32	5.0	20	32	100	630	1.0	100	0.70	500	6.0	200	---	---
BCW67A	PNP High Current	45	32	5.0	20	32	100	250	1.0	100	0.70	500	6.0	200	---	DA
BCW67B	PNP High Current	45	32	5.0	20	32	160	400	1.0	100	0.70	500	6.0	200	---	DB
BCW67C	PNP High Current	45	32	5.0	20	32	250	630	1.0	100	0.70	500	6.0	200	---	DC
BCW68	PNP High Current	60	45	5.0	20	45	100	630	1.0	100	0.70	500	6.0	200	---	---
BCW68F	PNP High Current	60	45	5.0	20	45	100	250	1.0	100	0.70	500	6.0	200	---	DF
BCW68G	PNP High Current	60	45	5.0	20	45	160	400	1.0	100	0.70	500	6.0	200	---	DG
BCW68H	PNP High Current	60	45	5.0	20	45	250	630	1.0	100	0.70	500	6.0	200	---	DH
BCW69	PNP Low Noise	50	45	5.0	100	20	120	260	5.0	2.0	0.30	10	4.5	150	10	H1
BCW70	PNP Low Noise	50	45	5.0	100	20	215	500	5.0	2.0	0.30	10	4.5	150	10	H2
BCW71	NPN Low Noise	50	45	5.0	100	20	110	220	5.0	2.0	0.25	10	2.5	300	10	K1
BCW72	NPN Low Noise	50	45	5.0	100	20	200	450	5.0	2.0	0.25	10	2.5	300	10	K2
BCW81	NPN Low Noise	50	45	5.0	100	20	420	800	5.0	2.0	0.25	10	2.5	300	10	K3
BCW89	NPN Low Noise	80	60	5.0	100	20	120	260	5.0	2.0	0.30	10	4.5	150	10	H3
BCX17	PNP High Current	50*	45	5.0	100	20	100	600	1.0	100	0.62	500	8.0	100	---	T1
BCX18	PNP High Current	50*	25	5.0	100	20	100	600	1.0	100	0.62	500	8.0	100	---	T2
BCX19	NPN High Current	50*	45	5.0	100	20	100	600	1.0	100	0.62	500	5.0	200	---	U1
BCX20	NPN High Current	30*	25	5.0	100	20	100	600	1.0	100	0.62	500	5.0	200	---	U2
BCX70	NPN Low Noise	45	45	5.0	20*	45	120	630	5.0	2.0	0.55	50	2.5	250	6.0	---
BCX70G	NPN Low Noise	45*	45	5.0	20*	45	120	220	5.0	2.0	0.55	50	2.5	250	6.0	AG
BCX70H	NPN Low Noise	45*	45	5.0	20*	45	180	310	5.0	2.0	0.55	50	2.5	250	6.0	AH
BCX70J	NPN Low Noise	45*	45	5.0	20*	45	250	460	5.0	2.0	0.55	50	2.5	250	6.0	AJ
BCX70K	NPN Low Noise	45*	45	5.0	20*	45	380	630	5.0	2.0	0.55	50	2.5	250	6.0	AK
BCX71	PNP Low Noise	45*	45	5.0	20*	45	120	630	5.0	2.0	0.55	50	4.5	180	6.0	---
BCX71G	PNP Low Noise	45*	45	5.0	20*	45	120	220	5.0	2.0	0.55	50	4.5	180	6.0	BG
BCX71H	PNP Low Noise	45*	45	5.0	20*	45	180	310	5.0	2.0	0.55	50	4.5	180	6.0	BH
BCX71J	PNP Low Noise	45*	45	5.0	20*	45	250	460	5.0	2.0	0.55	50	4.5	180	6.0	BJ
BCX71K	PNP Low Noise	45*	45	5.0	20*	45	380	630	5.0	2.0	0.55	50	4.5	180	6.0	BK
BSR13	NPN AMPL/Switch	60	40	5.0	30	50	100	300	10	150	1.60	500	8.0	250 (min)	---	2N2222A
BSR14	NPN AMPL/Switch	75	40	6.0	10	60	100	300	10	150	1.00	500	8.0	300 (min)	---	2N2222A
BSR15	PNP AMPL/Switch	60	40	5.0	20	50	100	300	10	150	1.60	500	8.0	200 (min)	---	100
BSR16	PNP AMPL/Switch	60	60	5.0	10	50	100	300	10	150	1.60	500	8.0	200 (min)	---	100
BSR17	NPN AMPL/Switch	60	40	6.0	50	30	50	150	1.0	10	0.30	50	4.0	250 (min)	---	225
BSR17A	NPN AMPL/Switch	60	40	6.0	50	30	100	300	1.0	10	0.30	50	4.0	300 (min)	---	250
BSV52	NPN Sat Switch	20	12	5.0	100	10	40	120	1.0	10	0.40	50	4.0	500	---	18

* BV_{CES}

* I_{CES}



Small Signal MOSFET

SOT-23 Case

TYPE NO.	I _{DS(ON)} @ I _D		V _{GS(th)}		BV _{DSS}	C _{iss}	C _{rss}	t _{on}	t _{off}
	MAX	(A)	MIN	MAX	(V) MIN	(pF) MAX	(pF) MAX	(ns) MAX	(ns) MAX
2N7002	7.5	0.5	1.0	2.5	60	50	5.0	20	20

SELECT
GUIDE



Junction FETs SOT-23 Case

TYPE NO.	BV _{GSS}	I _{DSS}		V _{GS(OFF)}		I _{DS(ON)}	NF **TYP	t _{off}
	(V)	(mA)		(V)				
	MIN	MIN	MAX	MIN	MAX			

Amplifiers N Channel

CMPF4416A	35	5.0	15	2.5	6.0	-	2.0	-
CMPF5484*	25	1.0	5.0	0.3	3.0	-	3.0	-
CMPF5485	25	4.0	10	0.5	4.0	-	2.0	-
CMPF5486*	25	8.0	20	2.0	6.0	-	2.0	-
CMPFJ310*	25	24	60	2.0	6.5	-	1.5**	-

P Channel

CMPF5460*	40	1.0	5.0	0.75	6.0	-	2.5	-
CMPF5461*	40	2.0	9.0	1.0	7.5	-	2.5	-
CMPF5462*	40	4.0	16.0	1.8	9.0	-	2.5	-

Switches/Choppers

N Channel

CMPF4391	40	50	150	4.0	10	30	-	20
CMPF4392	40	25	75	2.0	5.0	60	-	35
CMPF4393	40	5.0	30	0.5	3.0	100	-	50

P Channel

CMPFJ174*	30	2.0	100	5.0	10	85	-	-
CMPFJ175*	30	7.0	60	3.0	6.0	125	-	-
CMPFJ176*	30	2.0	25	1.0	4.0	250	-	-

* Available on Special order, consult factory



Small Signal Transistors SOT-323 Case, 250mW

SUPERTM
mini

TYPE NO.	BV _{CBO}	BV _{CEO}	BV _{EBO}	I _{CBO} @ V _{CB}	h _{FE}	@ V _{CE}		V _{CE(SAT)} @ I _c	C _{ob}	f _T	NF	t _{off}
	(V)	(V)	(V)	* I _{CEV}		(V)	(mA)					
	MIN	MIN	MIN	MAX		MIN	MAX					

Amplifier/Switch

NPN

CMST2222A	75	40	6.0	10	60	100	300	10	150	1.0	500	8.0	300	4.0	
CMST3904	60	40	6.0	50*	30	100	300	1.0	10	0.3	50	4.0	300	5.0	

PNP

CMST2907A	60	60	5.0	10	50	100	300	10	150	1.6	500	8.0	200	-	
CMST3906	40	40	5.0	50*	30	100	300	1.0	10	0.4	50	4.5	250	4.0	

Low Noise Amplifiers

NPN

CMST5089	30	25	4.5	50	15	400	1200	5.0	0.1	0.5	10	4.0	50	2.0	-
CMST5088	35	30	4.5	50	20	300	900	5.0	0.1	0.5	10	4.0	50	3.0	-

PNP

CMST5087	50	50	3.0	50	35	250	800	5.0	0.1	0.3	10	4.0	40	2.0	-
CMST5086	50	50	3.0	50	35	150	500	5.0	0.1	0.3	10	4.0	40	3.0	-





Small Signal Transistors

SOT-89 Case, 1.2W

TYPE NO.	BV _{CBO}	BV _{CEO}	BV _{EBO}	I _{CBO} @ V _{CB}		h _{FE}		@ V _{CE}	@ I _C	V _{CE} (SAT) @ I _C		C _{ob}	f _T	NF	t _{off}
	(V)	BV _{CES} (V)	(V)	I _{CBO} (nA)	(V)	MIN	MAX	(V)	(mA)	(V)	(mA)	(pF)	f _T TYP (MHz)	(dB)	(ns)
	MIN	MIN	MIN	MAX						MAX		MAX	MIN	MAX	MAX

General Purpose Amplifier/Switches Devices are listed in order of descending breakdown voltage.

NPN

CXT2222A	75	40	6.0	10	60	100	300	10	150	1.0	500	8.0	300	4.0	285
CXT3904	60	40	6.0	50*	30	100	300	1.0	10	0.3	50	4.0	300	5.0	250

PNP

CXT2907A	60	60	5.0	10	50	100	300	10	150	1.6	500	8.0	200	-	100
CXT3906	60	40	6.0	50*	30	100	300	1.0	10	0.3	50	4.0	300	5.0	250

High Current Devices are listed in order of descending breakdown voltage.

NPN

CXT3019	140	80	7.0	10	90	100	300	10	150	0.5	500	12	100	4.0	-
CBCX68	25	20	5.0	100	25	85	375	1.0	500	0.5	1,000	-	65	-	-

PNP

CXT4033	80	80	5.0	50	60	100	300	5.0	100	0.5	500	20	100	-	-
CBCX69	25	20	5.0	100	25	85	375	1.0	500	0.5	1,000	-	65	-	-

High Voltage Devices are listed in order of descending breakdown voltage.

NPN

CXTA44	450	400	6.0	100	400	50	200	10	10	0.75	50	7.0	20	-	-
CXTA42	300	300	6.0	100	200	40	-	10	30	0.5	20	4.0	50	-	-
CXT5551	180	160	6.0	50	120	80	250	5.0	10	0.2	50	6.0	100	8.0	-

PNP

CXTA92	300	300	5.0	250	200	25	-	10	30	0.5	20	6.0	50	-	-
CXT5401	160	150	5.0	50	120	60	240	5.0	10	0.5	50	6.0	100	8.0	-

SELECT
GUIDE

Darlington Devices are listed in order of descending h_{FE}.

NPN

CXTA14	30	30*	10	100	30	20,000	-	5.0	100	1.5	100	-	125	-	-
CXTA27	60	60*	10	100	50	10,000	-	5.0	100	1.5	100	-	-	-	-

PNP

CXTA64	30	30*	10	100	30	20,000	-	5.0	100	1.5	100	-	100	-	-
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Shaded areas indicate Darlington.



Power Transistors

SOT-89 Case, 1.2W

TYPE NO.	I _C	P _D	BV _{CBO}	BV _{CEO}	h _{FE}		@ I _C	V _{CE} (SAT)	@ I _C	f _T
	(A)	(W)	(V)	(V)	MIN	MAX	(A)	(V)	(A)	↑ TYP (MHz)
	MAX		MIN	MIN				MAX		
CXT3150	5.0	1.2	50	25	150	---	2.0	0.5	4.0	150 ↑



POWERTM
89

CentralTM
Semiconductor Corp.



Small Signal Transistors SOT-223 Case, 2.0W

TYPE NO.	BV _{CB0}	BV _{CEO}	BV _{EBO}	I _{CBO} @ V _{CB}		h _{FE}		@ V _{CE}	@ I _C	V _{CE} (SAT) @ I _C		C _{ob}	f _T	NF	t _{off}
	(V) MIN	*BV _{CES} (V) MIN	(V) MIN	*I _{CBO} (nA) MAX	(V) MAX	MIN	MAX	(V)	(mA)	(V) MAX	(mA) MAX	(pF) MAX	(MHz) MIN	(dB) MAX	(ns) MAX

General Purpose Amplifier/Switches Devices are listed in order of descending breakdown voltage.

NPN

CZT2222A	75	40	6.0	10	60	100	300	10	150	1.0	500	8.0	300	4.0	285
CZT3904	60	40	6.0	50*	30	100	300	1.0	10	0.3	50	4.0	300	5.0	250

PNP

CZT2907A	60	60	5.0	10	50	100	300	10	150	1.6	500	8.0	200	-	100
CZT3906	60	40	6.0	50*	30	100	300	1.0	10	0.3	50	4.0	300	5.0	250

High Current Devices are listed in order of descending breakdown voltage.

NPN

CZT3019	120	80	7.0	10	90	100	300	10	150	0.5	500	12	100	4.0	-
CZT651	80	60	5.0	100	80	75	-	2.0	1.0	0.5	2,000	-	75	-	-
CBCP68	25	20	5.0	100	25	85	375	1.0	500	0.5	1,000	-	65	-	-

PNP

CZT4033	80	80	5.0	50	60	100	300	5.0	100	0.5	500	20	100	-	-
CZT751	80	60	5.0	100	80	75	-	2.0	1.0	0.5	2,000	-	75	-	-
CBCP69	25	20	5.0	100	25	85	375	1.0	500	0.5	1,000	-	65	-	-

High Voltage Devices are listed in order of descending breakdown voltage.

NPN

CZTA44	450	400	6.0	100	400	50	200	10	10	0.75	50	7.0	20	-	-
CZTA42	300	300	6.0	100	200	40	-	10	30	0.5	20	4.0	50	-	-
CZT5551	180	160	6.0	50	120	80	250	5.0	10	0.2	50	6.0	100	8.0	-

PNP

CZTA92	300	300	5.0	250	200	25	-	10	30	0.5	200	6.0	50	-	-
CZT5401	160	150	5.0	50	120	60	240	5.0	10	0.5	50	6.0	100	8.0	-

Darlington Devices are listed in order of descending h_{FE}.

NPN

CZT900K	50	25	10	100	30	900,000	-	5.0	100	1.5	100	-	125	-	-
CZT250K	50	25	10	100	30	250,000	-	5.0	100	1.5	100	-	125	-	-
CZTA14	30	30*	10	100	30	20,000	-	5.0	100	1.5	100	-	125	-	-
CZTA27	80	60	10	100	50	10,000	-	-	100	1.5	100	-	125	-	-
CZT2000	200	200*	10	500	180	3,000	-	5.0	160	1.1	80	-	-	-	-

PNP

CZTA64	30	30*	10	100	30	20,000	-	5.0	100	1.5	100	-	125	-	-
CZTA77	60	60*	10	500	50	10,000	-	5.0	100	1.5	100	-	125	-	-

Shaded areas indicate Darlington.

Note: SOT-223 also mounts directly on DPAK solder pads



Power Transistors SOT-223 Case

POWER
223TM

A Power Transistor Chip in a Small signal Package

TYPE NO.		I _C	P _D	BV _{CBO}	BV _{CEO}	h _{FE}		@ I _C	V _{CE (SAT)} @ I _C		f _T
NPN	PNP	(A) MAX	(W)	(V) MIN	(V) MIN	MIN	MAX	(A)	(V) MAX	(A)	TYP (MHz) MIN

Amplifier/Switches

CZT31C	CZT32C	3.0	2.0	100	100	10	100	3.0	1.2	3.0	3.0
CZT3055	CZT2955	6.0	2.0	100	70	20	70	4.0	1.1	4.0	2.5

High Current Switches

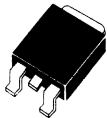
CZT5338		5.0	2.0	100	100	30	120	2.0	1.2	5.0	3.0
CZT3150		5.0	2.0	50	25	150	---	2.0	0.5	4.0	150 [†]

Darlington

CZT122	CZT127	5.0	2.0	100	100	1,000	—	3.0	4.0	5.0	4.0
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Shaded areas indicate Darlington.

Note: SOT-223 also mounts directly on DPAK solder pads



Power Transistors DPAK Case

DPAK
POWER!TM

TYPE NO.		I _C	P _D	BV _{CBO}	BV _{CEO}	h _{FE}		@ I _C	V _{CE (SAT)} @ I _C		f _T
NPN	PNP	(A) MAX	(W)	(V) MIN	(V) MIN	MIN	MAX	(A)	(V) MAX	(A)	(MHz) MIN

General Purpose Amplifier/Switches

Devices are listed in order of descending breakdown voltage.

CJD31C	CJD32C	3.0	15	100	100	10	50	3.0	1.2	3.0	3.0
CJD41C	CJD42C	6.0	20	100	100	15	75	3.0	1.5	6.0	3.0
CJD44H11	CJD45H11	8.0	20	80	80	40	---	4.0	1.0	8.0	50*
CJD3055	CJD2955	10	20	70	60	20	100	4.0	1.1	4.0	2.0
CJD200	CJD210	5.0	12.5	40	25	45	180	2.0	1.8	5.0	65

High Voltage

Devices are listed in order of descending breakdown voltage.

CJD13003		1.5	15	700*	400	5.0	25	1.0	3.0	1.5	4.0
CJD50		1.0	15	500	400	30	150	0.3	1.0	1.0	10
CJD340	CJD350	0.5	15	300	300	30	240	0.05	---	---	---
CJD47		1.0	15	350	250	30	150	0.3	1.0	1.0	10

Darlington

CJD112	CJD117	2.0	20	100	100	1,000	12,000	2.0	2.0	2.0	25
CJD122	CJD127	8.0	20	100	100	1,000	12,000	4.0	4.0	8.0	4.0

Shaded areas indicate Darlington.

**SELECT
GUIDE**

Switching Diodes

TYPE NO.	DESCRIPTION	V _{RRM}	I _F	V _F @ I _F		t _{rr}
		(V) MAX	(mA) MAX	(V) MAX	(mA)	(ns) MAX

SOD-523 Case

CMOD2004	HIGH VOLTAGE SWITCHING DIODE	300	225	1.0	100	50
CMOD4448	SWITCHING DIODE	100	250	1.0	100	4.0

SOD-323 Case

CMDD2004	HIGH VOLTAGE SWITCHING DIODE	300	225	1.0	100	50
CMDD4448	SWITCHING DIODE	100	250	1.0	100	4.0

SOT-323 Case. Devices are listed in order of ascending breakdown voltage.

CMSD2836	DUAL SWITCHING DIODE, COMMON ANODE	75	200	1.0	50	6.0
CMSD2838	DUAL SWITCHING DIODE, COMMON CATHODE	75	200	1.0	50	6.0
CMSD7000	DUAL SWITCHING DIODE, IN SERIES	100	200	1.1	100	15
CMSD4448	SINGLE SWITCHING DIODE	100	200	1.0	100	4.0
CMSD2004S	DUAL SWITCHING DIODE, IN SERIES	300	200	1.0	100	4.0

SOT-23 Case. Devices are listed in order of ascending breakdown voltage.

CMPD4150	SINGLE SWITCHING DIODE	50	300	1.0	200	4.0
CMPD2836	DUAL SWITCHING DIODE, COMMON ANODE	75	200	1.0	50	6.0
CMPD2838	DUAL SWITCHING DIODE, COMMON CATHODE	75	200	1.0	50	6.0
CMPD1001	SINGLE HIGH CURRENT DIODE	90	250	1.0	200	50
CMPD1001A	DUAL HIGH CURRENT DIODE, COMMON ANODE	90	250	1.0	200	50
CMPD1001S	DUAL HIGH CURRENT, IN SERIES	90	250	1.0	200	50
CMPD914	SINGLE SWITCHING DIODE	100	200	1.0	10	4.0
CMPD4448	SINGLE SWITCHING DIODE	100	200	1.0	100	4.0
CMPD7000	DUAL SWITCHING DIODE, IN SERIES	100	200	1.1	100	15
CMPD5001	SINGLE INDUCTIVE LOAD DIODE	120	400	1.0	200	50
CMPD5001S	DUAL INDUCTIVE LOAD DIODE, IN SERIES	120	400	1.0	200	50
CMPD2003	SINGLE HIGH VOLTAGE SWITCHING DIODE	250	200	1.0	100	50
CMPD2003C	DUAL SWITCHING DIODE, COMMON CATHODE	250	200	1.0	100	50
CMPD2003S	DUAL SWITCHING DIODE, IN SERIES	250	200	1.0	100	50
CMPD2004	SINGLE HIGH VOLTAGE SWITCHING DIODE	300	200	1.0	100	50
CMPD2004C	DUAL SWITCHING DIODE, COMMON CATHODE	300	200	1.0	100	50
CMPD2004S	DUAL HIGH VOLTAGE SWITCHING DIODE, IN SERIES	300	200	1.0	100	50

SOD-123 Case. Devices are listed in order of ascending breakdown voltage.

CMHD4448	SINGLE SWITCHING DIODE	100	200	1.0	100	4.0
CMHD2003	SINGLE HIGH VOLTAGE SWITCHING DIODE	250	250	1.0	100	50

SOT-143 Case. Devices are listed in order of ascending breakdown voltage.

BAS56	ISOLATED, DUAL HIGH CURRENT DIODE	60	200	1.0	200	6.0
BAS28	DUAL SWITCHING DIODE, ISOLATED	85	250	1.0	50	6.0
BAW101	ISOLATED, DUAL SWITCHING DIODE, HIGH VOLTAGE	300	200	1.3	100	50
CMFD2004i	ISOLATED, DUAL SWITCHING DIODE, HIGH VOLTAGE	300	225	1.0	100	50



Triple Isolated Diodes



SOT-26 Case

TYPE NO.	DESCRIPTION	V _{RRM}	I _F	V _F @ I _F		C _T	t _{rr}	MARKING CODE
		(V) MAX	(mA) MAX	(V) MAX	(mA) MAX	(pF) MAX	(ns) MAX	
CMXSH-3	3 x Schottky Diodes	30	100	0.36*	15	7.0*	5.0	XH3
CMXD4448	3 x Switching Diodes	100	250	1.0	100	4.0	4.0	X48
CMXD2004	3 x High Voltage Switching Diodes	300	225	1.0	100	5.0	50	X04

* Typical

Schottky Diodes

TYPE NO.	CONFIGURATION	V _{RRM}	I _F	V _F @ I _F		t _{rr}	C _T
		(V) MAX	(mA) MAX	(V) MAX	(mA) MAX	(ns) MAX	(pF) MAX



SOD-323 Case

High Current

CMDSH-3	SINGLE, HIGH CURRENT	30	100*	0.55	50	5.0	7.0*
CMDSH2-3	SINGLE, HIGH CURRENT	30	200*	0.55	200	-	15*



SOT-323 Case

High Current

CMSSH-3	SINGLE	30	100	0.45	15	5.0	7.0*
CMSSH-3A	DUAL, COMMON ANODE	30	100	0.45	15	5.0	7.0*
CMSSH-3C	DUAL, COMMON CATHODE	30	100	0.45	15	5.0	7.0*
CMSSH-3S	DUAL, IN SERIES	30	100	0.45	15	5.0	7.0*



SOT-23 Case

Low Current

CMPD6263	SINGLE	70	15	0.41	1.0	1.0	2.0
CMPD6263A	DUAL, COMMON ANODE	70	15	0.41	1.0	1.0	2.0
CMPD6263C	DUAL, COMMON CATHODE	70	15	0.41	1.0	1.0	2.0
CMPD6263S	DUAL, IN SERIES	70	15	0.41	1.0	1.0	2.0

High Current

CMPSH-3	SINGLE	30	100	0.45	15	5.0	7.0*
CMPSH-3A	DUAL, COMMON ANODE	30	100	0.45	15	5.0	7.0*
CMPSH-3C	DUAL, COMMON CATHODE	30	100	0.45	15	5.0	7.0*
CMPSH-3S	DUAL, IN SERIES	30	100	0.45	15	5.0	7.0*



SOT-143 Case

High Current

CMFSH-3i	DUAL, ISOLATED	30	100	0.45	15	5.0	7.0*
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SOD-123 Case

High Current

CMHSH-3	SINGLE	30	100	0.45	15	5.0	7.0*
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SELECT
GUIDE

Low Leakage Diodes

TYPE NO.	CONFIGURATION	VRRM	Io	Ir @	VRWN	Vf @ If		CT
		(V) MAX	(mA) MAX	(nA) MAX	(V)	(V) MAX	(mA) MAX	(pF) MAX



SOD-80 Case

Low Leakage

CLL457A	Single	70	200	25	60	1.0	100	6.0
CLL459A	Single	200	200	25	175	1.0	100	8.0
CLL3595	Single	150	150	1.0	125	1.0	200	8.0



SOT-23 Case

Low Leakage, High Voltage



CMPD3003	Single	200	200	1.0	125	1.1	200	4.0
CMPD3003A	Dual Common Anode	200	200	1.0	125	1.1	200	4.0
CMPD3003C	Dual Common Cathode	200	200	1.0	125	1.1	200	4.0
CMPD3003S	Dual, In Series	200	200	1.0	125	1.1	200	4.0



SOT-23 Case

Ultra Low Leakage



CMPD6001	Single	100	250	0.5	75	1.1	100	2.0
CMPD6001A	Dual Common Anode	100	250	0.5	75	1.1	100	2.0
CMPD6001C	Dual Common Cathode	100	250	0.5	75	1.1	100	2.0
CMPD6001S	Dual, In Series	100	250	0.5	75	1.1	100	2.0






Stabistor Diode

SOT-23 Case

TYPE NO.	Vf		@If	Vf		@If	Vf		@If	Vf		@If	Vf		@If
	MIN	MAX	(mA)	MIN	MAX	(mA)	MIN	MAX	(mA)	MIN	MAX	(mA)	MIN	MAX	(mA)
CBAS17	0.58	0.68	0.1	0.665	0.76	1.0	0.725	0.82	5.0	0.75	0.84	10	0.87	0.96	100


Zener Diodes (Continued on next page)

POWER		250 mW										
												
CASE		SOD-523				SOD-323				SOT-232		
ZENER VOLTAGE	INDUSTRY STANDARD	@ I _{ZT} = (mA)	LOW LEVEL SHARP KNEE	@ I _{ZT} = (μA)	INDUSTRY STANDARD	@ I _{ZT} = (mA)	LOW LEVEL SHARP KNEE	@ I _{ZT} = (μA)	INDUSTRY STANDARD	@ I _{ZT} = (mA)	DUAL, COMMON ANODE	@ I _{ZT} = (mA)
1.8												
2.0												
2.2												
2.4	CMOZ2V4	5.0	CMOZ2L4	250	CMDZ5221B	20	CMDZ2L4	500	CMSZ5221B	20		
2.5	CMOZ2V5	5.0	CMOZ2L5	250	CMDZ5222B	20	CMDZ2L5	500	CMSZ5222B	20		
2.7	CMOZ2V7	5.0	CMOZ2L7	250	CMDZ5223B	20	CMDZ2L7	500	CMSZ5223B	20		
2.8	CMOZ2V8	5.0	CMOZ2L8	250	CMDZ5224B	20	CMDZ2L8	500	CMSZ5224B	20		
3.0	CMOZ3V0	5.0	CMOZ3L0	250	CMDZ5225B	20	CMDZ3L0	500	CMSZ5225B	20	CMSZDA3V0*	5.0
3.3	CMOZ3V3	5.0	CMOZ3L3	250	CMDZ5226B	20	CMDZ3L3	500	CMSZ5226B	20	CMSZDA3V3*	5.0
3.6	CMOZ3V6	5.0	CMOZ3L6	250	CMDZ5227B	20	CMDZ3L6	500	CMSZ5227B	20	CMSZDA3V6*	5.0
3.9	CMOZ3V9	5.0	CMOZ3L9	250	CMDZ5228B	20	CMDZ3L9	500	CMSZ5228B	20	CMSZDA3V9	5.0
4.3	CMOZ4V3	5.0	CMOZ4L3	250	CMDZ5229B	20	CMDZ4L3	500	CMSZ5229B	20	CMSZDA4V3	5.0
4.7	CMOZ4V7	5.0	CMOZ4L7	250	CMDZ5230B	20	CMDZ4L7	500	CMSZ5230B	20	CMSZDA4V7	5.0
5.1	CMOZ5V1	5.0	CMOZ5L1	250	CMDZ5231B	20	CMDZ5L1	500	CMSZ5231B	20	CMSZDA5V1	5.0
5.6	CMOZ5V6	5.0	CMOZ5L6	250	CMDZ5232B	20	CMDZ5L6	500	CMSZ5232B	20	CMSZDA5V6	5.0
6.0					CMDZ5233B	20			CMSZ5233B	20		
6.2	CMOZ6V2	5.0	CMOZ6L2	250	CMDZ5234B	20	CMDZ6L2	500	CMSZ5234B	20	CMSZDA6V2	5.0
6.8	CMOZ6V8	5.0	CMOZ6L8	250	CMDZ5235B	20	CMDZ6L8	500	CMSZ5235B	20	CMSZDA6V8	5.0
7.5	CMOZ7V5	5.0	CMOZ7L5	250	CMDZ5236B	20	CMDZ7L5	500	CMSZ5236B	20	CMSZDA7V5	5.0
8.2	CMOZ8V2	5.0	CMOZ8L2	250	CMDZ5237B	20	CMDZ8L2	500	CMSZ5237B	20	CMSZDA8V2	5.0
8.7					CMDZ5238B	20			CMSZ5238B	20		
9.1	CMOZ9V1	5.0	CMOZ9L1	250	CMDZ5239B	20	CMDZ9L1	500	CMSZ5239B	20	CMSZDA9V1	5.0
10	CMOZ10V	5.0	CMOZ10L	250	CMDZ5240B	20	CMDZ10L	500	CMSZ5240B	20	CMSZDA10V	5.0
11	CMOZ11V	5.0	CMOZ11L	250	CMDZ5241B	20	CMDZ11L	500	CMSZ5241B	20	CMSZDA11V	5.0
12	CMOZ12V	5.0	CMOZ12L	250	CMDZ5242B	20	CMDZ12L	500	CMSZ5242B	20	CMSZDA12V	5.0
13	CMOZ13V	5.0	CMOZ13L	250	CMDZ5243B	9.5	CMDZ13L	500	CMSZ5243B	9.5	CMSZDA13V	5.0
14					CMDZ5244B	9.0			CMSZ5244B	9.0		
15	CMOZ15V	5.0	CMOZ15L	250	CMDZ5245B	8.5	CMDZ15L	500	CMSZ5245B	8.5	CMSZDA15V	5.0
16	CMOZ16V	5.0	CMOZ16L	250	CMDZ5246B	7.8	CMDZ16L	500	CMSZ5246B	7.8	CMSZDA16V	5.0
17					CMDZ5247B	7.4			CMSZ5247B	7.4		
18	CMOZ18V	5.0	CMOZ18L	250	CMDZ5248B	7.0	CMDZ18L	500	CMSZ5248B	7.0	CMSZDA18V	5.0
19					CMDZ5249B	6.6			CMSZ5249B	6.6		
20	CMOZ20V	5.0	CMOZ20L	250	CMDZ5250B	6.2	CMDZ20L	500	CMSZ5250B	6.2	CMSZDA20V	5.0
22	CMOZ22V	5.0	CMOZ22L	250	CMDZ5251B	5.6	CMDZ22L	500	CMSZ5251B	5.6	CMSZDA22V	5.0
24	CMOZ24V	5.0	CMOZ24L	250	CMDZ5252B	5.2	CMDZ24L	500	CMSZ5252B	5.2	CMSZDA24V	5.0
25					CMDZ5253B	5.0			CMSZ5253B	5.0		
27	CMOZ27V	5.0	CMOZ27L	250	CMDZ5254B	4.6	CMDZ27L	500	CMSZ5254B	4.6	CMSZDA27V	2.0
28					CMDZ5255B	4.5			CMSZ5255B	4.5		
30	CMOZ30V	5.0	CMOZ30L	250	CMDZ5256B	4.2	CMDZ30L	500	CMSZ5256B	4.2	CMSZDA30V	2.0
33	CMOZ33V	5.0	CMOZ33L	250	CMDZ5257B	3.8	CMDZ33L	500	CMSZ5257B	3.8	CMSZDA33V	2.0
36	CMOZ36V	5.0	CMOZ36L	250	CMDZ5258B	3.4	CMDZ36L	500	CMSZ5258B	3.4		
39	CMOZ39V	5.0	CMOZ39L	250	CMDZ5259B	3.2			CMSZ5259B	3.2		
43	CMOZ43V	5.0	CMOZ43L	250	CMDZ5260B	3.0			CMSZ5260B	3.0		
47					CMDZ5261B	2.7			CMSZ5261B	2.7		

* Available on special order; please consult factory.





Zener Diodes (Continued on next page)

POWER		350 mW								
										
CASE	PREFERRED	SOT-23								
ZENER VOLTAGE	INDUSTRY STANDARD	@I _{ZT} = (mA)	LOW NOISE LOW LEVEL	@I _{ZT} = (μA)	LOW LEVEL	@I _{ZT} = (μA)	PROELECTRON SPECIFICATION	@I _{ZT} = (mA)	DUAL, COMMON ANODE	@I _{ZT} = (mA)
1.6			CMPZ4614*	250	CMPZ4678*	50				
2.0			CMPZ4615*	250	CMPZ4679*	50				
2.2			CMPZ4616*	250	CMPZ4680*	50				
2.4	CMPZ5221B	20	CMPZ4617*	250	CMPZ4681*	50	BZX84C2V4	5.0		
2.5	CMPZ5222B	20								
2.7	CMPZ5223B	20	CMPZ4618*	250	CMPZ4682*	50	BZX84C2V7	5.0	CMPZDA2V7	5.0
2.8	CMPZ5224B	20								
3.0	CMPZ5225B	20	CMPZ4619	250	CMPZ4683	50	BZX84C3V0	5.0		
3.3	CMPZ5226B	20	CMPZ4620	250	CMPZ4684	50	BZX84C3V3	5.0		
3.6	CMPZ5227B	20	CMPZ4621*	250	CMPZ4685	50	BZX84C3V6	5.0	CMPZDA3V6	5.0
3.9	CMPZ5228B	20	CMPZ4622*	250	CMPZ4686*	50	BZX84C3V9	5.0	CMPZDA3V9	5.0
4.3	CMPZ5229B	20	CMPZ4623*	250	CMPZ4687	50	BZX84C4V3	5.0	CMPZDA4V3	5.0
4.7	CMPZ5230B	20	CMPZ4624*	250	CMPZ4688	50	BZX84C4V7	5.0	CMPZDA4V7	5.0
5.1	CMPZ5231B	20	CMPZ4625	250	CMPZ4689	50	BZX84C5V1	5.0	CMPZDA5V1	5.0
5.6	CMPZ5232B	20	CMPZ4626	250	CMPZ4690	50	BZX84C5V6	5.0	CMPZDA5V6	5.0
6.0	CMPZ5233B	20								
6.2	CMPZ5234B	20	CMPZ4627	250	CMPZ4691	50	BZX84C6V2	5.0	CMPZDA6V2	5.0
6.8	CMPZ5235B	20	CMPZ4099*	250	CMPZ4692	50	BZX84C6V8	5.0	CMPZDA6V8	5.0
7.5	CMPZ5236B	20	CMPZ4100*	250	CMPZ4693	50	BZX84C7V5	5.0	CMPZDA7V5	5.0
8.2	CMPZ5237B	20	CMPZ4101*	250	CMPZ4694	50	BZX84C8V2	5.0	CMPZDA8V2	5.0
8.7	CMPZ5238B	20	CMPZ4102*	250	CMPZ4695	50				
9.1	CMPZ5239B	20	CMPZ4103*	250	CMPZ4696	50	BZX84C9V1	5.0	CMPZDA9V1	5.0
10	CMPZ5240B	20	CMPZ4104*	250	CMPZ4697	50	BZX84C10	5.0	CMPZDA10V	5.0
11	CMPZ5241B	20	CMPZ4105*	250	CMPZ4698	50	BZX84C11	5.0	CMPZDA11V	5.0
12	CMPZ5242B	20	CMPZ4106*	250	CMPZ4699	50	BZX84C12	5.0	CMPZDA12V	5.0
13	CMPZ5243B	9.5	CMPZ4107*	250	CMPZ4700	50	BZX84C13	5.0	CMPZDA13V	5.0
14	CMPZ5244B	9.0	CMPZ4108*	250	CMPZ4701	50				
15	CMPZ5245B	8.5	CMPZ4109*	250	CMPZ4702	50	BZX84C15	5.0	CMPZDA15V	5.0
16	CMPZ5246B	7.8	CMPZ4110*	250	CMPZ4703	50	BZX84C16	5.0	CMPZDA16V	5.0
17	CMPZ5247B	7.4	CMPZ4111*	250	CMPZ4704	50				
18	CMPZ5248B	7.0	CMPZ4112*	250	CMPZ4705	50	BZX84C18	5.0	CMPZDA18V	5.0
19	CMPZ5249B	6.6	CMPZ4113*	250	CMPZ4706	50				
20	CMPZ5250B	6.2	CMPZ4114*	250	CMPZ4707	50	BZX84C20	5.0	CMPZDA20V	5.0
22	CMPZ5251B	5.6	CMPZ4115*	250	CMPZ4708	50	BZX84C22	5.0	CMPZDA22V	5.0
24	CMPZ5252B	5.2	CMPZ4116*	250	CMPZ4709	50	BZX84C24	5.0	CMPZDA24V	5.0
25	CMPZ5253B	5.0	CMPZ4117*	250	CMPZ4710	50				
27	CMPZ5254B	4.6	CMPZ4118*	250	CMPZ4711	50	BZX84C27	2.0	CMPZDA27V	2.0
28	CMPZ5255B	4.5	CMPZ4119*	250	CMPZ4712	50				
30	CMPZ5256B	4.2	CMPZ4120*	250	CMPZ4713	50	BZX84C30	2.0	CMPZDA30V	2.0
33	CMPZ5257B	3.8	CMPZ4121*	250	CMPZ4714	50	BZX84C33	2.0	CMPZDA33V	2.0
36	CMPZ5258B	3.4	CMPZ4122*	250	CMPZ4715	50				
39	CMPZ5259B	3.2	CMPZ4123*	250	CMPZ4716*	50				
43	CMPZ5260B	3.0	CMPZ4124*	250	CMPZ4717*	50				
47	CMPZ5261B	2.7								
51							BZX84C51	2.0		

* Available on special order; please consult factory.




Zener Diodes (Continued on next page)

POWER		500 mW										
CASE		 SOD-123					 SOD-80					
ZENER VOLTAGE	INDUSTRY STANDARD	@I _{ZT} = (mA)	LOW LEVEL	@I _{ZT} = (μA)	LOW LEVEL LOW NOISE	@I _{ZT} = (μA)	INDUSTRY STANDARD	@I _{ZT} = (mA)	LOW LEVEL LOW NOISE	@I _{ZT} = (μA)	LOW LEVEL	@I _{ZT} = (μA)
1.8			CMH-Z4678	50	CMH-Z4614	250			CLL4614	250	CLL4678	50
2.0			CMH-Z4679	50	CMH-Z4615*	250			CLL4615*	250	CLL4679	50
2.2			CMH-Z4680	50	CMH-Z4616*	250			CLL4616*	250	CLL4680	50
2.4			CMH-Z4681	50	CMH-Z4617*	250			CLL4617*	250	CLL4681	50
2.5												
2.7			CMH-Z4682	50	CMH-Z4618*	250			CLL4618*	250	CLL4682	50
2.8												
3.0	CMHZ5225B	20	CMH-Z4683	50	CMH-Z4619	250	CLL5225B		CLL4619	250	CLL4683	50
3.3	CMHZ5226B	20	CMH-Z4684	50	CMH-Z4620	250	CLL5226B	20	CLL4620	250	CLL4684	50
3.6	CMHZ5227B	20	CMH-Z4685	50	CMH-Z4621*	250	CLL5227B	20	CLL4621*	250	CLL4685	50
3.9	CMHZ5228B	20	CMH-Z4686	50	CMH-Z4622*	250	CLL5228B	20	CLL4622*	250	CLL4686	50
4.3	CMHZ5229B	20	CMH-Z4687	50	CMH-Z4623*	250	CLL5229B	20	CLL4623*	250	CLL4687	50
4.7	CMHZ5230B	20	CMH-Z4688	50	CMH-Z4624*	250	CLL5230B	20	CLL4624*	250	CLL4688	50
5.1	CMHZ5231B	20	CMH-Z4689	50	CMH-Z4625*	250	CLL5231B	20	CLL4625*	250	CLL4689	50
5.6	CMHZ5232B	20	CMH-Z4690	50	CMH-Z4626*	250	CLL5232B	20	CLL4626*	250	CLL4690	50
6.0	CMHZ5233B	20				250	CLL5233B	20		250		
6.2	CMHZ5234B	20	CMH-Z4691	50	CMH-Z4627	250	CLL5234B	20	CLL4627	250	CLL4691	50
6.8	CMHZ5235B	20	CMH-Z4692	50	CMH-Z4099*	250	CLL5235B	20	CLL4099*	250	CLL4692	50
7.5	CMHZ5236B	20	CMH-Z4693	50	CMH-Z4100*	250	CLL5236B	20	CLL4100*	250	CLL4693	50
8.2	CMHZ5237B	20	CMH-Z4694	50	CMH-Z4101*	250	CLL5237B	20	CLL4101*	250	CLL4694	50
8.7	CMHZ5238B	20	CMH-Z4695	50	CMH-Z4102*	250	CLL5238B	20	CLL4102*	250	CLL4695	50
9.1	CMHZ5239B	20	CMH-Z4696	50	CMH-Z4103*	250	CLL5239B	20	CLL4103*	250	CLL4696	50
10	CMHZ5240B	20	CMH-Z4697	50	CMH-Z4104*	250	CLL5240B	20	CLL4104*	250	CLL4697	50
11	CMHZ5241B	20	CMH-Z4698	50	CMH-Z4105*	250	CLL5241B	20	CLL4105*	250	CLL4698	50
12	CMHZ5242B	20	CMH-Z4699	50	CMH-Z4106*	250	CLL5242B	20	CLL4106*	250	CLL4699	50
13	CMHZ5243B	9.5	CMH-Z4700	50	CMH-Z4107*	250	CLL5243B	9.5	CLL4107*	250	CLL4700	50
14	CMHZ5244B	9.0	CMH-Z4701	50	CMH-Z4108*	250	CLL5244B	9.0	CLL4108*	250	CLL4701	50
15	CMHZ5245B	8.5	CMH-Z4702	50	CMH-Z4109*	250	CLL5245B	8.5	CLL4109*	250	CLL4702	50
16	CMHZ5246B	7.8	CMH-Z4703	50	CMH-Z4110*	250	CLL5246B	7.8	CLL4110*	250	CLL4703	50
17	CMHZ5247B	7.4	CMH-Z4704	50	CMH-Z4111*	250	CLL5247B	7.4	CLL4111*	250	CLL4704	50
18	CMHZ5248B	7.0	CMH-Z4705	50	CMH-Z4112*	250	CLL5248B	7.0	CLL4112*	250	CLL4705	50
19	CMHZ5249B	6.6	CMH-Z4706	50	CMH-Z4113*	250	CLL5249B	6.6	CLL4113*	250	CLL4706	50
20	CMHZ5250B	6.2	CMH-Z4707	50	CMH-Z4114*	250	CLL5250B	6.2	CLL4114*	250	CLL4707	50
22	CMHZ5251B	5.6	CMH-Z4708	50	CMH-Z4115*	250	CLL5251B	5.6	CLL4115*	250	CLL4708	50
24	CMHZ5252B	5.2	CMH-Z4709	50	CMH-Z4116*	250	CLL5252B	5.2	CLL4116*	250	CLL4709	50
25	CMHZ5253B	5.0	CMH-Z4710	50	CMH-Z4117*	250	CLL5253B	5.0	CLL4117*	250	CLL4710	50
27	CMHZ5254B	4.6	CMH-Z4711	50	CMH-Z4118*	250	CLL5254B	4.6	CLL4118*	250	CLL4711	50
28	CMHZ5255B	4.5	CMH-Z4712	50	CMH-Z4119*	250	CLL5255B	4.5	CLL4119*	250	CLL4712	50
30	CMHZ5256B	4.2	CMH-Z4713	50	CMH-Z4120*	250	CLL5256B	4.2	CLL4120*	250	CLL4713	50
33	CMHZ5257B	3.8	CMH-Z4714	50	CMH-Z4121*	250	CLL5257B	3.8	CLL4121*	250	CLL4714	50
36	CMHZ5258B	3.4	CMH-Z4715	50	CMH-Z4122*	250	CLL5258B		CLL4122*	250	CLL4715	50
39	CMHZ5259B	3.2	CMH-Z4716	50	CMH-Z4123*	250	CLL5259B		CLL4123*	250	CLL4716	50
43	CMHZ5260B	3.0	CMH-Z 4717	50	CMH-Z4124*	250	CLL5260B		CLL4124*	250	CLL4717	50
47	CMHZ5261B	2.7			CMH-Z 4125*	250	CLL5261B		CLL4125*	250		
51	CMHZ5262B	2.5					CLL5262B					
56	CMHZ5263B	2.2					CLL5263B					
60	CMHZ5264B	2.1					CLL5264B					
62	CMHZ5265B	2.0										

SELECT GUIDE

* Available on special order; please consult factory.

Zener Diodes (Continued)

POWER	1.0 W		1.5 W		5.0 W	
CASE						
ZENER VOLTAGE	GENERAL PURPOSE	@I _{ZT} = (mA)	1.5W ZENER 200W TVS	@I _{ZT} = (mA)	HIGH POWER	@I _{ZT} = (mA)
3.6	CLL4729A	69				
3.9	CLL4730A	64				
4.3	CLL4731A	58				
4.7	CLL4732A	53				
5.1	CLL4733A	49				
5.6	CLL4734A	45				
6.2	CLL4735A	41				
6.8	CLL4736A	37	CMZ5921B*	55.1	CMZ5342B*	175
7.5	CLL4737A	34	CMZ5922B*	50.0	CMZ5343B*	175
8.2	CLL4738A	31	CMZ5923B*	45.7	CMZ5344B*	150
8.7					CMZ5345B*	150
9.1	CLL4739A	28	CMZ5924B*	41.2	CMZ5346B*	150
10	CLL4740A	25	CMZ5925B	37.5	CMZ5347B	125
11	CLL4741A	23	CMZ5926B	34.1	CMZ5348B	125
12	CLL4742A	21	CMZ5927B	31.2	CMZ5349B	100
13	CLL4743A	19	CMZ5928B	28.8	CMZ5350B	100
14					CMZ5351B	100
15	CLL4744A	17	CMZ5929B	25.0	CMZ5352B	75
16	CLL4745A	15.5	CMZ5930B	23.4	CMZ5353B	75
17					CMZ5354B	70
18	CLL4746A	14.0	CMZ5931B	20.8	CMZ5355B	65
19					CMZ5356B	65
20	CLL4747A	12.5	CMZ5932B	18.7	CMZ5357B	65
22	CLL4748A	11.5	CMZ5933B	17.0	CMZ5358B	50
24	CLL4749A	10.5	CMZ5934B	15.6	CMZ5359B	50
25					CMZ5360B	50
27	CLL4750A	9.5	CMZ5935B	13.9	CMZ5361B	50
28					CMZ5362B	50
30	CLL4751A	8.5	CMZ5936B	12.5	CMZ5363B	40
33	CLL4752A	7.5	CMZ5937B	11.4	CMZ5364B	40
36	CLL4753A	7.0	CMZ5938B	10.4	CMZ5365B	30
39	CLL4754A*	6.5	CMZ5939B	9.6	CMZ5366B	30
43	CLL4755A	6.0	CMZ5940B	8.7	CMZ5367B	30
47	CLL4756A	5.5	CMZ5941B	8.0	CMZ5368B	25
51	CLL4757A*	5.0	CMZ5942B	7.3	CMZ5369B	25
56	CLL4758A	4.5	CMZ5943B	6.7	CMZ5370B	20
60					CMZ5371B	20
62	CLL4759A	4.0	CMZ5944B	6.0	CMZ5372B	20
68	CLL4760A	3.7	CMZ5945B	5.5	CMZ5373B	20
75	CLL4761A*	3.3	CMZ5946B	5.0	CMZ5374B	20
82	CLL4762A	3.0	CMZ5947B	4.6	CMZ5375B	15
87					CMZ5376B	15
91	CLL4763A	2.8	CMZ5948B	4.1	CMZ5377B	15
100	CLL4764A	2.5	CMZ5949B	3.7	CMZ5378B	12
110			CMZ5950B	3.4	CMZ5379B	12
120			CMZ5951B	3.1	CMZ5380B	10
130			CMZ5952B	2.9	CMZ5381B	10
140					CMZ5382B	8.0
150			CMZ5953B	2.5	CMZ5383B	8.0
160			CMZ5954B	2.3	CMZ5384B	8.0
170					CMZ5385B	8.0
180			CMZ5955B	2.1	CMZ5386B	5.0
190					CMZ5387B	5.0
200			CMZ5956B	1.9	CMZ5388B	5.0

* Available on special order; please consult factory.

Current Limiting Diodes



SOD-80 Case

MAXIMUM RATINGS ($T_L = 75^\circ\text{C}$)	SYMBOL		UNITS
Peak Operating Voltage	POV	100	V
Power Dissipation	P_D	800	mW
Operation and Storage Junction Temperature	T_J, T_{stg}	-65 to +200	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

TYPE NO.	REGULATOR CURRENT (1)			DYNAMIC IMPEDANCE	KNEE IMPEDANCE	LIMITING VOLTAGE
	$I_p @ V_T = 25\text{V}$			$Z_T @ V_T = 25\text{V}$	$Z_K @ V_K = 6.0\text{V}$	$V_L @ I_L = 0.8 I_p \text{ MIN}$
	MIN	NOM	MAX	($\text{M}\Omega$) MIN	($\text{M}\Omega$) MIN	(V) MAX
CCLM0035	0.010	0.035	0.060	8.0	4.00	0.4
CCLM0130	0.050	0.130	0.210	6.0	2.00	0.6
CCLM0300	0.200	0.310	0.420	4.0	1.00	0.8
CCLM0500	0.400	0.515	0.630	2.0	0.50	1.1
CCLM0750	0.600	0.760	0.920	1.0	0.20	1.4
CCLM1000	0.880	1.100	1.320	0.65	0.10	1.7
CCLM1500	1.280	1.500	1.720	0.45	0.07	2.0
CCLM2000	1.680	2.000	2.320	0.35	0.05	2.3
CCLM2700	2.280	2.690	3.100	0.30	0.03	2.7
CCLM3500	3.000	3.550	4.100	0.25	0.02	3.2
CCLM4500	3.900	4.500	5.100	0.20	0.01	3.7
CCLM5750	5.000	5.750	6.500	0.05	0.005	4.0



High Current, Current Limiting Diodes

SOD-80 Case

MAXIMUM RATINGS ($T_L = 75^\circ\text{C}$)	SYMBOL		UNITS
Peak Operating Voltage	POV	50	V
Power Dissipation	P_D	800	mW
Operation and Storage Junction Temperature	T_J, T_{stg}	-65 to +200	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

TYPE NO.	REGULATOR CURRENT (1)			DYNAMIC IMPEDANCE	KNEE IMPEDANCE	LIMITING VOLTAGE
	$I_p @ V_T = 25\text{V}$			$Z_T @ V_T = 25\text{V}$	$Z_K @ V_K = 6.0\text{V}$	$V_L @ I_L = 0.8 I_p \text{ MIN}$
	MIN	NOM	MAX	($\text{M}\Omega$) MIN	($\text{K}\Omega$) MIN	(V) MAX
CCLHM080	6.56	8.2	9.84	0.32	15	3.1
CCLHM100	8.00	10	12	0.17	6.0	3.5
CCLHM120	9.60	12	14.4	0.08	3.0	3.8
CCLHM150	12	15	18	0.03	2.0	4.3

* The Temperature Coefficient is measured between the following points: +25 $^\circ\text{C}$, +50 $^\circ\text{C}$

(1) TESTED USING THE PULSE METHOD. $\left(\text{PULSE WIDTH (ms)} = \frac{27.5}{I_p \text{ NOM (mA)}} \right)$

SELECT
GUIDE

Transient Voltage Suppressors

Specified by

STAND-OFF VOLTAGE





POWER	600 W				1500 W				3000 W	
CASE	 SMB				 SMC				 †	
STAND-OFF VOLTAGE	@T =		@T =		@T =		@T =		@T =	
	UNI-POLAR	(mA)	BI-POLAR	(mA)	UNI-POLAR	(mA)	BI-POLAR	(mA)	UNI-POLAR†	(mA)
5.0	1SMB5.0A	10	1SMB5.0CA	10	1SMC5.0A	10	1SMC5.0CA	10	3SMC5.0A	10
6.0	1SMB6.0A	10	1SMB6.0CA	10	1SMC6.0A	10	1SMC6.0CA	10	3SMC6.0A	10
6.5	1SMB6.5A	10	1SMB6.5CA	10	1SMC6.5A	10	1SMC6.5CA	10	3SMC6.5A	10
7.0	1SMB7.0A	10	1SMB7.0CA	10	1SMC7.0A	10	1SMC7.0CA	10	3SMC7.0A	10
7.5	1SMB7.5A	1.0	1SMB7.5CA	1.0	1SMC7.5A	1.0	1SMC7.5CA	1.0	3SMC7.5A	1.0
8.0	1SMB8.0A	1.0	1SMB8.0CA	1.0	1SMC8.0A	1.0	1SMC8.0CA	1.0	3SMC8.0A	1.0
8.5	1SMB8.5A	1.0	1SMB8.5CA	1.0	1SMC8.5A	1.0	1SMC8.5CA	1.0	3SMC8.5A	1.0
9.0	1SMB9.0A	1.0	1SMB9.0CA	1.0	1SMC9.0A	1.0	1SMC9.0CA	1.0	3SMC9.0A	1.0
10	1SMB10A	1.0	1SMB10CA	1.0	1SMC10A	1.0	1SMC10CA	1.0	3SMC10A	1.0
11	1SMB11A	1.0	1SMB11CA	1.0	1SMC11A	1.0	1SMC11CA	1.0	3SMC11A	1.0
12	1SMB12A	1.0	1SMB12CA	1.0	1SMC12A	1.0	1SMC12CA	1.0	3SMC12A	1.0
13	1SMB13A	1.0	1SMB13CA	1.0	1SMC13A	1.0	1SMC13CA	1.0	3SMC13A	1.0
14	1SMB14A	1.0	1SMB14CA	1.0	1SMC14A	1.0	1SMC14CA	1.0	3SMC14A	1.0
15	1SMB15A	1.0	1SMB15CA	1.0	1SMC15A	1.0	1SMC15CA	1.0	3SMC15A	1.0
16	1SMB16A	1.0	1SMB16CA	1.0	1SMC16A	1.0	1SMC16CA	1.0	3SMC16A	1.0
17	1SMB17A	1.0	1SMB17CA	1.0	1SMC17A	1.0	1SMC17CA	1.0	3SMC17A	1.0
18	1SMB18A	1.0	1SMB18CA	1.0	1SMC18A	1.0	1SMC18CA	1.0	3SMC18A	1.0
20	1SMB20A	1.0	1SMB20CA	1.0	1SMC20A	1.0	1SMC20CA	1.0	3SMC20A	1.0
22	1SMB22A	1.0	1SMB22CA	1.0	1SMC22A	1.0	1SMC22CA	1.0	3SMC22A	1.0
24	1SMB24A	1.0	1SMB24CA	1.0	1SMC24A	1.0	1SMC24CA	1.0	3SMC24A	1.0
26	1SMB26A	1.0	1SMB26CA	1.0	1SMC26A	1.0	1SMC26CA	1.0	3SMC26A	1.0
28	1SMB28A	1.0	1SMB28CA	1.0	1SMC28A	1.0	1SMC28CA	1.0	3SMC28A	1.0
30	1SMB30A	1.0	1SMB30CA	1.0	1SMC30A	1.0	1SMC30CA	1.0	3SMC30A	1.0
33	1SMB33A	1.0	1SMB33CA	1.0	1SMC33A	1.0	1SMC33CA	1.0	3SMC33A	1.0
36	1SMB36A	1.0	1SMB36CA	1.0	1SMC36A	1.0	1SMC36CA	1.0	3SMC36A	1.0
40	1SMB40A	1.0	1SMB40CA	1.0	1SMC40A	1.0	1SMC40CA	1.0	3SMC40A	1.0
43	1SMB43A	1.0	1SMB43CA	1.0	1SMC43A	1.0	1SMC43CA	1.0	3SMC43A	1.0
45	1SMB45A	1.0	1SMB45CA	1.0	1SMC45A	1.0	1SMC45CA	1.0	3SMC45A	1.0
48	1SMB48A	1.0	1SMB48CA	1.0	1SMC48A	1.0	1SMC48CA	1.0	3SMC48A	1.0
51	1SMB51A	1.0	1SMB51CA	1.0	1SMC51A	1.0	1SMC51CA	1.0	3SMC51A	1.0
54	1SMB54A	1.0	1SMB54CA	1.0	1SMC54A	1.0	1SMC54CA	1.0	3SMC54A	1.0
58	1SMB58A	1.0	1SMB58CA	1.0	1SMC58A	1.0	1SMC58CA	1.0	3SMC58A	1.0
60	1SMB60A	1.0	1SMB60CA	1.0	1SMC60A	1.0	1SMC60CA	1.0	3SMC60A	1.0
64	1SMB64A	1.0	1SMB64CA	1.0	1SMC64A	1.0	1SMC64CA	1.0	3SMC64A	1.0
70	1SMB70A	1.0	1SMB70CA	1.0	1SMC70A	1.0	1SMC70CA	1.0	3SMC70A	1.0
75	1SMB75A	1.0	1SMB75CA	1.0	1SMC75A	1.0	1SMC75CA	1.0	3SMC75A	1.0
78	1SMB78A	1.0	1SMB78CA	1.0	1SMC78A	1.0	1SMC78CA	1.0	3SMC78A	1.0
85	1SMB85A	1.0	1SMB85CA	1.0	1SMC85A	1.0	1SMC85CA	1.0	3SMC85A	1.0
90	1SMB90A	1.0	1SMB90CA	1.0	1SMC90A	1.0	1SMC90CA	1.0	3SMC90A	1.0
100	1SMB100A	1.0	1SMB100CA	1.0	1SMC100A	1.0	1SMC100CA	1.0	3SMC100A	1.0
110	1SMB110A	1.0	1SMB110CA	1.0	1SMC110A	1.0	1SMC110CA	1.0	3SMC110A	1.0
120	1SMB120A	1.0	1SMB120CA	1.0	1SMC120A	1.0	1SMC120CA	1.0	3SMC120A	1.0
130	1SMB130A	1.0	1SMB130CA	1.0	1SMC130A	1.0	1SMC130CA	1.0	3SMC130A	1.0
150	1SMB150A	1.0	1SMB150CA	1.0	1SMC150A	1.0	1SMC150CA	1.0	3SMC150A	1.0
160	1SMB160A	1.0	1SMB160CA	1.0	1SMC160A	1.0	1SMC160CA	1.0	3SMC160A	1.0
170	1SMB170A	1.0	1SMB170CA	1.0	1SMC170A	1.0	1SMC170CA	1.0	3SMC170A	1.0

† 3000 Watt 3SMC5.0CA Bi-polar series in SMC case also available. Replace A suffix with CA suffix.

Transient Voltage Suppressors

Specified by
**BREAKDOWN
VOLTAGE**





POWER	600 W				1500 W			
CASE	 SMB				 SMC			
BREAKDOWN VOLTAGE	@T =		@T =		@T =		@T =	
	UNI-POLAR	(mA)	BI-POLAR	(mA)	UNI-POLAR	(mA)	BI-POLAR	(mA)
6.8	P6SMB6.8A	10	P6SMB6.8CA	10	1.5SMC6.8A	10	1.5SMC6.8CA	10
7.5	P6SMB7.5A	10	P6SMB7.5CA	10	1.5SMC7.5A	10	1.5SMC7.5CA	10
8.2	P6SMB8.2A	10	P6SMB8.2CA	10	1.5SMC8.2A	10	1.5SMC8.2CA	10
9.1	P6SMB9.1A	1.0	P6SMB9.1CA	10	1.5SMC9.1A	10	1.5SMC9.1CA	10
10	P6SMB10A	1.0	P6SMB10CA	1.0	1.5SMC10A	1.0	1.5SMC10CA	1.0
11	P6SMB11A	1.0	P6SMB11CA	1.0	1.5SMC11A	1.0	1.5SMC11CA	1.0
12	P6SMB12A	1.0	P6SMB12CA	1.0	1.5SMC12A	1.0	1.5SMC12CA	1.0
13	P6SMB13A	1.0	P6SMB13CA	1.0	1.5SMC13A	1.0	1.5SMC13CA	1.0
15	P6SMB15A	1.0	P6SMB15CA	1.0	1.5SMC15A	1.0	1.5SMC15CA	1.0
16	P6SMB16A	1.0	P6SMB16CA	1.0	1.5SMC16A	1.0	1.5SMC16CA	1.0
18	P6SMB18A	1.0	P6SMB18CA	1.0	1.5SMC18A	1.0	1.5SMC18CA	1.0
20	P6SMB20A	1.0	P6SMB20CA	1.0	1.5SMC20A	1.0	1.5SMC20CA	1.0
22	P6SMB22A	1.0	P6SMB22CA	1.0	1.5SMC22A	1.0	1.5SMC22CA	1.0
24	P6SMB24A	1.0	P6SMB24CA	1.0	1.5SMC24A	1.0	1.5SMC24CA	1.0
27	P6SMB27A	1.0	P6SMB27CA	1.0	1.5SMC27A	1.0	1.5SMC27CA	1.0
30	P6SMB30A	1.0	P6SMB30CA	1.0	1.5SMC30A	1.0	1.5SMC30CA	1.0
33	P6SMB33A	1.0	P6SMB33CA	1.0	1.5SMC33A	1.0	1.5SMC33CA	1.0
36	P6SMB36A	1.0	P6SMB36CA	1.0	1.5SMC36A	1.0	1.5SMC36CA	1.0
39	P6SMB39A	1.0	P6SMB39CA	1.0	1.5SMC39A	1.0	1.5SMC39CA	1.0
43	P6SMB43A	1.0	P6SMB43CA	1.0	1.5SMC43A	1.0	1.5SMC43CA	1.0
47	P6SMB47A	1.0	P6SMB47CA	1.0	1.5SMC47A	1.0	1.5SMC47CA	1.0
51	P6SMB51A	1.0	P6SMB51CA	1.0	1.5SMC51A	1.0	1.5SMC51CA	1.0
56	P6SMB56A	1.0	P6SMB56CA	1.0	1.5SMC56A	1.0	1.5SMC56CA	1.0
62	P6SMB62A	1.0	P6SMB62CA	1.0	1.5SMC62A	1.0	1.5SMC62CA	1.0
68	P6SMB68A	1.0	P6SMB68CA	1.0	1.5SMC68A	1.0	1.5SMC68CA	1.0
75	P6SMB75A	1.0	P6SMB75CA	1.0	1.5SMC75A	1.0	1.5SMC75CA	1.0
82	P6SMB82A	1.0	P6SMB82CA	1.0	1.5SMC82A	1.0	1.5SMC82CA	1.0
91	P6SMB91A	1.0	P6SMB91CA	1.0	1.5SMC91A	1.0	1.5SMC91CA	1.0
100	P6SMB100A	1.0	P6SMB100CA	1.0	1.5SMC100A	1.0	1.5SMC100CA	1.0
110	P6SMB110A	1.0	P6SMB110CA	1.0	1.5SMC110A	1.0	1.5SMC110CA	1.0
120	P6SMB120A	1.0	P6SMB120CA	1.0	1.5SMC120A	1.0	1.5SMC120CA	1.0
130	P6SMB130A	1.0	P6SMB130CA	1.0	1.5SMC130A	1.0	1.5SMC130CA	1.0
150	P6SMB150A	1.0	P6SMB150CA	1.0	1.5SMC150A	1.0	1.5SMC150CA	1.0
160	P6SMB160A	1.0	P6SMB160CA	1.0	1.5SMC160A	1.0	1.5SMC160CA	1.0
170	P6SMB170A	1.0	P6SMB170CA	1.0	1.5SMC170A	1.0	1.5SMC170CA	1.0
180	P6SMB180A	1.0	P6SMB180CA	1.0	1.5SMC180A	1.0	1.5SMC180CA	1.0
200	P6SMB200A	1.0	P6SMB200CA	1.0	1.5SMC200A	1.0	1.5SMC200CA	1.0

**SELECT
GUIDE**

Rectifiers, General Purpose

0.5 to 3.0 Amperes

200 to 1000 Volts


I_O (AMPS)	0.5	1.0		2.0	3.0
@ T_A (°C)	25	25	25	25	25
I_{FSM} (AMPS)	10	30	30	60	200
CASE	 SOD-80	 SMA	 SMB		 SMC
V_{RRM} (VOLTS)					
200	CLLRH-02	CMR1-02M	CMR1-02	CMR2-02	CMR3-02
400	CLLRH-04	CMR1-04M	CMR1-04	CMR2-04	CMR3-04
600	CLLRH-06	CMR1-06M	CMR1-06	CMR2-06	CMR3-06
1000		CMR1-10M	CMR1-10	CMR2-10	CMR3-10

V_F MAX @ $I_F = I_O$	1.1V	1.1V	1.1V	1.1V	1.2V
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I_R MAX @ V_{RRM}	2.0 μ A	5.0 μ A	10 μ A	5.0 μ A	5.0 μ A
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Rectifiers, Fast Recovery

1.0 Ampere
200 to 1000 Volts

I_O (AMPS)	1.0
@ T_A (°C)	25
I_{FSM} (AMPS)	30
CASE	 SMA
V_{RRM} (VOLTS)	
200	CMR1F-02M
400	CMR1F-04M
600	CMR1F-06M
1000	CMR1F-10M

V_F MAX @ $I_F = I_O$	1.3V
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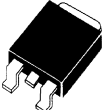
I_R MAX @ V_{RRM}	5.0 μ A
t_{rr} (200V)	150ns
t_{rr} (400V)	150ns
t_{rr} (600V)	250ns
t_{rr} (1000V)	500ns

SELECT
GUIDE

Rectifiers, Ultra Fast

1.0 to 3.0 Amperes

100 to 1000 Volts

I_O (AMPS)	1.0		2.0	3.0	
@ T_A (°C)	25	25	25	25	25
I_{FSM} (AMPS)	30	30	50	150	75
CASE	 SMA	 SMB	 SMC	 DPAK	
V_{RRM} (VOLTS)					SINGLE
100	CMR1U-01M	CMR1U-01	CMR2U-01	CMR3U-01	
200	CMR1U-02M	CMR1U-02	CMR2U-02	CMR3U-02	CUD3-02
400	CMR1U-04M	CMR1U-04	CMR2U-04	CMR3U-04	
600	CMR1U-06M	CMR1U-06	CMR2U-06	CMR3U-06	
1000	CMR1U-10M	CMR1U-10		CMR3U-10	

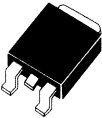
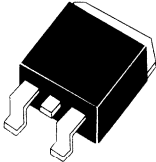
V_F MAX @ $f = I_O$					
100V	1.0V	1.0V	1.0V	1.0V	
200V	1.0V	1.0V	1.0V	1.0V	1.25V @ 12A
400V	1.25V	1.25V	1.25V	1.25V	
600V	1.4V	1.4V	1.4V	1.4V	
1000V	1.7V	1.7V		1.7V	

I_R MAX @ V_{RRM}	5.0 μ A	5.0 μ A	10 μ A	5.0 μ A	20 μ A
t_{TR} (100V thru 200V)	35ns	50ns	50ns	50ns	35ns
t_{TR} (400V)	50ns	50ns	50ns	50ns	
t_{TR} (600V)	75ns	100ns	50ns	100ns	
t_{TR} (1000V)	100ns	100ns		100ns	

Rectifiers, Ultra Fast

6.0 to 16 Amperes

100 to 800 Volts

I_O (AMPS)	6.0	8.0	16
@ T_A (°C)	25	25	25
I_{FSM} (AMPS)	75		
CASE	 DPAK	 D ² PAK	
	DUAL	SINGLE	DUAL
V_{RRM} (VOLTS)			
200	CUD6-02C	CUDD8-02	CUDD16-02C
400		CUDD8-04	CUDD16-04C
800		CUDD8-08	CUDD16-08C

V_F MAX @ $I_F = I_O$			
200V	1.25@10A	0.975V	0.975V @ 8.0A
400V		1.3V	1.3V @ 8.0A
800V		1.5V	1.5V @ 8.0A

I_R MAX @ V_{RRM}	20 μ A	5 μ A*	5 μ A*
t_{rr} (100V thru 200V)	35ns	25ns	25ns
t_{rr} (400V)		25ns	25ns
t_{rr} (800V)		50ns	50ns


* 20 Volt device

SELECT
GUIDE

Rectifiers, Super Fast

1.0 Ampere

100 to 200 Volts


I_O (AMPS)	1.0
@ T_A (°C)	25
I_{FSM} (AMPS)	30
	
CASE	SMB
V_{RRM} (VOLTS)	
100	CMR1S-01
200	CMR1S-02

V_F MAX @ $I_F = I_O$	0.95V
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I_R MAX @ V_{RRM}	5.0 μ A
t_{rr} (100V)	35ns
t_{rr} (200V)	35ns





Rectifiers, Schottky

1/2 Amp, 20 & 40 Volts

I_O (AMPS)	500 mA	
Θ_{TA} (°C)	25	25
I_{FSM} (AMPS)	5.5	5.5
CASE	 SOD-123	
V_{RRM} (VOLTS)		
20	CMHSH5-2L	
40		CMHSH5-4
V_F MAX @ $I_F = I_O$		
20V	300 mV	
40V		510 mV
I_R MAX @ V_{RRM}	250 μ A	20 μ A







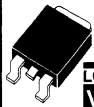
1.0 to 2.0 Amperes 20 to 100 Volts

I_O (AMPS)	1.0				2.0			
	Θ_{TA} (°C)	25	25	25	25	25	25	25
I_{FSM} (AMPS)	30	30	30	10	50	30	50	10
CASE	 SMA		 SMB		 SOT-89		 SOT-223	
V_{RRM} (VOLTS)								
20	CMSH1-20M	CMSH1-20ML	CMSH1-20		CMSH2-20M	CMSH2-20	CMSH2-20L	
40	CMSH1-40M	CMSH1-40ML	CMSH1-40	CXSH-4	CMSH2-40M	CMSH2-40	CMSH2-40L	CZSH-4
60	CMSH1-60M		CMSH1-60		CMSH2-60M	CMSH2-60		
100	CMSH1-100M		CMSH1-100		CMSH2-100M	CMSH2-100		
V_F MAX @ $I_F = I_O$								
20V	0.50V	0.38V	0.55V		0.50V	0.50V	0.38V	
40V	0.50V	0.40V	0.55V	0.55V	0.50V	0.50V	0.40V	0.55V
60V	0.70V		0.70V		0.70V	0.70V		
100V	0.85V		0.85V		0.85V	0.85V		
I_R MAX @ V_{RRM}	500 μ A	500 μ A	1,000 μ A	500 μ A	500 μ A	500 μ A	500 μ A	100 μ A

SELECT
GUIDE

Rectifiers, Schottky

3.0 to 5.0 Amperes
20 to 100 Volts

I_O (AMPS)	3.0				5.0	
@ T_A (°C)	25	25	25	120*	25	120*
I_{FSM} (AMPS)	80	150	100	75	125	80
CASE	HIGH DENSITY SCHOTTKY  SMB	 SMC	LOW V_F  DPAK	 SMC	HIGH DENSITY SCHOTTKY  DPAK	LOW V_F
V_{RRM} (VOLTS)				SINGLE		SINGLE
20	CMSH3-20M	CMSH3-20	CMSH3-20L		CMSH5-20	
25						CSHD5-25L
40	CMSH3-40M	CMSH3-40	CMSH3-40L	CSHD3-40	CMSH5-40	
60	CMSH3-60M	CMSH3-60		CSHD3-60	CMSH5-60	
100	CMSH3-100M	CMSH3-100		CSHD3-100	CMSH5-100	

V_F MAX @ $I_F = I_O$						
20	0.55V	0.50V	0.38V		0.55V	
25						0.35V
40	0.55V	0.50V	0.40V	0.60V	0.55V	
60	0.75V	0.70V		0.70V	0.75V	
100	0.85V	0.80V		0.80V	0.85V	


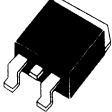

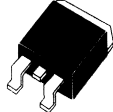
I_R MAX @ V_{RRM}	500 μ A	500 μ A	500 μ A	30 μ A**	300 μ A	500 μ A

* TC

** 60V & 100V Devices

Rectifiers, Schottky

6.0 to 16 Amperes
20 to 100 Volts

I_O (AMPS)	6.0	8.0	10	16
@ T_A (°C)	120	100	120	90
I_{FSM} (AMPS)	75	150	200	150
CASE	 DPAK	 D ² PAK	 DPAK	 D ² PAK
	DUAL	SINGLE	SINGLE	DUAL
V_{RRM} (VOLTS)				
40	CSHD6-40C	CSHDD8-40		CSHDD16-40C
45			CSHD10-45L	
60	CSHD6-60C	CSHDD8-60		CSHDD16-60C
100	CSHD6-100C	CSHDD8-100		CSHDD16-100C

V_F MAX @ $I_F = I_O$				
40	0.80V	0.57V		0.72V
45			0.55V	
60	0.85V	0.65V		0.85V
100	1.05V	0.75V		1.00V

I_R MAX @ V_{RRM}	30 μ A*	100 μ A	100 μ A	100 μ A



* 60V & 100V Devices

SELECT
GUIDE

Bridge Rectifiers Single Phase, Full Wave

0.5 to 1.0 Amperes

100 to 1000 Volts

I_O (AMPS)	0.5		1.0	
@ T_A (°C)	25	50	50	25
I_{FSM} (AMPS)	30	50	50	50
CASE	 HD DIP		 SMDIP	
V_{RRM} (VOLTS)	GENERAL PURPOSE	GENERAL PURPOSE	FAST RECOVERY	ULTRA FAST RECOVERY
	DUAL	SINGLE	DUAL	SINGLE
100				CBR1U-D010S
200	CBRHD-02	CBR1-D020S	CBR1F-D020S	CBR1U-D020S
400	CBRHD-04	CBR1-D040S	CBR1F-D040S	
600	CBRHD-06	CBR1-D060S	CBR1F-D060S	
1000	CBRHD-10*	CBR1-D100S	CBR1F-D100S	


V_F MAX @ I_F	1.0V @ 0.4A	1.1V @ 1.0A	1.3V @ 1.0A	1.05V @ 1.0A
I_R MAX @ V_{RRM}	5.0 μ A	10 μ A	10 μ A	10 μ A
t_{rr} (100V thru 400V)	---	---	200ns	50ns
t_{rr} (600V)	---	---	300ns	
t_{rr} (1000V)	---	---	500ns	

* Available on special order only, consult factory

SCRs (Silicon Controlled Rectifiers)

0.8 Ampere RMS

400 Volts


I_T (AMPS)	0.8
@ T_C (°C)	67
I_{TSM} (AMPS)	10
CASE	 SOT-23
V_{RRM} (VOLTS)	
100	CMPS5061
200	CMPS5062
300	CMPS5063
400	CMPS5064

I_{GT}	200µA
V_{GT}	0.8V
I_H	5.0mA

Triacs

2.0 Amperes

400 to 800 Volts

I_T (AMPS)	2.0	
@ T_C (°C)	80	80
I_{TSM} (AMPS)	10	10
CASE	 SOT-89	
V_{RRM} (VOLTS)		
400	CQ89D	CQ89DS
600	CQ89M	CQ89MS
800	CQ89N	CQ89NS

I_{GT} QI	25mA	5.0mA
I_{GT} QII	25mA	5.0mA
I_{GT} QIII	25mA	5.0mA
I_{GT} QIV	25mA	5.0mA
V_{GT} QI - QIV	2.0V	2.0V
I_H	25mA	5.0mA

SELECT
GUIDE

For Leaded Devices see our Latest

***Discrete Semiconductor
Selection Guide***


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Detailed Data Sheets

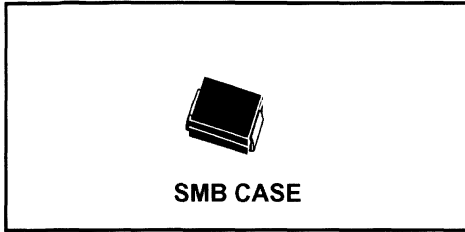
(in alphanumeric order)

DATA
SHEETS

1SMB5.0A
THRU
1SMB170A



UNI-DIRECTIONAL
GLASS PASSIVATED JUNCTION
TRANSIENT VOLTAGE SUPPRESSOR
600 WATTS, 5.0 THRU 170 VOLTS



CentralTM Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR 1SMB5.0A Series types are Surface Mount Uni-Directional Glass Passivated Junction Transient Voltage Suppressors designed to protect voltage sensitive components from high voltage transients. **THIS DEVICE IS MANUFACTURED WITH A GLASS PASSIVATED CHIP FOR OPTIMUM RELIABILITY.**

Note: For Bi-directional devices, please refer to the 1SMB5.0CA Series data sheet.

Specified by
STAND-OFF VOLTAGE

MAXIMUM RATINGS (T_A=25°C)

Peak Power Dissipation
Peak Forward Surge Current (JEDEC Method)
Operating and Storage
Junction Temperature

SYMBOL

P_{DM} 600
I_{FSM} 100
T_J, T_{stg} -65 to +150

UNITS

W
A
°C

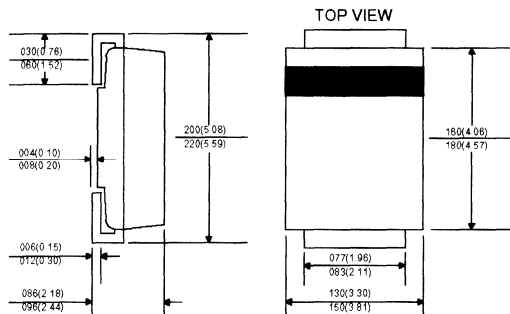
ELECTRICAL CHARACTERISTICS (T_A=25°C)

TYPE NO.	REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE			MAXIMUM REVERSE LEAKAGE @V _{RWM} I _R μA	MAXIMUM CLAMPING VOLTAGE @I _{PPM} V _C VOLTS	MAXIMUM PEAK PULSE CURRENT I _{PPM} A	MARKING CODE
		V _{BR}		@I _T				
		VOLTS						
		V _{RWM} VOLTS	MIN	MAX					mA
1SMB5.0A	5.0	6.40	7.25	10	800	9.2	65.2	CKE
1SMB6.0A	6.0	6.67	7.67	10	800	10.3	58.3	CKG
1SMB6.5A	6.5	7.22	8.30	10	500	11.2	53.6	CKK
1SMB7.0A	7.0	7.78	8.95	10	200	12.0	50.0	CKM
1SMB7.5A	7.5	8.33	9.58	1.0	100	12.9	46.5	CKP
1SMB8.0A	8.0	8.89	10.23	1.0	50	13.6	44.1	CKR
1SMB8.5A	8.5	9.44	10.82	1.0	10	14.4	41.7	CKT
1SMB9.0A	9.0	10.0	11.5	1.0	5.0	15.4	39.0	CKV
1SMB10A	10	11.1	12.8	1.0	5.0	17.0	35.3	CKX
1SMB11A	11	12.2	14.0	1.0	5.0	18.2	33.0	CKZ
1SMB12A	12	13.3	15.3	1.0	5.0	19.9	30.2	CLE
1SMB13A	13	14.4	16.5	1.0	5.0	21.5	27.9	CLG

TYPE NO.	REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE			MAXIMUM REVERSE LEAKAGE @V _{RWM}	MAXIMUM CLAMPING VOLTAGE @I _{PPM}	MAXIMUM PEAK PULSE CURRENT I _{PPM}	MARKING CODE
		V _{BR}		@I _T				
		VOLTS						
		V _{RWM}	MIN	MAX					mA	I_{R} μA	V_{C} VOLTS	A
1SMB14A	14	15.6	17.9	1.0	5.0	23.2	25.8	CLK
1SMB15A	15	16.7	19.2	1.0	5.0	24.4	24.0	CLM
1SMB16A	16	17.8	20.5	1.0	5.0	26.0	23.1	CLP
1SMB17A	17	18.9	21.7	1.0	5.0	27.6	21.7	CLR
1SMB18A	18	20.0	23.3	1.0	5.0	29.2	20.5	CLT
1SMB20A	20	22.2	25.5	1.0	5.0	32.4	18.5	CLV
1SMB22A	22	24.4	28.0	1.0	5.0	35.5	16.9	CLX
1SMB24A	24	26.7	30.7	1.0	5.0	38.9	15.4	CLZ
1SMB26A	26	28.9	33.2	1.0	5.0	42.1	14.2	CME
1SMB28A	28	31.1	35.8	1.0	5.0	45.4	13.2	CMG
1SMB30A	30	33.3	38.3	1.0	5.0	48.4	12.4	CMK
1SMB33A	33	36.7	42.2	1.0	5.0	53.3	11.3	CMM
1SMB36A	36	40.0	46.0	1.0	5.0	58.1	10.3	CMP
1SMB40A	40	44.4	51.1	1.0	5.0	64.5	9.3	CMR
1SMB43A	43	47.8	54.9	1.0	5.0	69.4	8.6	CMT
1SMB45A	45	50.0	57.5	1.0	5.0	72.7	8.3	CMV
1SMB48A	48	53.3	61.3	1.0	5.0	77.4	7.7	CMX
1SMB51A	51	56.7	65.2	1.0	5.0	82.4	7.3	CMZ
1SMB54A	54	60.0	69.0	1.0	5.0	87.1	6.9	CNE
1SMB58A	58	64.4	74.1	1.0	5.0	93.6	6.4	CNG
1SMB60A	60	66.7	76.7	1.0	5.0	96.8	6.2	CNK
1SMB64A	64	71.1	81.8	1.0	5.0	103	5.8	CNM
1SMB70A	70	77.8	89.5	1.0	5.0	113	5.3	CNP
1SMB75A	75	83.3	95.8	1.0	5.0	121	4.9	CNR
1SMB78A	78	86.7	99.7	1.0	5.0	126	4.7	CNT
1SMB85A	85	94.4	108.2	1.0	5.0	137	4.4	CNV
1SMB90A	90	100.0	115.5	1.0	5.0	146	4.1	CNX
1SMB100A	100	111.0	128.0	1.0	5.0	162	3.7	CNZ
1SMB110A	110	122.0	140.5	1.0	5.0	177	3.4	CPE
1SMB120A	120	133.0	153.0	1.0	5.0	193	3.1	CPG
1SMB130A	130	144.0	165.5	1.0	5.0	209	2.9	CPK
1SMB150A	150	167.0	192.5	1.0	5.0	243	2.5	CPM
1SMB160A	160	178.0	205.0	1.0	5.0	259	2.3	CPP
1SMB170A	170	189.0	217.5	1.0	5.0	275	2.2	CPR

DATA SHEETS

All Dimensions in Inches (mm).



1SMB5.0CA
THRU
1SMB170CA



BI-DIRECTIONAL
GLASS PASSIVATED JUNCTION
TRANSIENT VOLTAGE SUPPRESSOR
600 WATTS, 5.0 THRU 170 VOLTS



SMB CASE

CentralTM
Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR 1SMB5.0CA Series types are Surface Mount Bi-Directional Glass Passivated Junction Transient Voltage Suppressors designed to protect voltage sensitive components from high voltage transients. **THIS DEVICE IS MANUFACTURED WITH A GLASS PASSIVATED CHIP FOR OPTIMUM RELIABILITY.**

Note: For Uni-directional devices, please refer to the 1SMB5.0A Series data sheet.

Specified by
STAND-OFF VOLTAGE

MAXIMUM RATINGS (T_A=25°C)

	SYMBOL	UNITS
Peak Power Dissipation	P _D M	600 W
Peak Forward Surge Current (JEDEC Method)	I _F S	100 A
Operating and Storage	T _J , T _{stg}	-65 to +150 °C

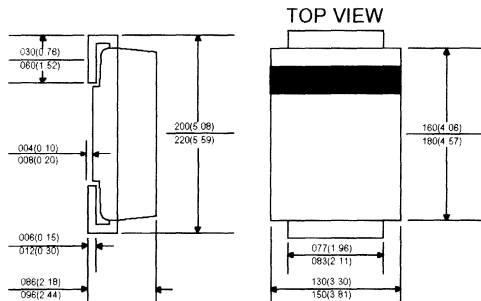
ELECTRICAL CHARACTERISTICS (T_A=25°C)

TYPE NO.	REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE			MAXIMUM REVERSE LEAKAGE @V _{RWM}	MAXIMUM CLAMPING VOLTAGE @I _{PPM}	MAXIMUM PEAK PULSE CURRENT	MARKING CODE
		V _{BR}		@T				
		VOLTS						
		V _{RWM}	MIN	MAX					mA	I_{R}	V_{C}	I_{PPM}
	VOLTS				μA	VOLTS	A	
1SMB5.0CA	5.0	6.40	7.25	10	1600	9.2	65.2	CKEC
1SMB6.0CA	6.0	6.67	7.67	10	1600	10.3	58.3	CKGC
1SMB6.5CA	6.5	7.22	8.30	10	1000	11.2	53.6	CKKC
1SMB7.0CA	7.0	7.78	8.95	10	400	12.0	50.0	CKMC
1SMB7.5CA	7.5	8.33	9.58	1.0	200	12.9	46.5	CKPC
1SMB8.0CA	8.0	8.89	10.23	1.0	100	13.6	44.1	CKRC
1SMB8.5CA	8.5	9.44	10.82	1.0	20	14.4	41.7	CKTC
1SMB9.0CA	9.0	10.0	11.5	1.0	10	15.4	39.0	CKVC
1SMB10CA	10	11.1	12.8	1.0	5.0	17.0	35.3	CKXC
1SMB11CA	11	12.2	14.0	1.0	5.0	18.2	33.0	CKZC
1SMB12CA	12	13.3	15.3	1.0	5.0	19.9	30.2	CLEC
1SMB13CA	13	14.4	16.5	1.0	5.0	21.5	27.9	CLGC

TYPE NO.	REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE			MAXIMUM REVERSE LEAKAGE @V _{RWM}	MAXIMUM CLAMPING VOLTAGE @I _{PPM}	MAXIMUM PEAK PULSE CURRENT I _{PPM}	MARKING CODE
		V _{BR}		@I _T				
		VOLTS						
		V _{RWM} VOLTS	MIN						MAX
1SMB14CA	14	15.6	17.9	1.0	5.0	23.2	25.8	CLKC
1SMB15CA	15	16.7	19.2	1.0	5.0	24.4	24.0	CLMC
1SMB16CA	16	17.8	20.5	1.0	5.0	26.0	23.1	CLPC
1SMB17CA	17	18.9	21.7	1.0	5.0	27.6	21.7	CLRC
1SMB18CA	18	20.0	23.3	1.0	5.0	29.2	20.5	CLTC
1SMB20CA	20	22.2	25.5	1.0	5.0	32.4	18.5	CLVC
1SMB22CA	22	24.4	28.0	1.0	5.0	35.5	16.9	CLXC
1SMB24CA	24	26.7	30.7	1.0	5.0	38.9	15.4	CLZC
1SMB26CA	26	28.9	33.2	1.0	5.0	42.1	14.2	CMEC
1SMB28CA	28	31.1	35.8	1.0	5.0	45.4	13.2	CMGC
1SMB30CA	30	33.3	38.3	1.0	5.0	48.4	12.4	CMKC
1SMB33CA	33	36.7	42.2	1.0	5.0	53.3	11.3	CMMC
1SMB36CA	36	40.0	46.0	1.0	5.0	58.1	10.3	CMPC
1SMB40CA	40	44.4	51.1	1.0	5.0	64.5	9.3	CMRC
1SMB43CA	43	47.8	54.9	1.0	5.0	69.4	8.6	CMTC
1SMB45CA	45	50.0	57.5	1.0	5.0	72.7	8.3	CMVC
1SMB48CA	48	53.3	61.3	1.0	5.0	77.4	7.7	CMXC
1SMB51CA	51	56.7	65.2	1.0	5.0	82.4	7.3	CMZC
1SMB54CA	54	60.0	69.0	1.0	5.0	87.1	6.9	CNEC
1SMB58CA	58	64.4	74.1	1.0	5.0	93.6	6.4	CNGC
1SMB60CA	60	66.7	76.7	1.0	5.0	96.8	6.2	CNKC
1SMB64CA	64	71.1	81.8	1.0	5.0	103	5.8	CNMC
1SMB70CA	70	77.8	89.5	1.0	5.0	113	5.3	CNPC
1SMB75CA	75	83.3	95.8	1.0	5.0	121	4.9	CNRC
1SMB78CA	78	86.7	99.7	1.0	5.0	126	4.7	CNTC
1SMB85CA	85	94.4	108.2	1.0	5.0	137	4.4	CNVV
1SMB90CA	90	100.0	115.5	1.0	5.0	146	4.1	CNXC
1SMB100CA	100	111.0	128.0	1.0	5.0	162	3.7	CNZC
1SMB110CA	110	122.0	140.5	1.0	5.0	177	3.4	CPEC
1SMB120CA	120	133.0	153.0	1.0	5.0	193	3.1	CPGC
1SMB130CA	130	144.0	165.5	1.0	5.0	209	2.9	CPKC
1SMB150CA	150	167.0	192.5	1.0	5.0	243	2.5	CPMC
1SMB160CA	160	178.0	205.0	1.0	5.0	259	2.3	CPPC
1SMB170CA	170	189.0	217.5	1.0	5.0	275	2.2	CPRC

**DATA
SHEETS**

All Dimensions in Inches (mm).



1SMC5.0A
THRU
1SMC170A



UNI-DIRECTIONAL
GLASS PASSIVATED JUNCTION
TRANSIENT VOLTAGE SUPPRESSOR
1500 WATTS, 5.0 THRU 170 VOLTS



SMC CASE

Central[™]
Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR 1SMC5.0A Series types are Surface Mount Uni-Directional Glass Passivated Junction Transient Voltage Suppressors designed to protect voltage sensitive components from high voltage transients. **THIS DEVICE IS MANUFACTURED WITH A GLASS PASSIVATED CHIP FOR OPTIMUM RELIABILITY.**

Note: For Bi-directional devices, please refer to the 1SMC5.0CA Series data sheet.

Specified by
STAND-OFF VOLTAGE

MAXIMUM RATINGS (T_A=25°C)

Peak Power Dissipation
Peak Forward Surge Current (JEDEC Method)
Operating and Storage
Junction Temperature

SYMBOL

UNITS

P _{DM}	1500	W
I _{FSM}	200	A
T _J , T _{stg}	-65 to +150	°C

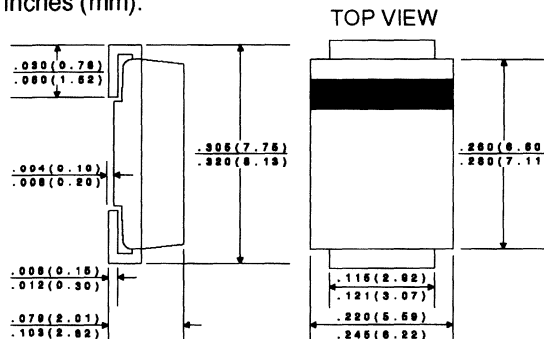
ELECTRICAL CHARACTERISTICS (T_A=25°C)

TYPE NO.	REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE			MAXIMUM REVERSE LEAKAGE @V _{RWM} I _R μA	MAXIMUM CLAMPING VOLTAGE @I _{PPM} V _C VOLTS	MAXIMUM PEAK PULSE CURRENT I _{PPM} A	MARKING CODE
		V _{BR}		@I _T mA				
		VOLTS						
		MIN	MAX					
1SMC5.0A	5.0	6.40	7.25	10	1000	9.2	163.0	CGDE
1SMC6.0A	6.0	6.67	7.67	10	1000	10.3	145.6	CGDG
1SMC6.5A	6.5	7.22	8.30	10	500	11.2	133.9	CGDK
1SMC7.0A	7.0	7.78	8.95	10	200	12.0	125.0	CGDM
1SMC7.5A	7.5	8.33	9.58	1.0	100	12.9	116.3	CGDP
1SMC8.0A	8.0	8.89	10.23	1.0	50	13.6	110.3	CGDR
1SMC8.5A	8.5	9.44	10.82	1.0	20	14.4	104.2	CGDT
1SMC9.0A	9.0	10.0	11.5	1.0	10	15.4	97.4	CGDV
1SMC10A	10	11.1	12.8	1.0	5.0	17.0	88.2	CGDX
1SMC11A	11	12.2	14.0	1.0	5.0	18.2	82.4	CGDZ
1SMC12A	12	13.3	15.3	1.0	5.0	19.9	75.3	CGEE
1SMC13A	13	14.4	16.5	1.0	5.0	21.5	69.7	CGEG


TYPE NO.	REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE			MAXIMUM REVERSE LEAKAGE @V _{RWM}	MAXIMUM CLAMPING VOLTAGE @I _{PPM}	MAXIMUM PEAK PULSE CURRENT	MARKING CODE
		V _{BR}		@I _T				
	V _{RWM}	VOLTS			I _R	V _C	I _{PPM}	
	VOLTS	MIN	MAX	mA	μA	VOLTS	A	
1SMC14A	14	15.6	17.9	1.0	5.0	23.2	64.7	CGEK
1SMC15A	15	16.7	19.2	1.0	5.0	24.4	61.5	CGEM
1SMC16A	16	17.8	20.5	1.0	5.0	26.0	57.7	CGEP
1SMC17A	17	18.9	21.7	1.0	5.0	27.6	53.3	CGER
1SMC18A	18	20.0	23.3	1.0	5.0	29.2	51.4	CGET
1SMC20A	20	22.2	25.5	1.0	5.0	32.4	46.3	CGEV
1SMC22A	22	24.4	28.0	1.0	5.0	35.5	42.2	CGEX
1SMC24A	24	26.7	30.7	1.0	5.0	38.9	38.6	CGEZ
1SMC26A	26	28.9	33.2	1.0	5.0	42.1	35.6	CGFE
1SMC28A	28	31.1	35.8	1.0	5.0	45.4	33.0	CGFG
1SMC30A	30	33.3	38.3	1.0	5.0	48.4	31.0	CGFK
1SMC33A	33	36.7	42.2	1.0	5.0	53.3	28.1	CGFM
1SMC36A	36	40.0	46.0	1.0	5.0	58.1	25.8	CGFP
1SMC40A	40	44.4	51.1	1.0	5.0	64.5	23.2	CGFR
1SMC43A	43	47.8	54.9	1.0	5.0	69.4	21.6	CGFT
1SMC45A	45	50.0	57.5	1.0	5.0	72.7	20.6	CGFV
1SMC48A	48	53.3	61.3	1.0	5.0	77.4	19.4	CGFX
1SMC51A	51	56.7	65.2	1.0	5.0	82.4	18.2	CGFZ
1SMC54A	54	60.0	69.0	1.0	5.0	87.1	17.2	CGGE
1SMC58A	58	64.4	74.1	1.0	5.0	93.6	16.0	CGGG
1SMC60A	60	66.7	76.7	1.0	5.0	96.8	15.5	CGGK
1SMC64A	64	71.1	81.8	1.0	5.0	103	14.6	CGGM
1SMC70A	70	77.8	89.5	1.0	5.0	113	13.3	CGGP
1SMC75A	75	83.3	95.8	1.0	5.0	121	12.4	CGGR
1SMC78A	78	86.7	99.7	1.0	5.0	126	11.4	CGGT
1SMC85A	85	94.4	108.2	1.0	5.0	137	10.4	CGGV
1SMC90A	90	100.0	115.5	1.0	5.0	146	10.3	CGGX
1SMC100A	100	111.0	128.0	1.0	5.0	162	9.3	CGGZ
1SMC110A	110	122.0	140.5	1.0	5.0	177	8.4	CGHE
1SMC120A	120	133.0	153.0	1.0	5.0	193	7.9	CGHG
1SMC130A	130	144.0	165.5	1.0	5.0	209	7.2	CGHK
1SMC150A	150	167.0	192.5	1.0	5.0	243	6.2	CGHM
1SMC160A	160	178.0	205.0	1.0	5.0	259	5.8	CGHP
1SMC170A	170	189.0	217.5	1.0	5.0	275	5.5	CGHR

**DATA
SHEETS**

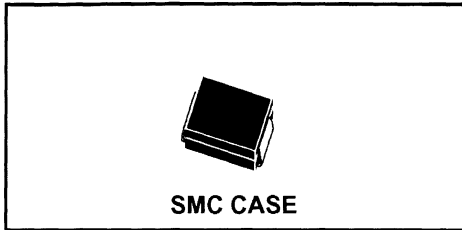
All Dimensions in Inches (mm).



1SMC5.0CA
THRU
1SMC170CA



BI-DIRECTIONAL
GLASS PASSIVATED JUNCTION
TRANSIENT VOLTAGE SUPPRESSOR
1500 WATTS, 5.0 THRU 170 VOLTS



Central[™]
Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR 1SMC5.0CA Series types are Surface Mount Bi-Directional Glass Passivated Junction Transient Voltage Suppressors designed to protect voltage sensitive components from high voltage transients. **THIS DEVICE IS MANUFACTURED WITH A GLASS PASSIVATED CHIP FOR OPTIMUM RELIABILITY.**

Note: For Uni-directional devices, please refer to the 1SMC5.0A Series data sheet.

Specified by
STAND-OFF VOLTAGE

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL	UNITS
Peak Power Dissipation	P_{DM}	1500 W
Peak Forward Surge Current (JEDEC Method)	I_{FSM}	200 A
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150 °C

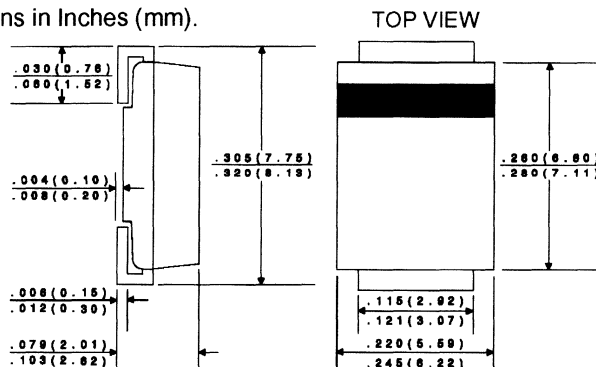
ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$)

TYPE NO.	REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE			MAXIMUM REVERSE LEAKAGE @ V_{RWM}	MAXIMUM CLAMPING VOLTAGE @ I_{PPM}	MAXIMUM PEAK PULSE CURRENT	MARKING CODE
		V_{BR}		$@I_T$				
		VOLTS						
		V_{RWM} VOLTS	MIN	MAX					mA
1SMC5.0CA	5.0	6.40	7.25	10	1000	9.2	163.0	CBDE
1SMC6.0CA	6.0	6.67	7.67	10	1000	10.3	145.6	CBDG
1SMC6.5CA	6.5	7.22	8.30	10	500	11.2	133.9	CBDK
1SMC7.0CA	7.0	7.78	8.95	10	200	12.0	125.0	CBDM
1SMC7.5CA	7.5	8.33	9.58	1.0	100	12.9	116.3	CBDP
1SMC8.0CA	8.0	8.89	10.23	1.0	50	13.6	110.3	CBDR
1SMC8.5CA	8.5	9.44	10.82	1.0	20	14.4	104.2	CBDT
1SMC9.0CA	9.0	10.0	11.5	1.0	10	15.4	97.4	CBDV
1SMC10CA	10	11.1	12.8	1.0	5.0	17.0	88.2	CBDX
1SMC11CA	11	12.2	14.0	1.0	5.0	18.2	82.4	CBDZ
1SMC12CA	12	13.3	15.3	1.0	5.0	19.9	75.3	CBEE
1SMC13CA	13	14.4	16.5	1.0	5.0	21.5	69.7	CBEG

TYPE NO.	REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE			MAXIMUM REVERSE LEAKAGE @V _{RWM}	MAXIMUM CLAMPING VOLTAGE @'PPM	MAXIMUM PEAK PULSE CURRENT	MARKING CODE
		V _{BR}		@I _T				
	VOLTS		mA		I _R μA	V _C VOLTS	I _{PPM} A	
	V _{RWM} VOLTS	MIN		MAX				
1SMC14CA	14	15.6	17.9	1.0	5.0	23.2	64.7	CBEK
1SMC15CA	15	16.7	19.2	1.0	5.0	24.4	61.5	CBEM
1SMC16CA	16	17.8	20.5	1.0	5.0	26.0	57.7	CBEP
1SMC17CA	17	18.9	21.7	1.0	5.0	27.6	53.3	CBER
1SMC18CA	18	20.0	23.3	1.0	5.0	29.2	51.4	CBET
1SMC20CA	20	22.2	25.5	1.0	5.0	32.4	46.3	CBEV
1SMC22CA	22	24.4	28.0	1.0	5.0	35.5	42.2	CBEX
1SMC24CA	24	26.7	30.7	1.0	5.0	38.9	38.6	CBEZ
1SMC26CA	26	28.9	33.2	1.0	5.0	42.1	35.6	CBFE
1SMC28CA	28	31.1	35.8	1.0	5.0	45.4	33.0	CBFG
1SMC30CA	30	33.3	38.3	1.0	5.0	48.4	31.0	CBFK
1SMC33CA	33	36.7	42.2	1.0	5.0	53.3	28.1	CBFM
1SMC36CA	36	40.0	46.0	1.0	5.0	58.1	25.8	CBFP
1SMC40CA	40	44.4	51.1	1.0	5.0	64.5	23.2	CBFR
1SMC43CA	43	47.8	54.9	1.0	5.0	69.4	21.6	CBFT
1SMC45CA	45	50.0	57.5	1.0	5.0	72.7	20.6	CBFV
1SMC48CA	48	53.3	61.3	1.0	5.0	77.4	19.4	CBFX
1SMC51CA	51	56.7	65.2	1.0	5.0	82.4	18.2	CBFZ
1SMC54CA	54	60.0	69.0	1.0	5.0	87.1	17.2	CBGE
1SMC58CA	58	64.4	74.1	1.0	5.0	93.6	16.0	CBGG
1SMC60CA	60	66.7	76.7	1.0	5.0	96.8	15.5	CBGK
1SMC64CA	64	71.1	81.8	1.0	5.0	103	14.6	CBGM
1SMC70CA	70	77.8	89.5	1.0	5.0	113	13.3	CBGP
1SMC75CA	75	83.3	95.8	1.0	5.0	121	12.4	CBGR
1SMC78CA	78	86.7	99.7	1.0	5.0	126	11.4	CBGT
1SMC85CA	85	94.4	108.2	1.0	5.0	137	10.4	CBGV
1SMC90CA	90	100.0	115.5	1.0	5.0	146	10.3	CBGX
1SMC100CA	100	111.0	128.0	1.0	5.0	162	9.3	CBGZ
1SMC110CA	110	122.0	140.5	1.0	5.0	177	8.4	CBHE
1SMC120CA	120	133.0	153.0	1.0	5.0	193	7.9	CBHG
1SMC130CA	130	144.0	165.5	1.0	5.0	209	7.2	CBHK
1SMC150CA	150	167.0	192.5	1.0	5.0	243	6.2	CBHM
1SMC160CA	160	178.0	205.0	1.0	5.0	259	5.8	CBHP
1SMC170CA	170	189.0	217.5	1.0	5.0	275	5.5	CBHR

**DATA
SHEETS**

All Dimensions in Inches (mm).



1.5SMC6.8A
THRU
1.5SMC200A



UNI-DIRECTIONAL
GLASS PASSIVATED JUNCTION
TRANSIENT VOLTAGE SUPPRESSOR
1500 WATTS, 6.8 THRU 200 VOLTS



SMC CASE

Specified by
BREAKDOWN
VOLTAGE

Central[™]
Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR 1.5SMC6.8A Series types are Surface Mount Uni-Directional Glass Passivated Junction Transient Voltage Suppressors designed to protect voltage sensitive components from high voltage transients. **THIS DEVICE IS MANUFACTURED WITH A GLASS PASSIVATED CHIP FOR OPTIMUM RELIABILITY.**

Note: For Bi-directional devices, please refer to the 1.5SMC6.8CA Series data sheet.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Peak Power Dissipation
Peak Forward Surge Current (JEDEC Method)
Operating and Storage
Junction Temperature

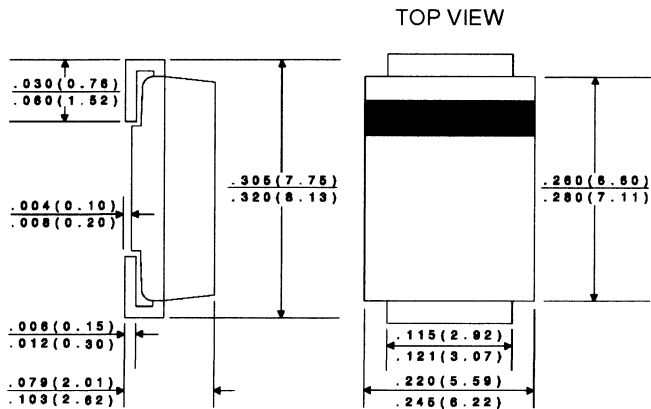
SYMBOL	UNITS
P_{PM}	1500 W
I_{FSM}	200 A
T_J, T_{stg}	-65 to +150 $^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$)

TYPE NO.	BREAKDOWN VOLTAGE			$@I_T$	WORKING PEAK REVERSE VOLTAGE	MAXIMUM REVERSE LEAKAGE @ V_{RWM}	MAXIMUM REVERSE SURGE CURRENT	MAXIMUM REVERSE VOLTAGE @ I_{RSM}	MAXIMUM TEMP. COEFFICIENT	MARKING CODE
	V_{BR}									
	VOLTS									
	MIN	NOM	MAX								mA	$V_{RWM}$	$I_R$	$I_{RSM}$	$V_{RSM}$	$\%^{\circ}\text{C}$
1.5SMC6.8A	6.45	6.8	7.14	10	5.8	1000	143	10.5	0.057	C6V8A
1.5SMC7.5A	7.13	7.5	7.88	10	6.4	500	132	11.3	0.061	C7V5A
1.5SMC8.2A	7.79	8.2	8.61	10	7.02	200	124	12.1	0.065	C8V2A
1.5SMC9.1A	8.65	9.1	9.55	1	7.78	50	112	13.4	0.068	C9V1A
1.5SMC10A	9.5	10	10.5	1	8.55	10	103	14.5	0.073	C10A
1.5SMC11A	10.5	11	11.6	1	9.4	5	96	15.6	0.075	C11A
1.5SMC12A	11.4	12	12.6	1	10.2	5	90	16.7	0.078	C12A
1.5SMC13A	12.4	13	13.7	1	11.1	5	82	18.2	0.081	C13A
1.5SMC15A	14.3	15	15.8	1	12.8	5	71	21.2	0.084	C15A
1.5SMC16A	15.2	16	16.8	1	13.6	5	67	22.5	0.086	C16A
1.5SMC18A	17.1	18	18.9	1	15.3	5	59.5	25.2	0.088	C18A
1.5SMC20A	19.0	20	21.0	1	17.1	5	54	27.7	0.090	C20A

TYPE NO.	BREAKDOWN VOLTAGE				WORKING PEAK REVERSE VOLTAGE	MAXIMUM REVERSE LEAKAGE @V _{RWM}	MAXIMUM REVERSE SURGE CURRENT	MAXIMUM REVERSE VOLTAGE @I _{RSM}	MAXIMUM TEMP. COEFFICIENT	MARKING CODE
	V _{BR}			@I _T						
	VOLTS									
	MIN	NOM	MAX								mA	V_{RWM}	I_{R}	I_{RSM}	V_{RSM}	%/°C
1.5SMC22A	20.9	22	23.1	1	18.8	5	49	30.6	0.092	C22A
1.5SMC24A	22.8	24	25.2	1	20.5	5	45	33.2	0.094	C24A
1.5SMC27A	25.7	27	28.4	1	23.1	5	40	37.5	0.096	C27A
1.5SMC30A	28.5	30	31.5	1	25.6	5	36	41.4	0.097	C30A
1.5SMC33A	31.4	33	34.7	1	28.2	5	33	45.7	0.098	C33A
1.5SMC36A	34.2	36	37.8	1	30.8	5	30	49.9	0.099	C36A
1.5SMC39A	37.1	39	41	1	33.3	5	28	53.9	0.100	C39A
1.5SMC43A	40.9	43	45.2	1	36.8	5	25.3	59.3	0.101	C43A
1.5SMC47A	44.7	47	49.4	1	40.2	5	23.2	64.8	0.101	C47A
1.5SMC51A	48.5	51	53.6	1	43.6	5	21.4	70.1	0.102	C51A
1.5SMC56A	53.2	56	58.8	1	47.8	5	19.5	77	0.103	C56A
1.5SMC62A	58.9	62	65.1	1	53.0	5	17.7	85	0.104	C62A
1.5SMC68A	64.6	68	71.4	1	58.1	5	16.3	92	0.104	C68A
1.5SMC75A	71.3	75	78.8	1	64.1	5	14.6	103	0.105	C75A
1.5SMC82A	77.9	82	86.1	1	70.1	5	13.3	113	0.105	C82A
1.5SMC91A	86.5	91	95.5	1	77.8	5	12	125	0.106	C91A
1.5SMC100A	95.0	100	105	1	85.5	5	11	137	0.106	C100A
1.5SMC110A	104.5	110	115.5	1	94.0	5	9.9	152	0.107	C110A
1.5SMC120A	114	120	126	1	102	5	9.1	165	0.107	C120A
1.5SMC130A	123.5	130	136.5	1	111	5	8.4	179	0.107	C130A
1.5SMC150A	142.5	150	157.5	1	128	5	7.2	207	0.108	C150A
1.5SMC160A	152	160	168	1	136	5	6.8	219	0.108	C160A
1.5SMC170A	161.5	170	178.5	1	145	5	6.4	234	0.108	C170A
1.5SMC180A	171	180	189	1	154	5	6.1	246	0.108	C180A
1.5SMC200A	190	200	210	1	171	5	5.5	274	0.108	C200A

All Dimensions in Inches (mm).



DATA SHEETS

1.5SMC6.8CA
THRU
1.5SMC200CA



BI-DIRECTIONAL
GLASS PASSIVATED JUNCTION
TRANSIENT VOLTAGE SUPPRESSOR
1500 WATTS, 6.8 THRU 200 VOLTS



SMC CASE

CentralTM
Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR 1.5SMC6.8CA Series types are Surface Mount Bi-Directional Glass Passivated Junction Transient Voltage Suppressors designed to protect voltage sensitive components from high voltage transients. **THIS DEVICE IS MANUFACTURED WITH A GLASS PASSIVATED CHIP FOR OPTIMUM RELIABILITY.**

Note: For Uni-directional devices, please refer to the 1.5SMC6.8A Series data sheet.

Specified by
BREAKDOWN
VOLTAGE

MAXIMUM RATINGS (T_A=25°C)

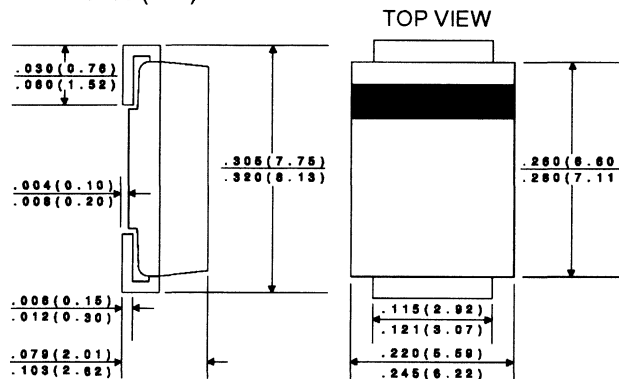
	SYMBOL	UNITS
Peak Power Dissipation	P _{PPM}	1500 W
Peak Forward Surge Current (JEDEC Method)	I _{FSM}	200 A
Operating and Storage Junction Temperature	T _J , T _{stg}	-65 to +150 °C

ELECTRICAL CHARACTERISTICS (T_A=25°C)

TYPE NO.	BREAKDOWN VOLTAGE				WORKING PEAK REVERSE VOLTAGE @V _{RWM}	MAXIMUM REVERSE LEAKAGE CURRENT @I _R	MAXIMUM REVERSE SURGE CURRENT @I _{RSM}	MAXIMUM REVERSE VOLTAGE @V _{RSM}	MAXIMUM TEMP. COEFFICIENT	MARKING CODE
	V _{BR}			@T						
	VOLTS									
	MIN	NOM	MAX								mA
1.5SMC6.8CA	6.45	6.8	7.14	10	5.8	1000	143	10.5	0.057	C6V8C
1.5SMC7.5CA	7.13	7.5	7.88	10	6.4	500	132	11.3	0.061	C7V5C
1.5SMC8.2CA	7.79	8.2	8.61	10	7.02	200	124	12.1	0.065	C8V2C
1.5SMC9.1CA	8.65	9.1	9.55	1	7.78	50	112	13.4	0.068	C9V1C
1.5SMC10CA	9.5	10	10.5	1	8.55	10	103	14.5	0.073	C10C
1.5SMC11CA	10.5	11	11.6	1	9.4	5	96	15.6	0.075	C11C
1.5SMC12CA	11.4	12	12.6	1	10.2	5	90	16.7	0.078	C12C
1.5SMC13CA	12.4	13	13.7	1	11.1	5	82	18.2	0.081	C13C
1.5SMC15CA	14.3	15	15.8	1	12.8	5	71	21.2	0.084	C15C
1.5SMC16CA	15.2	16	16.8	1	13.6	5	67	22.5	0.086	C16C
1.5SMC18CA	17.1	18	18.9	1	15.3	5	59.5	25.2	0.088	C18C
1.5SMC20CA	19.0	20	21.0	1	17.1	5	54	27.7	0.090	C20C

TYPE NO.	BREAKDOWN VOLTAGE			@T	WORKING PEAK REVERSE VOLTAGE	MAXIMUM REVERSE LEAKAGE @V _{RWM}	MAXIMUM REVERSE SURGE CURRENT	MAXIMUM REVERSE VOLTAGE @I _{RSM}	MAXIMUM TEMP. COEFFICIENT	MARKING CODE
	V _{BR}									
	VOLTS									
	MIN	NOM	MAX								mA	V_{RWM}	I_{R}	I_{RSM}	V_{RSM}	%/°C
1.5SMC22CA	20.9	22	23.1	1	18.8	5	49	30.6	0.092	C22C
1.5SMC24CA	22.8	24	25.2	1	20.5	5	45	33.2	0.094	C24C
1.5SMC27CA	25.7	27	28.4	1	23.1	5	40	37.5	0.096	C27C
1.5SMC30CA	28.5	30	31.5	1	25.6	5	36	41.4	0.097	C30C
1.5SMC33CA	31.4	33	34.7	1	28.2	5	33	45.7	0.098	C33C
1.5SMC36CA	34.2	36	37.8	1	30.8	5	30	49.9	0.099	C36C
1.5SMC39CA	37.1	39	41	1	33.3	5	28	53.9	0.100	C39C
1.5SMC43CA	40.9	43	45.2	1	36.8	5	25.3	59.3	0.101	C43C
1.5SMC47CA	44.7	47	49.4	1	40.2	5	23.2	64.8	0.101	C47C
1.5SMC51CA	48.5	51	53.6	1	43.6	5	21.4	70.1	0.102	C51C
1.5SMC56CA	53.2	56	58.8	1	47.8	5	19.5	77	0.103	C56C
1.5SMC62CA	58.9	62	65.1	1	53.0	5	17.7	85	0.104	C62C
1.5SMC68CA	64.6	68	71.4	1	58.1	5	16.3	92	0.104	C68C
1.5SMC75CA	71.3	75	78.8	1	64.1	5	14.6	103	0.105	C75C
1.5SMC82CA	77.9	82	86.1	1	70.1	5	13.3	113	0.105	C82C
1.5SMC91CA	86.5	91	95.5	1	77.8	5	12	125	0.106	C91C
1.5SMC100CA	95.0	100	105	1	85.5	5	11	137	0.106	C100C
1.5SMC110CA	104.5	110	115.5	1	94.0	5	9.9	152	0.107	C110C
1.5SMC120CA	114	120	126	1	102	5	9.1	165	0.107	C120C
1.5SMC130CA	123.5	130	136.5	1	111	5	8.4	179	0.107	C130C
1.5SMC150CA	142.5	150	157.5	1	128	5	7.2	207	0.108	C150C
1.5SMC160CA	152	160	168	1	136	5	6.8	219	0.108	C160C
1.5SMC170CA	161.5	170	178.5	1	145	5	6.4	234	0.108	C170C
1.5SMC180CA	171	180	189	1	154	5	6.1	246	0.108	C180C
1.5SMC200CA	190	200	210	1	171	5	5.5	274	0.108	C200C

All Dimensions in Inches (mm).



**DATA
SHEETS**



3SMC5.0A
THRU
3SMC170A

**SURFACE MOUNT UNI-DIRECTIONAL
GLASS PASSIVATED JUNCTION
TRANSIENT VOLTAGE SUPPRESSOR
3000 WATTS, 5.0 THRU 170 VOLTS**

Specified by

STAND-OFF VOLTAGE



SMC CASE

CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 3SMC5.0A Series types are Surface Mount Uni-Directional Glass Passivated Junction Transient Voltage Suppressors designed to protect voltage sensitive components from high voltage transients. **THIS DEVICE IS MANUFACTURED WITH A GLASS PASSIVATED CHIP FOR OPTIMUM RELIABILITY.**

Note: For Bi-directional devices, please refer to the 3SMC5.0CA Series data sheet.

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

Peak Power Dissipation

Peak Forward Surge Current (JEDEC Method)

Operating and Storage

Junction Temperature

SYMBOL

P_{DM}

I_{FSM}

T_J, T_{stg}

3000

200

-65 to +150

UNITS

W

A

$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

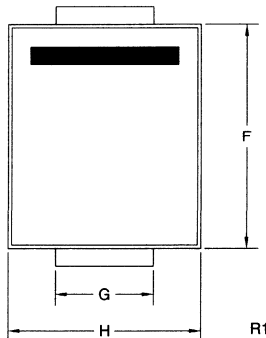
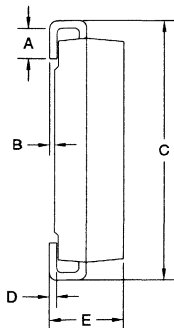
TYPE NO.	REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE			MAXIMUM REVERSE LEAKAGE @ V_{RWM}	MAXIMUM CLAMPING VOLTAGE @ I_{PPM}	MAXIMUM PEAK PULSE CURRENT	MARKING CODE
		V_{BR}		@ I_T				
		V_{RWM}	VOLTS					
	VOLTS	MIN	MAX	mA	I_R μA	V_C VOLTS	I_{PPM} A	
3SMC5.0A	5.0	6.40	7.25	10.0	1000	9.2	326.0	CHDE
3SMC6.0A	6.0	6.67	25	14.4	1000	10.3	291.3	CHDG
3SMC6.5A	6.5	7.22	10	15.4	500	11.2	267.9	CHDK
3SMC7.0A	7.0	7.78	5.0	17.0	200	12.0	250.0	CHDM
3SMC7.5A	7.5	8.33	5.0	18.2	100	12.9	232.6	CHDP
3SMC8.0A	8.0	8.89	10.23	1.0	50	13.6	220.6	CHDR
3SMC8.5A	8.5	9.44	10.82	1.0	25	14.4	208.4	CHDT
3SMC9.0A	9.0	10.0	11.5	1.0	10	15.4	194.8	CHDV
3SMC10A	10	11.1	12.8	1.0	5.0	17.0	176.4	CHDX
3SMC11A	11	12.2	14.0	1.0	5.0	18.2	184.8	CHDZ
3SMC12A	12	13.3	15.3	1.0	5.0	19.9	150.6	CHEE
3SMC13A	13	14.4	16.5	1.0	5.0	21.5	139.4	CHEG
3SMC14A	14	15.6	17.9	1.0	5.0	23.2	129.4	CHEK
3SMC15A	15	16.7	19.2	1.0	5.0	24.4	123.0	CHEM
3SMC16A	16	17.8	20.5	1.0	5.0	26.0	115.4	CHEP
3SMC17A	17	18.9	21.7	1.0	5.0	27.6	106.6	CHER
3SMC18A	18	20.0	23.3	1.0	5.0	29.2	102.8	CHET
3SMC20A	20	22.2	25.5	1.0	5.0	32.4	92.6	CHEV
3SMC22A	22	24.4	28.0	1.0	5.0	35.5	84.4	CHEX
3SMC24A	24	26.7	30.7	1.0	5.0	38.9	77.2	CHEZ
3SMC26A	26	28.9	33.2	1.0	5.0	42.1	71.2	CHFE
3SMC28A	28	31.1	35.8	1.0	5.0	45.4	66.0	CHFG
3SMC30A	30	33.3	38.3	1.0	5.0	48.4	62.0	CHFK

3SMC5.0A
THRU
3SMC170A
SURFACE MOUNT UNI-DIRECTIONAL
GLASS PASSIVATED JUNCTION
TRANSIENT VOLTAGE SUPPRESSOR
3000 WATTS, 5.0 THRU 170 VOLTS

TYPE NO.	REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE			MAXIMUM REVERSE LEAKAGE @ V_{RWM}	MAXIMUM CLAMPING VOLTAGE @ I_{PPM}	MAXIMUM PEAK PULSE CURRENT	MARKING CODE
		V_{BR}		$@ I_T$				
	V_{RWM}	VOLTS			I_R	V_C	I_{PPM}	
	VOLTS	MIN	MAX	mA	μA	VOLTS	A	
3SMC33A	33	36.7	42.2	1.0	5.0	53.3	56.2	CHFM
3SMC36A	36	40.0	46.0	1.0	5.0	58.1	51.6	CHFP
3SMC40A	40	44.4	51.1	1.0	5.0	64.5	46.4	CHFR
3SMC43A	43	47.8	54.9	1.0	5.0	69.4	43.2	CHFT
3SMC45A	45	50.0	57.5	1.0	5.0	72.7	41.2	CHFV
3SMC48A	48	53.3	61.3	1.0	5.0	77.4	38.8	CHFX
3SMC51A	51	56.7	65.2	1.0	5.0	82.4	36.4	CHFZ
3SMC54A	54	60.0	69.0	1.0	5.0	87.1	34.4	CHGE
3SMC58A	58	64.4	74.1	1.0	5.0	93.6	32.0	CHGG
3SMC60A	60	66.7	76.7	1.0	5.0	96.8	31.0	CHGK
3SMC64A	64	71.1	81.8	1.0	5.0	103	29.2	CHGM
3SMC70A	70	77.8	89.5	1.0	5.0	113	26.6	CHGP
3SMC75A	75	83.3	95.8	1.0	5.0	121	24.8	CHGR
3SMC78A	78	86.7	99.7	1.0	5.0	126	22.8	CHGT
3SMC85A	85	94.4	108.2	1.0	5.0	137	20.8	CHGV
3SMC90A	90	100.0	115.5	1.0	5.0	146	20.6	CHGX
3SMC100A	100	111.0	128.0	1.0	5.0	162	18.6	CHGZ
3SMC110A	110	122.0	140.5	1.0	5.0	177	16.8	CHHE
3SMC120A	120	133.0	153.0	1.0	5.0	193	15.6	CHHG
3SMC130A	130	144.0	165.5	1.0	5.0	209	14.4	CHHK
3SMC150A	150	167.0	192.5	1.0	5.0	243	12.4	CHHM
3SMC160A	160	178.0	205.0	1.0	5.0	259	11.6	CHHP
3SMC170A	170	189.0	217.5	1.0	5.0	275	11.0	CHHR

DATA SHEETS

SMC - CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.030	0.060	0.76	1.52
B	0.004	0.008	0.10	0.20
C	0.305	0.320	7.75	8.13
D	0.006	0.012	0.15	0.31
E	0.079	0.103	2.00	2.62
F	0.260	0.280	6.60	7.11
G	0.108	0.124	2.75	3.15
H	0.220	0.245	5.59	6.22

SMC (REV: R1)



3SMC5.0CA
THRU
3SMC170CA

**SURFACE MOUNT BI-DIRECTIONAL
GLASS PASSIVATED JUNCTION
TRANSIENT VOLTAGE SUPPRESSOR
3000 WATTS, 5.0 THRU 170 VOLTS**

Specified by

STAND-OFF VOLTAGE



SMC CASE

Central™

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 3SMC5.0CA Series types are Surface Mount Bi-Directional Glass Passivated Junction Transient Voltage Suppressors designed to protect voltage sensitive components from high voltage transients. **THIS DEVICE IS MANUFACTURED WITH A GLASS PASSIVATED CHIP FOR OPTIMUM RELIABILITY.**

Note: For Uni-directional devices, please refer to the 3SMC5.0A Series data sheet.

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

Peak Power Dissipation

Peak Forward Surge Current (JEDEC Method)

Operating and Storage

Junction Temperature

SYMBOL		UNITS
P_{DM}	3000	W
I_{FSM}	200	A
T_J, T_{stg}	-65 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

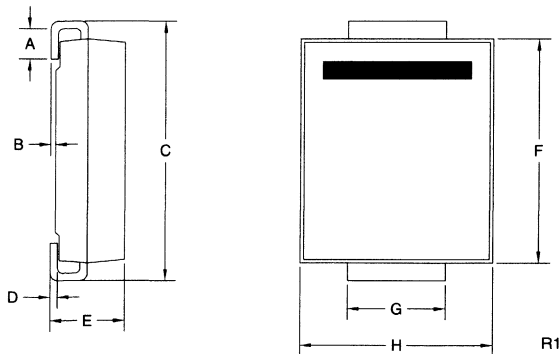
TYPE NO.	REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE			MAXIMUM REVERSE LEAKAGE @ V_{RWM}	MAXIMUM CLAMPING VOLTAGE @ I_{PPM}	MAXIMUM PEAK PULSE CURRENT	MARKING CODE
		V_{BR}		@ I_T				
		VOLTS						
		V_{RWM}	MIN	MAX					mA	$I_R$	$V_C$	$I_{PPM}$
	VOLTS			μA	VOLTS	A		
3SMC5.0CA	5.0	6.40	7.25	10	2000	9.2	326.0	CIDE
3SMC6.0CA	6.0	6.67	7.67	10	2000	10.3	291.3	CIDG
3SMC6.5CA	6.5	7.22	8.30	10	1000	11.2	267.9	CIDK
3SMC7.0CA	7.0	7.78	8.95	10	400	12.0	250.0	CIDM
3SMC7.5CA	7.5	8.33	9.58	1.0	200	12.9	232.6	CIDP
3SMC8.0CA	8.0	8.89	10.23	1.0	100	13.6	220.6	CIDR
3SMC8.5CA	8.5	9.44	10.82	1.0	50	14.4	208.4	CIDT
3SMC9.0CA	9.0	10.0	11.5	1.0	20	15.4	194.8	CIDV
3SMC10CA	10	11.1	12.8	1.0	5.0	17.0	176.4	CIDX
3SMC11CA	11	12.2	14.0	1.0	5.0	18.2	184.8	CIDZ
3SMC12CA	12	13.3	15.3	1.0	5.0	19.9	150.6	CIEE
3SMC13CA	13	14.4	16.5	1.0	5.0	21.5	139.4	CIEG
3SMC14CA	14	15.6	17.9	1.0	5.0	23.2	129.4	CIEK
3SMC15CA	15	16.7	19.2	1.0	5.0	24.4	123.0	CIEM
3SMC16CA	16	17.8	20.5	1.0	5.0	26.0	115.4	CIEP
3SMC17CA	17	18.9	21.7	1.0	5.0	27.6	106.6	CIER
3SMC18CA	18	20.0	23.3	1.0	5.0	29.2	102.8	CIET
3SMC20CA	20	22.2	25.5	1.0	5.0	32.4	92.6	CIEV
3SMC22CA	22	24.4	28.0	1.0	5.0	35.5	84.4	CIEX
3SMC24CA	24	26.7	30.7	1.0	5.0	38.9	77.2	CIEZ

ELECTRICAL CHARACTERISTICS: Continued

TYPE NO.	REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE		@ I _T	MAXIMUM REVERSE LEAKAGE @ V _{RWM}	MAXIMUM CLAMPING VOLTAGE @ I _{PPM}	MAXIMUM PEAK PULSE CURRENT	MARKING CODE
		V _{BR}						
	V _{RWM} VOLTS	VOLTS		mA	I _R μA	V _C VOLTS	I _{PPM} A	
3SMC26CA	26	28.9	33.2	1.0	5.0	42.1	71.2	CIFE
3SMC28CA	28	31.1	35.8	1.0	5.0	45.4	66.0	CIFG
3SMC30CA	30	33.3	38.3	1.0	5.0	48.4	62.0	CIFK
3SMC33CA	33	36.7	42.2	1.0	5.0	53.3	56.2	CIFM
3SMC36CA	36	40.0	46.0	1.0	5.0	58.1	51.6	CIFP
3SMC40CA	40	44.4	51.1	1.0	5.0	64.5	46.4	CIFR
3SMC43CA	43	47.8	54.9	1.0	5.0	69.4	43.2	CIFT
3SMC45CA	45	50.0	57.5	1.0	5.0	72.7	41.2	CIFV
3SMC48CA	48	53.3	61.3	1.0	5.0	77.4	38.8	CIFX
3SMC51CA	51	56.7	65.2	1.0	5.0	82.4	36.4	CIFZ
3SMC54CA	54	60.0	69.0	1.0	5.0	87.1	34.4	CIGE
3SMC58CA	58	64.4	74.1	1.0	5.0	93.6	32.0	CIGG
3SMC60CA	60	66.7	76.7	1.0	5.0	96.8	31.0	CIGK
3SMC64CA	64	71.1	81.8	1.0	5.0	103	29.2	CIGM
3SMC70CA	70	77.8	89.5	1.0	5.0	113	26.6	CIGP
3SMC75CA	75	83.3	95.8	1.0	5.0	121	24.8	CIGR
3SMC78CA	78	86.7	99.7	1.0	5.0	126	22.8	CIGT
3SMC85CA	85	94.4	108.2	1.0	5.0	137	20.8	CIGV
3SMC90CA	90	100.0	115.5	1.0	5.0	146	20.6	CIGX
3SMC100CA	100	111.0	128.0	1.0	5.0	162	18.6	CIGZ
3SMC110CA	110	122.0	140.5	1.0	5.0	177	16.8	CIHE
3SMC120CA	120	133.0	153.0	1.0	5.0	193	15.6	CIHG
3SMC130CA	130	144.0	165.5	1.0	5.0	209	14.4	CIHK
3SMC150CA	150	167.0	192.5	1.0	5.0	243	12.4	CIHM
3SMC160CA	160	178.0	205.0	1.0	5.0	259	11.6	CIHP
3SMC170CA	170	189.0	217.5	1.0	5.0	275	11.0	CIHR

DATA SHEETS

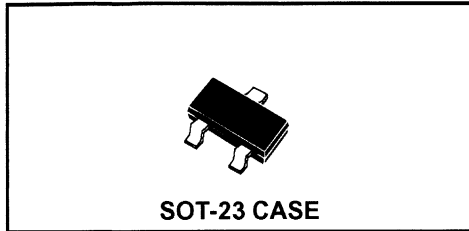
SMC - CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.030	0.060	0.76	1.52
B	0.004	0.008	0.10	0.20
C	0.305	0.320	7.75	8.13
D	0.006	0.012	0.15	0.31
E	0.079	0.103	2.00	2.62
F	0.260	0.280	6.60	7.11
G	0.108	0.124	2.75	3.15
H	0.220	0.245	5.59	6.22

SMC (REV: R1)

2N7002
N-CHANNEL
ENHANCEMENT-MODE
MOSFET



CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N7002 type is a N-Channel Field Effect Transistor, manufactured by the N-Channel DMOS Process, designed for high speed pulsed amplifier and driver applications.

Marking Code is 702.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

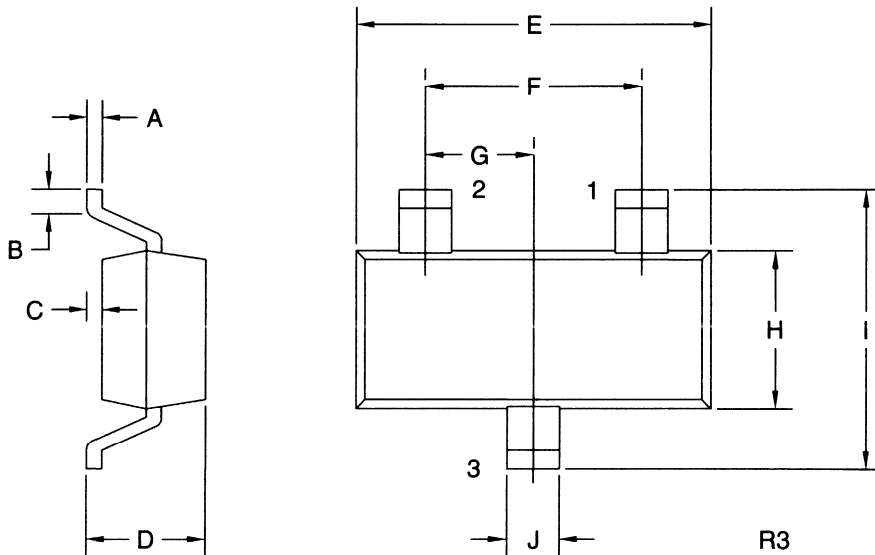
	SYMBOL		UNITS
Drain-Source Voltage	V_{DS}	60	V
Drain-Gate Voltage	V_{DG}	60	V
Gate-Source Voltage	V_{GS}	40	V
Continuous Drain Current ($T_C=25^{\circ}\text{C}$)	I_D	115	mA
Continuous Drain Current ($T_C=100^{\circ}\text{C}$)	I_D	75	mA
Continuous Source Current (Body Diode)	I_S	115	mA
Maximum Pulsed Drain Current	I_{DM}	800	mA
Maximum Pulsed Source Current	I_{SM}	800	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-55 to +150	$^{\circ}\text{C}$
Thermal Resistance	Θ_{JA}	357	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{GSSF}	$V_{GS}=20\text{V}$			100	nA
I_{GSSR}	$V_{GS}=-20\text{V}$			-100	nA
I_{DSS}	$V_{DS}=60\text{V}, V_{GS}=0$			1.0	μA
I_{DSS}	$V_{DS}=60\text{V}, V_{GS}=0, T_A=125^{\circ}\text{C}$			500	μA
$I_{D(ON)}$	$V_{DS} \geq 2V_{DS(ON)}, V_{GS}=10\text{V}$	500			mA
BV_{DSS}	$I_D=10\mu\text{A}$	60	105		V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	1.0	2.1	2.5	V
$V_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}$			3.75	V
$V_{DS(ON)}$	$V_{GS}=5.0\text{V}, I_D=50\text{mA}$			0.375	V
$r_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}$		3.7	7.5	Ω

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$r_{DS(ON)}$	$V_{GS}=10V, I_D=500mA, T_A=100^\circ C$			13.5	Ω
$r_{DS(ON)}$	$V_{GS}=5.0V, I_D=50mA$		6.2	7.5	Ω
$r_{DS(ON)}$	$V_{GS}=5.0V, I_D=50mA, T_A=100^\circ C$			13.5	Ω
g_{FS}	$V_{DS} \geq 2V_{DS(ON)}, I_D=200mA$	80			mmhos
C_{rss}	$V_{DS}=25V, V_{GS}=0, f=1.0MHz$			5.0	pF
C_{iss}	$V_{DS}=25V, V_{GS}=0, f=1.0MHz$			50	pF
C_{oss}	$V_{DS}=25V, V_{GS}=0, f=1.0MHz$			25	pF
t_{on}	$V_{DD}=30V, I_D=10V, R_G=25\Omega, R_L=25\Omega$			20	ns
t_{off}	$V_{DD}=30V, I_D=10V, R_G=25\Omega, R_L=25\Omega$			20	ns
V_{SD}	$V_{GS}=0V, I_S=11.5mA$			-1.5	V

SOT-23 CASE - MECHANICAL OUTLINE



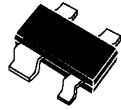
LEAD CODE:

- 1) GATE
- 2) SOURCE
- 3) DRAIN

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA SHEETS

BAS28**DUAL, ISOLATED HIGH SPEED SWITCHING DIODE****SOT-143 CASE**

Central™

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR BAS28 type is a ultra-high speed silicon switching diode manufactured by the epitaxial planar process, in an epoxy molded surface mount package with isolated dual diodes, designed for high speed switching applications.

Marking code is A61.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

Continuous Reverse Voltage
 Peak Repetitive Reverse Voltage
 Continuous Forward Current
 Peak Repetitive Forward Current
 Forward Surge Current, $t_p=1\ \mu\text{sec.}$
 Forward Surge Current, $t_p=1\ \text{msec.}$
 Forward Surge Current, $t_p=1\ \text{sec.}$
 Power Dissipation
 Operating and Storage
 Junction Temperature
 Thermal Resistance

SYMBOL

V_R 75
 V_{RRM} 85
 I_F 250
 I_{FRM} 250
 I_{FSM} 4000
 I_{FSM} 2000
 I_{FSM} 1000
 P_D 350

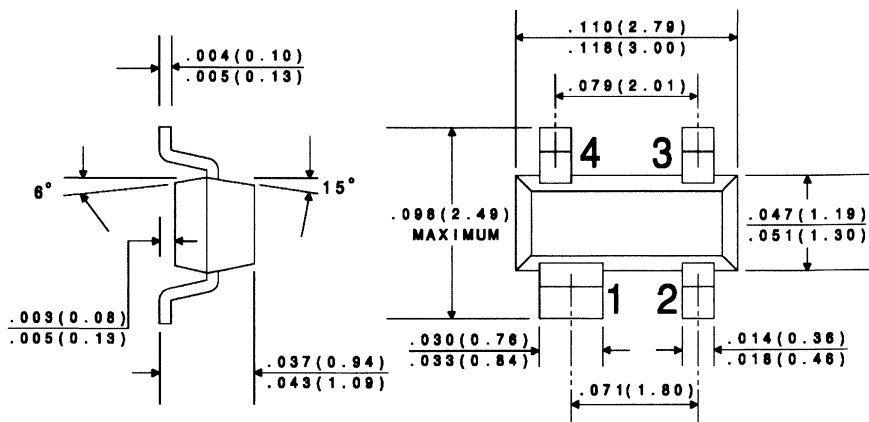
UNITS

T_J, T_{stg} -65 to +150 $^\circ\text{C}$
 θ_{JA} 357 $^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_R	$V_R=25\text{V}, T_A=150^\circ\text{C}$		30	μA
I_R	$V_R=75\text{V}$		1.0	μA
I_R	$V_R=75\text{V}, T_A=150^\circ\text{C}$		50	μA
V_F	$I_F=1.0\text{mA}$		0.715	V
V_F	$I_F=10\text{mA}$		0.855	V
V_F	$I_F=50\text{mA}$		1.000	V
V_F	$I_F=150\text{mA}$		1.250	V
C_T	$V_R=0, f=1\ \text{MHz}$		2.0	pF
t_{rr}	$I_F=I_R=10\text{mA}, R_L=100\Omega, \text{Rec. to } 1.0\text{mA}$		6.0	ns
Q_s	$I_F=10\text{mA}, V_R=5.0\text{V}, R_L=500\Omega$		45	pC
V_{FR}	$I_F=10\text{mA}, t_r=20\text{ns}$		1.75	V

All dimensions in inches (mm).



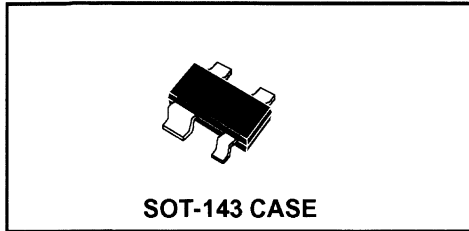
LEAD CODE:

- 1) CATHODE 1
- 2) CATHODE 2
- 3) ANODE 2
- 4) ANODE 1

DATA
SHEETS

R2

BAS56
**DUAL HIGH CURRENT
SWITCHING DIODE**



Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR BAS56 type is an ultra-high speed silicon switching diode manufactured by the epitaxial planar process, in an epoxy molded surface mount package with isolated dual diodes, designed for high current, high speed switching applications.

Marking code is L51.

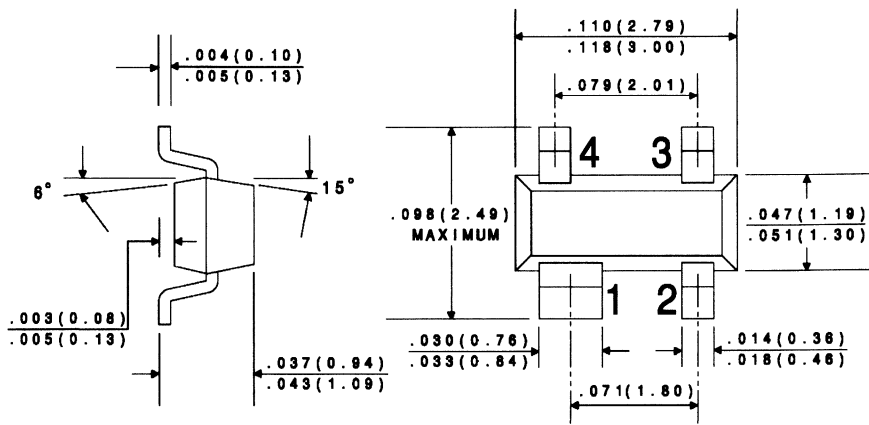
MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Continuous Reverse Voltage	V_R	60	V
Peak Repetitive Reverse Voltage	V_{RRM}	60	V
Continuous Forward Current	I_F	200	mA
Peak Repetitive Forward Current	I_{FRM}	600	mA
Forward Surge Current, $t_p=1 \mu\text{sec.}$	I_{FSM}	4000	mA
Forward Surge Current, $t_p=1 \text{sec.}$	I_{FSM}	1000	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	Θ_{JA}	357	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_R	$V_R=60\text{V}$		100	nA
I_R	$V_R=60\text{V}, T_A=150^\circ\text{C}$		100	μA
I_R	$V_R=75\text{V}$		10	μA
V_F	$I_F=10\text{mA}$		0.75	V
V_F	$I_F=200\text{mA}$		1.00	V
V_F	$I_F=500\text{mA}$		1.25	V
C_T	$V_R=0, f=1 \text{MHz}$		2.5	pF
t_{rr}	$I_F=I_R=400\text{mA}, R_L=100\Omega, \text{Rec. to } 40\text{mA}$		6.0	ns
Q_s	$I_F=10\text{mA}, V_R=5.0\text{V}, R_L=500\Omega$		50	pC
V_{FR}	$I_F=400\text{mA}, t_r=30\text{ns}$		1.2	V
V_{FR}	$I_F=400\text{mA}, t_r=100\text{ns}$		1.5	V

All dimensions in inches (mm).



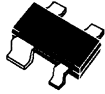
LEAD CODE:

- 1) CATHODE 1
- 2) CATHODE 2
- 3) ANODE 2
- 4) ANODE 1



BAW101

DUAL, ISOLATED HIGH VOLTAGE
SWITCHING DIODES



SOT-143 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR BAW101 type is a Silicon Dual Isolated High Voltage Switching diode designed for surface mount switching applications requiring high voltage capabilities.

Marking Code is CJP.

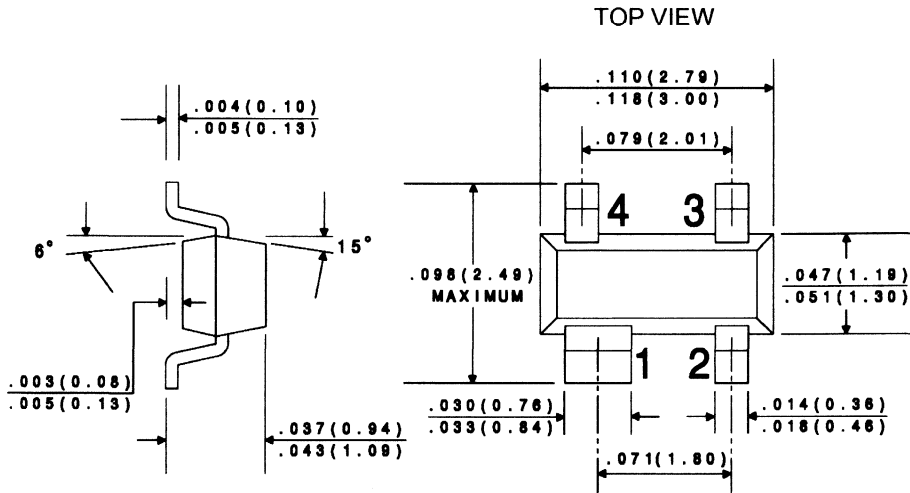
MAXIMUM RATINGS (T_A=25°C)

	SYMBOL		UNITS
Continuous Reverse Voltage	V _R	300	V
Peak Repetitive Reverse Voltage	V _{RRM}	300	V
Continuous Forward Current	I _F	200	mA
Peak Repetitive Forward Current	I _{FRM}	500	mA
Forward Surge Current, tp=1 μs	I _{FSM}	4500	mA
Power Dissipation	P _D	350	mW
Operating and Storage			
Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	Θ _{JA}	357	°C/W

ELECTRICAL CHARACTERISTICS PER DIODE (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I _R	V _R =250V			150	nA
I _R	V _R =250V, T _A =150°C			50	μA
B _V R	I _R =100μA	300			V
V _F	I _F =100mA		0.9	1.3	V
C _T	V _R =0V, f=1.0MHz			5.0	pF
t _{rr}	I _F =I _R =30mA, I _{rr} =3.0mA, R _L =100Ω			50	ns

All Dimensions in Inches (mm).



LEAD CODE:

- 1) Cathode 1
- 2) Cathode 2
- 3) Anode 2
- 4) Anode 1

DATA SHEETS

BZX84C3V3 THRU BZX84C33

**350mW ZENER DIODE
3.3 VOLTS THRU 33 VOLTS
5% TOLERANCE**



SOT-23 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR BZX84C3V3 Series Silicon Zener Diode is a high quality voltage regulator for use in industrial, commercial, entertainment and computer applications.

ABSOLUTE MAXIMUM RATINGS

Power Dissipation (@ $T_A=25^{\circ}\text{C}$)
Operating and Storage Temperature
Thermal Resistance

SYMBOL

P_D
 T_J, T_{stg}
 θ_{JA}

350
-65 to +150
357

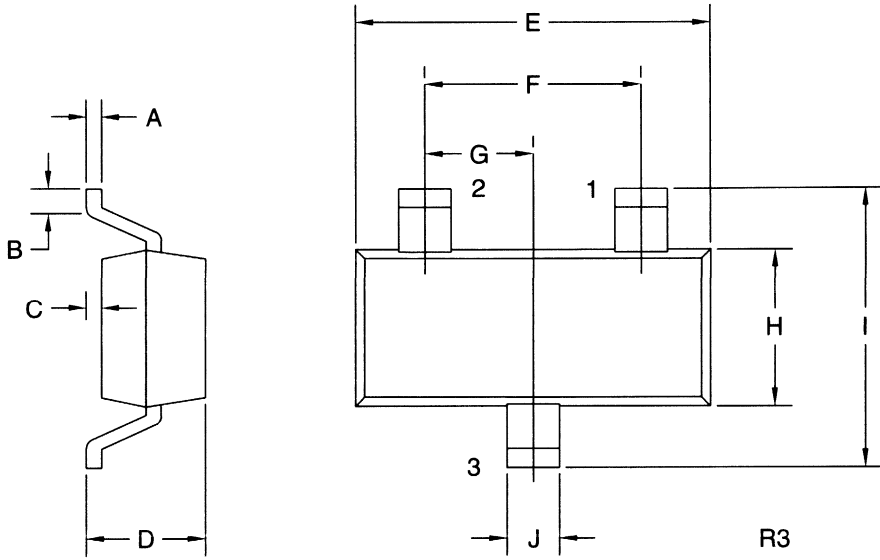
UNIT

mW
 $^{\circ}\text{C}$
 $^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$), $V_F=0.9\text{V MAX @ } I_F=10\text{mA}$ FOR ALL TYPES.

TYPE	Zener Voltage $V_Z @ I_ZT$		Test Current I_ZT	Maximum Zener Impedance			Maximum Reverse Current $I_R @ V_R$		Maximum Zener Current I_ZM	Maximum Zener Voltage Temperature Coefficient θV_Z	Marking Code
	MIN	MAX		$Z_{ZT} @ I_ZT$	$Z_{ZK} @ I_ZK$		$I_R @ V_R$	I_ZM			
	Volts	Volts		Ω	Ω	mA						$\mu\text{A}$	Volts	mA	$\%/^{\circ}\text{C}$
BZX84C3V3	3.1	3.5	5.0	95	600	1.0	5.0	1.0	76	-0.06	W6
BZX84C3V6	3.4	3.8	5.0	90	600	1.0	5.0	1.0	69	-0.06	W7
BZX84C3V9	3.7	4.1	5.0	90	600	1.0	3.0	1.0	64	-0.06	W8
BZX84C4V3	4.0	4.6	5.0	90	600	1.0	3.0	1.0	58	-0.05	W9
BZX84C4V7	4.4	5.0	5.0	80	500	1.0	3.0	2.0	53	-0.03	Z1
BZX84C5V1	4.8	5.4	5.0	60	480	1.0	2.0	2.0	49	0.02	Z2
BZX84C5V6	5.2	6.0	5.0	40	400	1.0	1.0	2.0	45	0.03	Z3
BZX84C6V2	5.8	6.6	5.0	10	150	1.0	3.0	4.0	40	0.04	Z4
BZX84C6V8	6.4	7.2	5.0	15	80	1.0	2.0	4.0	37	0.05	Z5
BZX84C7V5	7.0	7.9	5.0	15	80	1.0	1.0	5.0	33	0.05	Z6
BZX84C8V2	7.7	8.9	5.0	15	80	1.0	0.7	5.0	30	0.06	Z7
BZX84C9V1	8.5	9.6	5.0	15	100	1.0	0.5	6.0	27	0.06	Z8
BZX84C10	9.4	10.6	5.0	20	150	1.0	0.2	7.0	25	0.07	Z9
BZX84C11	10.4	11.6	5.0	20	150	1.0	0.1	8.0	23	0.07	Y1
BZX84C12	11.4	12.7	5.0	25	150	1.0	0.1	8.0	21	0.07	Y2
BZX84C13	12.4	14.1	5.0	30	170	1.0	0.1	8.0	19	0.08	Y3
BZX84C15	13.8	15.6	5.0	30	200	1.0	0.05	10.5	17	0.08	Y4
BZX84C16	15.3	17.1	5.0	40	200	1.0	0.05	11.2	16	0.08	Y5
BZX84C18	16.8	19.1	5.0	45	225	1.0	0.05	12.6	14	0.08	Y6
BZX84C20	18.8	21.2	5.0	55	225	1.0	0.05	14.0	12	0.08	Y7
BZX84C22	20.8	23.3	5.0	55	250	1.0	0.05	15.4	11	0.09	Y8
BZX84C24	22.8	25.6	5.0	70	250	1.0	0.05	16.8	10	0.09	Y9
BZX84C27	25.1	28.9	2.0	80	300	0.5	0.05	18.9	9	0.09	Y10
BZX84C30	28.0	32.0	2.0	80	300	0.5	0.05	21.0	8	0.09	Y11
BZX84C33	31.0	35.0	2.0	80	325	0.5	0.05	23.1	7	0.09	Y12

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) ANODE
- 2) NO CONNECTION
- 3) CATHODE

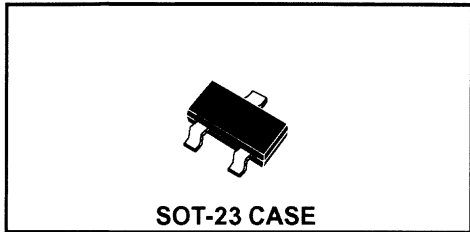
SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)



CBAS17

LOW VOLTAGE STABISTOR



CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CBAS17 type is a planar epitaxial silicon switching diode, designed for low voltage stabilizing applications.

Marking code is A91.

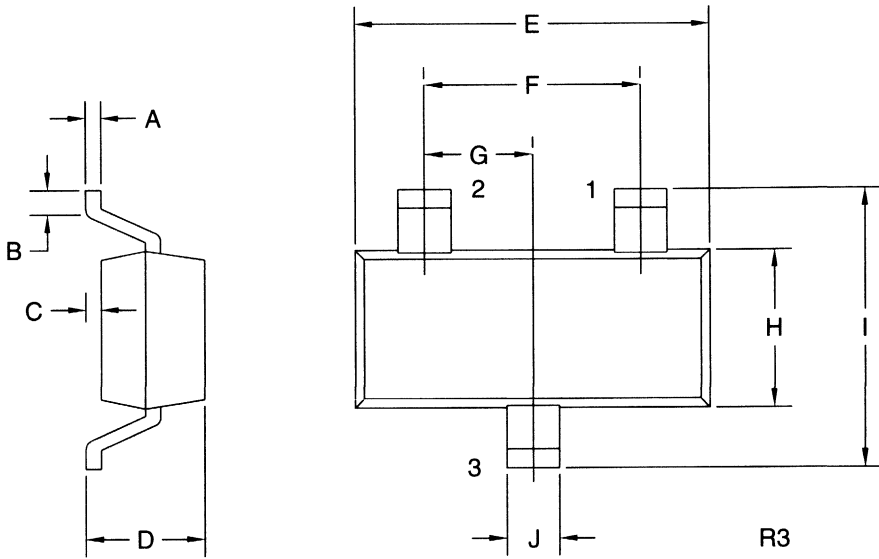
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Peak Repetitive Forward Current	I_{FRM}	250	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	357	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

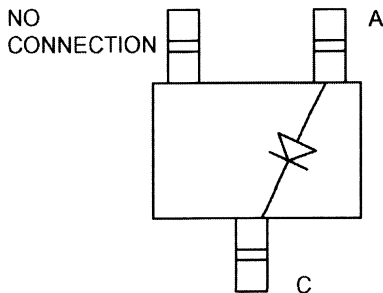
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
V_F	$I_F=0.1\text{mA}$	.580	.665	.680	V
V_F	$I_F=1.0\text{mA}$	.665	.745	.760	V
V_F	$I_F=5.0\text{mA}$	.725	.805	.820	V
V_F	$I_F=10\text{mA}$	.750	.825	.840	V
V_F	$I_F=100\text{mA}$	.870	.920	.960	V
I_R	$V_R=4.0\text{V}$			5.0	μA
C_T	$V_R=0, f=1\text{MHz}$			140	pF

SOT-23 CASE - MECHANICAL OUTLINE



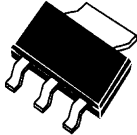
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)



CBCP68 NPN
CBCP69 PNP

SILICON COMPLEMENTARY
SMALL SIGNAL TRANSISTORS



SOT-223 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CBCP68, CBCP69 types are complementary silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring high current capability.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

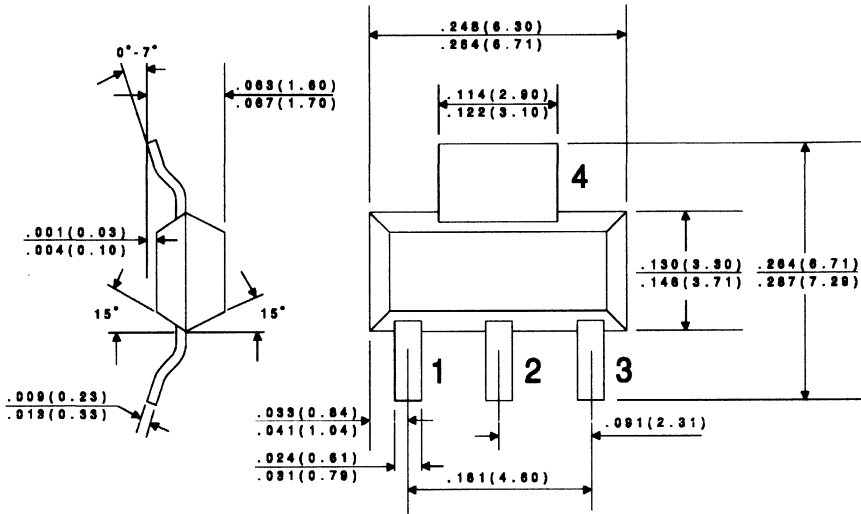
	SYMBOL		UNITS
Collector-Emitter Voltage	V_{CES}	25	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	1.0	A
Collector Current-Peak	I_{CM}	2.0	A
Base Current	I_B	100	mA
Base Current-Peak	I_{BM}	200	mA
Power Dissipation	P_D	2.0	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	62.5	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=25\text{V}$			10	μA
I_{CBO}	$V_{CB}=25\text{V}, T_A=150^{\circ}\text{C}$			1.0	mA
I_{EBO}	$V_{EB}=5.0\text{V}$			10	μA
BV_{CBO}	$I_C=10\mu\text{A}$	25			V
BV_{CEO}	$I_C=10\text{mA}$	20			V
BV_{EBO}	$I_E=1.0\mu\text{A}$	5.0			V
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$			0.5	V
$V_{BE(ON)}$	$V_{CE}=10\text{V}, I_C=5.0\text{mA}$		0.6		V
$V_{BE(ON)}$	$V_{CE}=1.0\text{V}, I_C=1.0\text{A}$			1.0	V
h_{FE}	$V_{CE}=10\text{V}, I_C=5.0\text{mA}$	50			

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
h_{FE}	$V_{CE}=1.0V, I_C=500mA$	85		375	
h_{FE}	$V_{CE}=1.0V, I_C=1.0A$	60			
f_T	$V_{CE}=5.0V, I_C=10mA, f=20MHz$	65			MHz
C_{ob}	$V_{CB}=5.0V, I_E=0, f=450kHz$		25		pF

All dimensions in inches (mm).



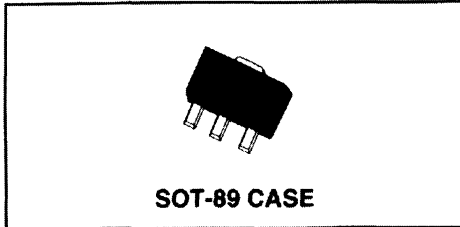
LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

DATA SHEETS

**CBCX68 NPN
CBCX69 PNP**

**SILICON COMPLEMENTARY
SMALL SIGNAL TRANSISTORS**



DESCRIPTION

The CENTRAL SEMICONDUCTOR CBCX68, CBCX69 types are complementary silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring high current capability.

MAXIMUM RATINGS (T_A=25°C)

	SYMBOL		UNITS
Collector-Emitter Voltage	V _{CES}	25	V
Collector-Emitter Voltage	V _{CEO}	20	V
Emitter-Base Voltage	V _{EBO}	5.0	V
Collector Current	I _C	1.0	A
Collector Current-Peak	I _{CM}	2.0	A
Base Current	I _B	100	mA
Base Current-Peak	I _{BM}	200	mA
Power Dissipation	P _D	1.2	W
Operating and Storage			
Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	θ _{JA}	104	°C/W

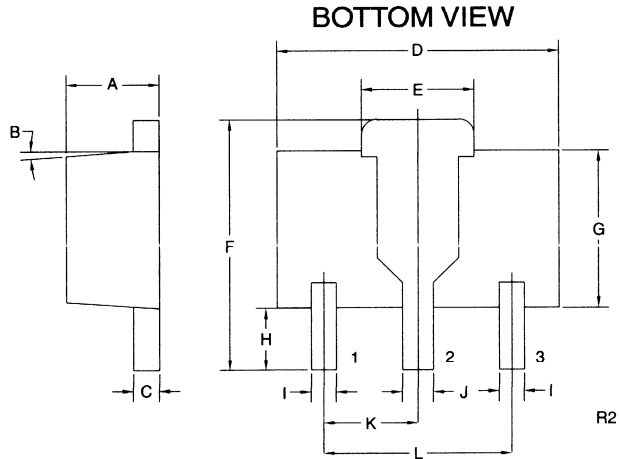
ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I _{CBO}	V _{CB} =25V			100	nA
I _{CBO}	V _{CB} =25V, T _A =150°C			10	μA
I _{EBO}	V _{EB} =5.0V			10	μA
BV _{CBO}	I _C =10μA	25			V
BV _{CEO}	I _C =10mA	20			V
BV _{EBO}	I _E =1.0μA	5.0			V
V _{CE(SAT)}	I _C =1.0A, I _B =100mA			0.5	V
V _{BE(ON)}	V _{CE} =10V, I _C =5.0mA		0.6		V
V _{BE(ON)}	V _{CE} =1.0V, I _C =1.0A			1.0	V

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
h_{FE}	$V_{CE} = 10V, I_C = 5.0mA$	50			
h_{FE}	$V_{CE} = 1.0V, I_C = 500mA$	85		375	
h_{FE}	$V_{CE} = 1.0V, I_C = 1.0A$	60			
f_T	$V_{CE} = 5.0V, I_C = 10mA, f = 20MHz$	65			MHz

SOT-89 - MECHANICAL DRAWING

Bottom View



LEAD CODE:

- 1) EMITTER
- 2) COLLECTOR
- 3) BASE

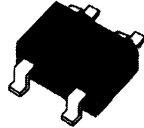
SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.055	0.067	1.40	1.70
B	4°		4°	
C	0.016	0.018	0.40	0.46
D	0.173	0.185	4.40	4.70
E	0.070	0.074	1.79	1.87
F	0.146	0.177	3.70	4.50
G	0.094	0.106	2.40	2.70
H	0.028	0.051	0.70	1.30
I	0.015	0.019	0.38	0.48
J	0.019	0.023	0.48	0.58
K	0.059		1.50	
L	0.118		3.00	

SOT-89 (REV: R2)



CBR1-D020S SERIES

1.0 AMP DUAL IN LINE
BRIDGE RECTIFIER



SMDIP CASE

CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CBR1-D020S series types are silicon full wave bridge rectifiers mounted in a durable epoxy, surface mount, molded case, utilizing glass passivated chips. To order devices on tape and reel (1,000/13" reel) add TR13 suffix.

NOTE: Also available in Fast Recovery, please contact factory for details.

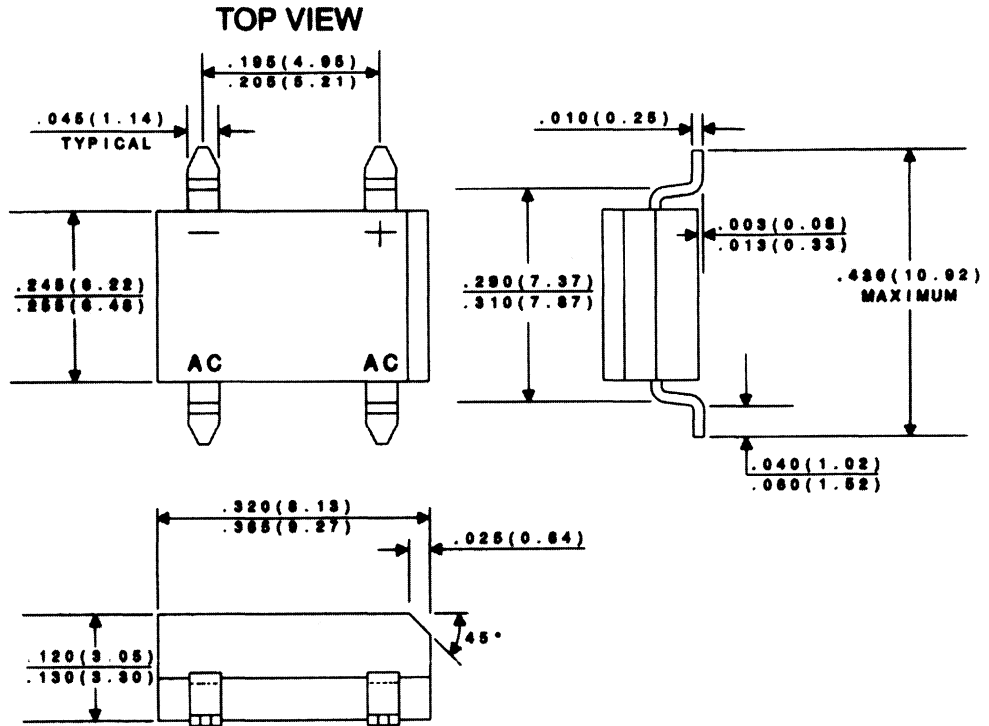
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL	CBR1-D020S	CBR1-D040S	CBR1-D060S	CBR1-D100S	UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	200	400	600	1000	V
DC Blocking Voltage	V_R	200	400	600	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	140	280	420	700	V
Average Forward Current ($T_A=50^{\circ}\text{C}$)	I_O		1.0			A
Peak Forward Surge Current	I_{FSM}		50			A
Operating and Storage Junction Temperature	T_J, T_{stg}		-65 to +150			$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
V_F	$I_F=1.0\text{A}$			1.1	V
I_R	$V_R=\text{Rated } V_{RRM}$			10	μA
I_R	$V_R=\text{Rated } V_{RRM}, T_A=125^{\circ}\text{C}$			0.5	mA
C_J	$V_R=4.0\text{V}, f=1.0\text{MHz}$		25		pF

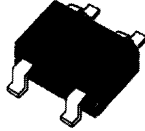
All dimensions in inches (mm).



DATA SHEETS

**CBR1U-D010S
CBR1U-D020S**

**1.0 AMP ULTRA FAST
BRIDGE RECTIFIER**



SMDIP CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CBR1U-D010S, CBR1U-D020S types are silicon full wave ultra fast bridge rectifiers mounted in a durable epoxy surface mount molded case, utilizing glass passivated chips.

MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

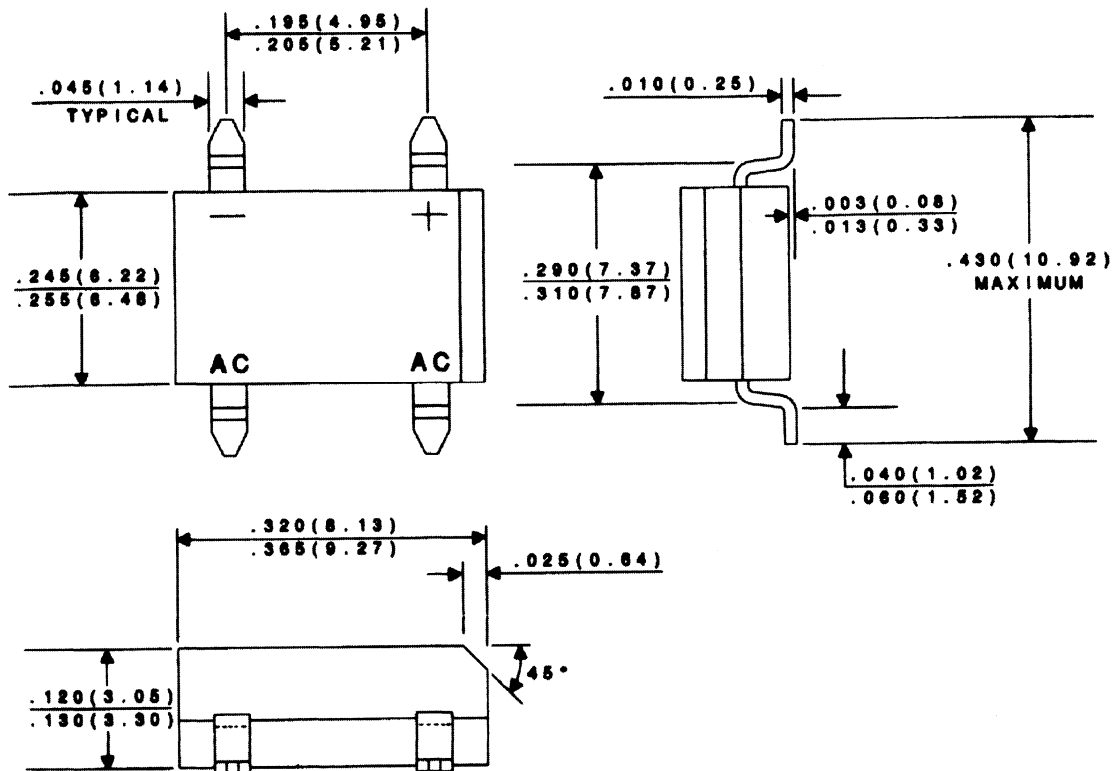
	SYMBOL	CBR1U-D010S	CBR1U-D020S	UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	100	200	V
DC Blocking Voltage	V_R	100	200	V
RMS Reverse Voltage	$V_R(\text{RMS})$	70	140	V
Average Forward Current ($T_A=40^{\circ}\text{C}$)	I_O		1.0	A
Peak Forward Surge Current	I_{FSM}		50	A
Operating and Storage				
Junction Temperature	T_J, T_{stg}		-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	Θ_{JA}		40	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
V_F	$I_F=1.0\text{A}$ (Per Diode)		1.05	V
I_R	$V_R=\text{Rated } V_{RRM}$		5.0	μA
I_R	$V_R=\text{Rated } V_{RRM}, T_A=125^{\circ}\text{C}$		1.0	mA
t_{rr}	$I_F=500\text{mA}, I_R=1.0\text{A}, I_{rr}=250\text{mA}$		50	ns

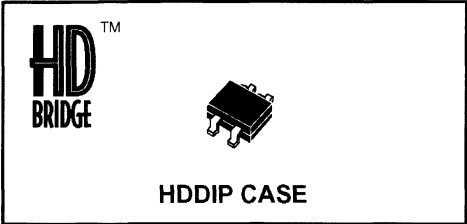
All dimensions in inches (mm).

TOP VIEW



DATA SHEETS

CBRHD SERIES
HIGH DENSITY SURFACE MOUNT
½ AMP DUAL IN LINE
BRIDGE RECTIFIER



CentralTM

Semiconductor Corp.

FEATURES:

- Truly efficient use of board space, requires only 42mm² of board space vs. 120mm² of board space for industry standard 1.0 Amp surface mount bridge rectifier.
- 50% higher density (amps/mm²) than the industry standard 1.0 Amp surface mount bridge rectifier.
- Glass passivated chips for high reliability.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CBRHD series types are silicon full wave bridge rectifiers mounted in a durable epoxy surface mount molded case, utilizing glass passivated chips.

MAXIMUM RATINGS: (T_A=25°C unless otherwise noted)

	SYMBOL	CBRHD <u>-02</u>	CBRHD <u>-04</u>	CBRHD <u>-06</u>	CBRHD <u>-10*</u>	UNITS
Peak Repetitive Reverse Voltage	V _{RRM}	200	400	600	1000	V
DC Blocking Voltage	V _R	200	400	600	1000	V
RMS Reverse Voltage	V _{R(RMS)}	140	280	420	700	V
Average Forward Current (T _A =40°C)(1)	I _O			0.5		A
Average Forward Current (T _A =40°C)(2)	I _O			0.8		A
Peak Forward Surge Current	I _{FSM}			30		A
Operating and Storage Junction Temperature	T _J , T _{stg}			-65 to +150		°C

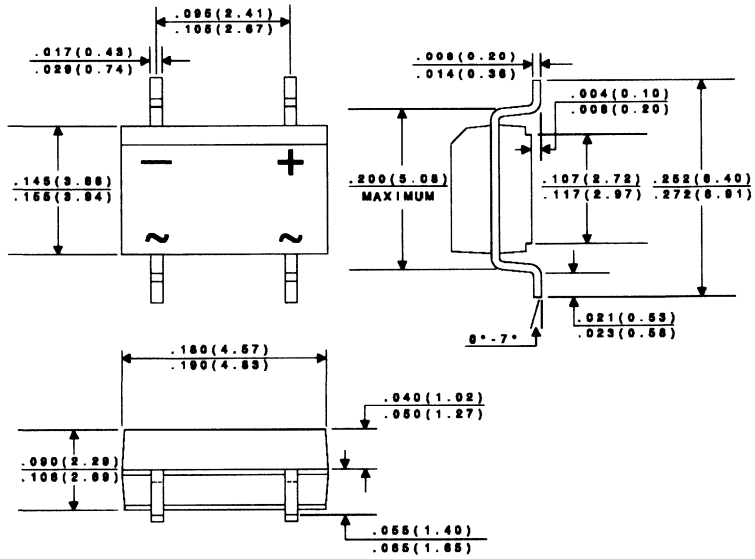
ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
V _F	I _F =400mA (Per Diode)			1.0	V
I _R	V _R =Rated V _{RRM}			5.0	μA
I _R	V _R =Rated V _{RRM} , T _A =125°C			500	μA
C _J	V _R =4.0V, f=1.0MHz		20		pF

(1) Mounted on a Glass-Epoxy P.C.B.
 (2) Mounted on a Ceramic P.C.B.
 *Available on special order, please consult factory.

All dimensions in inches (mm).

TOP VIEW



DATA SHEETS

CCLHM080
THRU
CCLHM150

**SURFACE MOUNT
HIGH CURRENT
CURRENT LIMITING DIODE**



SOD-80 CASE

Central™ Semiconductor Corp.

FEATURES:

- LOW COST
- SUPERIOR LOT TO LOT CONSISTENCY
- HIGH RELIABILITY
- LEADED DEVICES AVAILABLE
- SPECIAL SELECTIONS AVAILABLE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CCLHM080 series types are high current silicon field effect current regulator diodes designed for applications requiring a constant current over a wide voltage range. These devices are manufactured in the cost effective SOD-80 double plug case which provides many benefits to the user including space saving and improved thermal characteristics. Special selections of I_P (regulator current) are available for critical applications.

MAXIMUM RATINGS: ($T_L=75^\circ\text{C}$)

	SYMBOL		UNITS
Peak Operating Voltage	POV	50	V
Power Dissipation	P_D	800	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +200	$^\circ\text{C}$

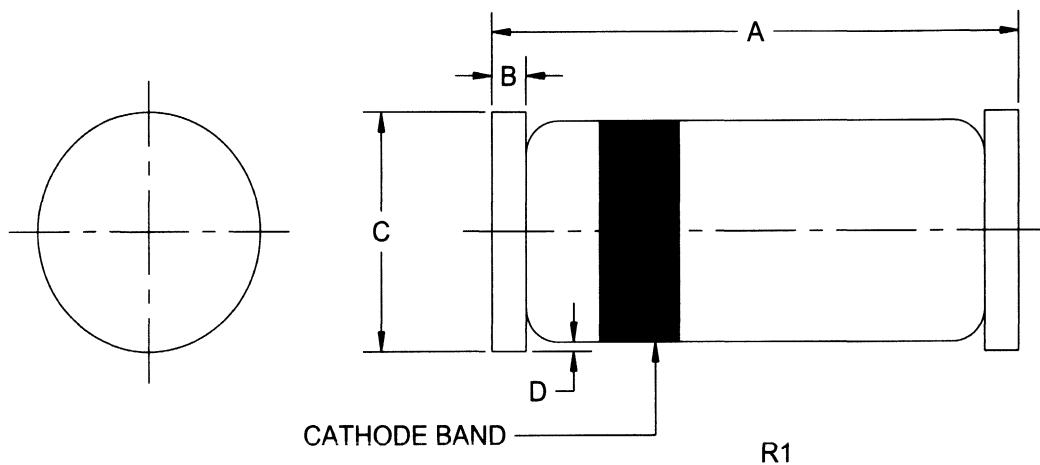
TYPE NO.	REGULATOR(1) CURRENT			DYNAMIC IMPEDANCE	KNEE IMPEDANCE	LIMITING VOLTAGE	TEMPERATURE COEFFICIENT
	$I_P@V_T=25\text{V}$			$Z_T@V_T=25\text{V}$	$Z_K@V_K=6.0\text{V}$	$V_L@I_L=0.8 I_P \text{ MIN}$	TC^*
	mA			$\text{M}\Omega$	k Ω	VOLTS	$\%/^\circ\text{C}$
	MIN	NOM	MAX	MIN	MIN	MAX	
CCLHM080	6.56	8.20	9.84	0.32	15	3.1	-0.25 TO -0.45
CCLHM100	8.00	10.0	12.0	0.17	6.0	3.5	-0.25 TO -0.45
CCLHM120	9.60	12.0	14.4	0.08	3.0	3.8	-0.25 TO -0.45
CCLHM150	12.0	15.0	18.0	0.03	2.0	4.3	-0.25 TO -0.45

*The Temperature Coefficient is measured between the following points: $+25^\circ\text{C}$, $+50^\circ\text{C}$

(1) PULSED METHOD. $\left(\text{PULSE WIDTH (ms)} = \frac{27.5}{I_{PNOM} \text{ (mA)}} \right)$

**SURFACE MOUNT
HIGH CURRENT
CURRENT LIMITING DIODE**

SOD-80 CASE - MECHANICAL OUTLINE



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.130	0.146	3.30	3.71
B	0.016		0.41	
C (DIA)	0.051	0.067	1.30	1.70
D	-	0.004	-	0.10

SOD-80 (REV:R1)



MARKING CODES:

CENTRAL TYPE NO.	BAND 1*	BAND 2	BAND 3
CCLHM080	BLACK	GREEN	YELLOW
CCLHM100	BLACK	ORANGE	PINK
CCLHM120	BLACK	ORANGE	WHITE
CCLHM150	BLACK	ORANGE	LIGHT BLUE

* Cathode Band

CCLM0035
THRU
CCLM5750

**SURFACE MOUNT
CURRENT LIMITING DIODE**



SOD-80 CASE

CentralTM
Semiconductor Corp.

FEATURES:

- LOW COST
- HIGH RELIABILITY
- SMALLER CASE SIZE THAN COMPETITION
- SPECIAL SELECTIONS AVAILABLE
- SUPERIOR LOT TO LOT CONSISTENCY
- LEADED DEVICES AVAILABLE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CCLM0035 series types are silicon field effect current regulator diodes designed for applications requiring a constant current over a wide voltage range. These devices are manufactured in the cost effective SOD-80 double plug case which provides many benefits to the user including space savings and improved thermal characteristics. Special selections of I_P (regulator current) are available for critical applications.

MAXIMUM RATINGS: ($T_L=75^\circ\text{C}$)

	SYMBOL		UNITS
Peak Operating Voltage	P_{OV}	100	V
Power Dissipation	P_D	800	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +200	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$)

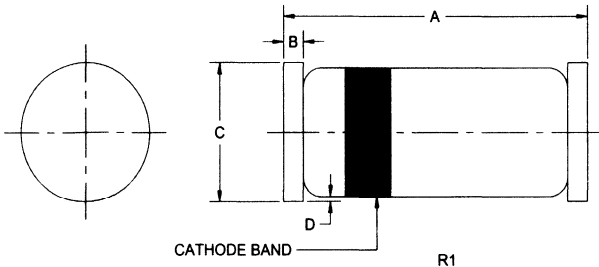
TYPE NO.	REGULATOR(1) CURRENT			DYNAMIC IMPEDANCE	KNEE IMPEDANCE	LIMITING VOLTAGE	TEMPERATURE COEFFICIENT
	$I_P@V_T=25\text{V}$			$Z_T@V_T=25\text{V}$	$Z_K@V_K=6.0\text{V}$	$V_L@I_L=0.8 I_P \text{ MIN}$	TC^*
	mA			$M\Omega$	$M\Omega$	VOLTS	$\% / ^\circ\text{C}$
	MIN	NOM	MAX	MIN	MIN	MAX	
CCLM0035	0.010	0.035	0.060	8.0	4.0	0.4	+2.10 TO +0.10
CCLM0130	0.050	0.130	0.210	6.0	2.0	0.6	+2.10 TO +0.10
CCLM0300	0.200	0.310	0.420	4.0	1.0	0.8	+0.40 TO -0.20
CCLM0500	0.400	0.515	0.630	2.0	0.5	1.1	+0.15 TO -0.25
CCLM0750	0.600	0.760	0.920	1.0	0.2	1.4	0.0 TO -0.32
CCLM1000	0.880	1.100	1.320	0.65	0.1	1.7	-0.10 TO -0.37
CCLM1500	1.280	1.500	1.720	0.45	0.07	2.0	-0.13 TO -0.40
CCLM2000	1.680	2.000	2.320	0.35	0.05	2.3	-0.15 TO -0.42
CCLM2700	2.280	2.690	3.100	0.30	0.03	2.7	-0.18 TO -0.45
CCLM3500	3.000	3.550	4.100	0.25	0.02	3.2	-0.20 TO -0.47
CCLM4500	3.900	4.500	5.100	0.20	0.01	3.7	-0.22 TO -0.50
CCLM5750	5.000	5.750	6.500	0.05	0.005	4.5	-0.25 TO -0.53

*The Temperature Coefficient is measured between the following points: +25 $^\circ\text{C}$, +50 $^\circ\text{C}$

(1) PULSED METHOD. $\left(\text{PULSE WIDTH (ms)} = \frac{27.5}{I_{PNOM}(\text{mA})} \right)$

**SURFACE MOUNT
CURRENT LIMITING DIODE**

SOD-80 CASE - MECHANICAL OUTLINE



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.130	0.146	3.30	3.71
B	0.016		0.41	
C (DIA)	0.051	0.067	1.30	1.70
D	-	0.004	-	0.10

SOD-80 (REV:R1)

MARKING CODES:

CENTRAL TYPE NO.	BAND 1*	BAND 2	BAND 3
CCLM0035	BLACK	LIGHT BLUE	WHITE
CCLM0130	BLACK	LIGHT BLUE	PINK
CCLM0300	BLACK	LIGHT BLUE	ORANGE
CCLM0500	BLACK	LIGHT BLUE	GREEN
CCLM0750	BLACK	LIGHT BLUE	DARK BLUE
CCLM1000	BLACK	GREEN	PINK
CCLM1500	BLACK	GREEN	ORANGE
CCLM2000	BLACK	GREEN	GREEN
CCLM2700	BLACK	GREEN	LIGHT BLUE
CCLM3500	BLACK	GREEN	DARK BLUE
CCLM4500	BLACK	GREEN	VIOLET
CCLM5750	BLACK	GREEN	WHITE

* Cathode Band

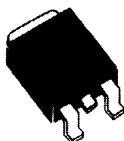
**DATA
SHEETS**

CentralTM Semiconductor Corp.

CJD31C NPN
CJD32C PNP

COMPLEMENTARY SILICON
POWER TRANSISTOR

DK **PAK** **SEM** **CON** **!** TM



DPAK CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CJD31C, CJD32C types are Complementary Silicon Power Transistors manufactured by the epitaxial base process, mounted in a surface mount package designed for power amplifier and high speed switching applications.

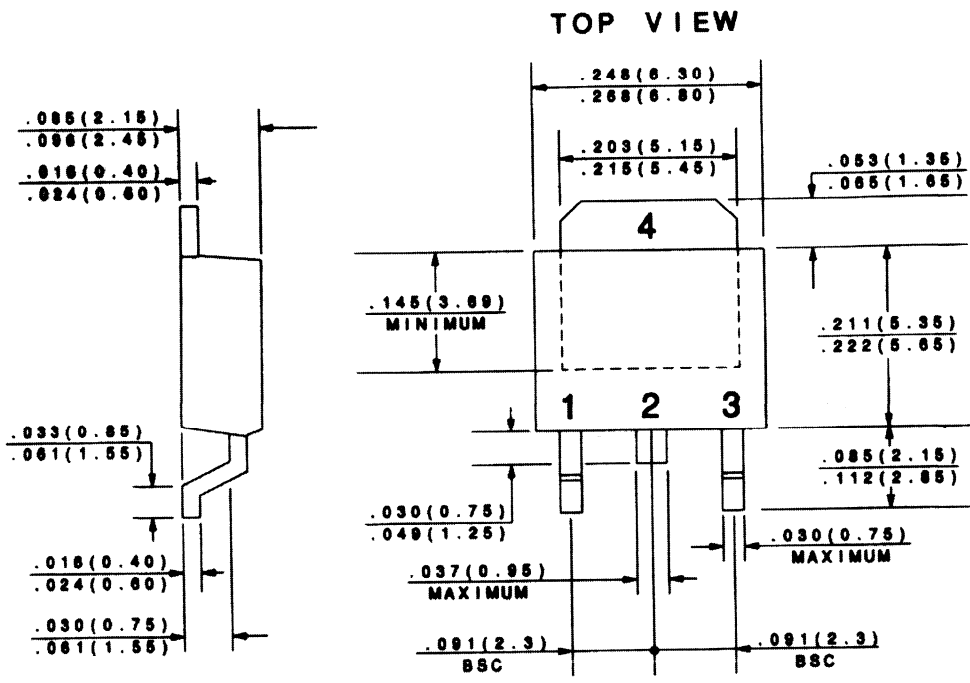
MAXIMUM RATINGS (T_C=25°C)

	SYMBOL		UNITS
Collector-Base Voltage	V _{CB0}	100	V
Collector-Emitter Voltage	V _{CE0}	100	V
Emitter-Base Voltage	V _{EB0}	5.0	V
Continuous Collector Current	I _C	3.0	A
Peak Collector Current	I _{CM}	5.0	A
Base Current	I _B	1.0	A
Power Dissipation (T _C =25°C)	P _D	15	W
Power Dissipation (T _A =25°C)	P _D	1.56	W
Operating and Storage			
Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	θ _{JC}	8.33	°C/W
Thermal Resistance	θ _{JA}	80.1	°C/W

ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _{CEO}	V _{CE} =60V		50	μA
I _{CES}	V _{CE} =100V		20	μA
I _{EBO}	V _{EB} =5.0V		1.0	mA
BV _{CEO}	I _C =30mA	100		V
V _{CE(SAT)}	I _C =3.0A, I _B =375mA		1.2	V
V _{BE(ON)}	V _{CE} =4.0V, I _C =3.0A		1.8	V
h _{FE}	V _{CE} =4.0V, I _C =1.0A	25		
h _{FE}	V _{CE} =4.0V, I _C =3.0A	10	50	
f _T	V _{CE} =10V, I _C =500mA, f=1.0MHz	3.0		MHz
h _{fe}	V _{CE} =10V, I _C =500mA, f=1.0kHz	20		

All dimensions in inches (mm).



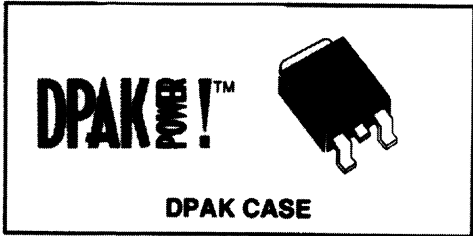
LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR



**CJD41C NPN
CJD42C PNP**

**COMPLEMENTARY SILICON
POWER TRANSISTOR**



DESCRIPTION:

The CENTRAL SEMICONDUCTOR CJD41C, CJD42C types are Complementary Silicon Power Transistors manufactured by the epitaxial base process, mounted in a surface mount package designed for power amplifier and high speed switching applications.

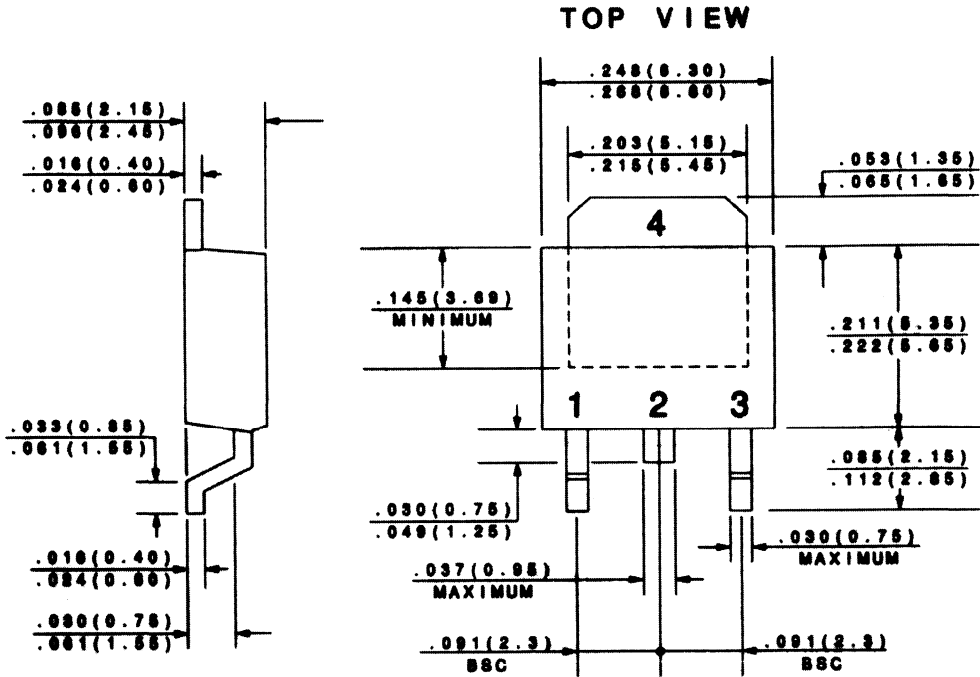
MAXIMUM RATINGS ($T_C=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Continuous Collector Current	I_C	6.0	A
Peak Collector Current	I_{CM}	10	A
Base Current	I_B	2.0	A
Power Dissipation ($T_C=25^{\circ}\text{C}$)	P_D	20	W
Power Dissipation ($T_A=25^{\circ}\text{C}$)	P_D	1.75	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JC}	6.25	$^{\circ}\text{C/W}$
Thermal Resistance	θ_{JA}	71.4	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CEO}	$V_{CE}=60\text{V}$		50	μA
I_{CES}	$V_{CE}=100\text{V}$		10	μA
I_{EBO}	$V_{EB}=5.0\text{V}$		500	μA
BV_{CEO}	$I_C=30\text{mA}$	100		V
$V_{CE(SAT)}$	$I_C=6.0\text{A}, I_B=600\text{mA}$		1.5	V
$V_{BE(ON)}$	$V_{CE}=4.0\text{V}, I_C=6.0\text{A}$		2.0	V
h_{FE}	$V_{CE}=4.0\text{V}, I_C=300\text{mA}$	30		
h_{FE}	$V_{CE}=4.0\text{V}, I_C=3.0\text{A}$	15	75	
f_T	$V_{CE}=10\text{V}, I_C=500\text{mA}, f=1.0\text{MHz}$	3.0		MHz
h_{fe}	$V_{CE}=10\text{V}, I_C=500\text{mA}, f=1.0\text{kHz}$	20		

All dimensions in inches (mm).



LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

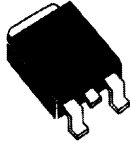
DATA SHEETS

CentralTM Semiconductor Corp.

CJD44H11 NPN
CJD45H11 PNP

COMPLEMENTARY SILICON
POWER TRANSISTOR

DPAK POWER!TM



DPAK CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CJD44H11, CJD45H11 types are Complementary Silicon Power Transistors manufactured in a surface mount package designed for switching and power amplifier applications.

MAXIMUM RATINGS (T_C=25°C)

	SYMBOL		UNITS
Collector-Emitter Voltage	V _{CEO}	80	V
Emitter-Base Voltage	V _{EBO}	5.0	V
Continuous Collector Current	I _C	8.0	A
Peak Collector Current	I _{CM}	16	A
Power Dissipation (T _C =25°C)	P _D	20	W
Power Dissipation (T _A =25°C)	P _D	1.75	W
Operating and Storage			
Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	θ _{JC}	6.25	°C/W
Thermal Resistance	θ _{JA}	71.4	°C/W

ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I _{CES}	V _{CE} =80V			10	μA
I _{EBO}	V _{EB} =5.0V			50	μA
BV _{CEO}	I _C =30mA	80			V
V _{CE(SAT)}	I _C =8.0A, I _B =400mA			1.0	V
V _{BE(SAT)}	I _C =8.0A, I _B =800mA			1.5	V
h _{FE}	V _{CE} =1.0V, I _C =2.0A	60			
h _{FE}	V _{CE} =1.0V, I _C =4.0A	40			
f _T	V _{CE} =10V, I _C =500mA, f=20MHz (CJD44H11)		60		MHz
f _T	V _{CE} =10V, I _C =500mA, f=20MHz (CJD45H11)		50		MHz
C _{ob}	V _{CB} =10V, I _E =0, f=0.1MHz (CJD44H11)		120		pF
C _{ob}	V _{CB} =10V, I _E =0, f=0.1MHz (CJD45H11)		220		pF
t _d + t _r	I _C =5.0A, I _{B1} =500mA (CJD44H11)		320		ns
t _d + t _r	I _C =5.0A, I _{B1} =500mA (CJD45H11)		150		ns

**CJD47
CJD50**

**NPN SILICON
POWER TRANSISTOR**



DESCRIPTION:

The CENTRAL SEMICONDUCTOR CJD47, CJD50 types are NPN Silicon Power Transistors manufactured in a surface mount package designed for high voltage applications such as power supplies and other switching applications.

MAXIMUM RATINGS (T_C=25°C)

	SYMBOL	CJD47	CJD50	UNITS
Collector-Base Voltage	V _{CBO}	350	500	V
Collector-Emitter Voltage	V _{CEO}	250	400	V
Emitter-Base Voltage	V _{EBO}	5.0		V
Continuous Collector Current	I _C	1.0		A
Peak Collector Current	I _{CM}	2.0		A
Base Current	I _B	600		mA
Power Dissipation (T _C =25°C)	P _D	15		W
Power Dissipation (T _A =25°C)	P _D	1.56		W
Operating and Storage				
Junction Temperature	T _J , T _{stg}	-65 to +150		°C
Thermal Resistance	θ _{JC}	8.33		°C/W
Thermal Resistance	θ _{JA}	80.1		°C/W

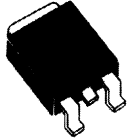
ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _{CEO}	V _{CE} =150V (CJD47)		200	μA
I _{CEO}	V _{CE} =300V (CJD50)		200	μA
I _{CES}	V _{CE} =350V (CJD47)		100	μA
I _{CES}	V _{CE} =500V (CJD50)		100	μA
I _{EBO}	V _{EB} =5.0V		1.0	mA
BV _{CEO}	I _C =30mA (CJD47)	250		V
BV _{CEO}	I _C =30mA (CJD50)	400		V
V _{CE(SAT)}	I _C =1.0A, I _B =200mA		1.0	V
V _{BE(ON)}	V _{CE} =10V, I _C =1.0A		1.5	V
h _{FE}	V _{CE} =10V, I _C =300mA	30	150	

CJD112 NPN
CJD117 PNP

COMPLEMENTARY SILICON
POWER DARLINGTON TRANSISTOR

DPAK POWER!



DPAK CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CJD112, CJD117 types are Complementary Silicon Power Darlington Transistors manufactured in a surface mount package designed for low speed switching and amplifier applications.

MAXIMUM RATINGS ($T_C=25^\circ\text{C}$)

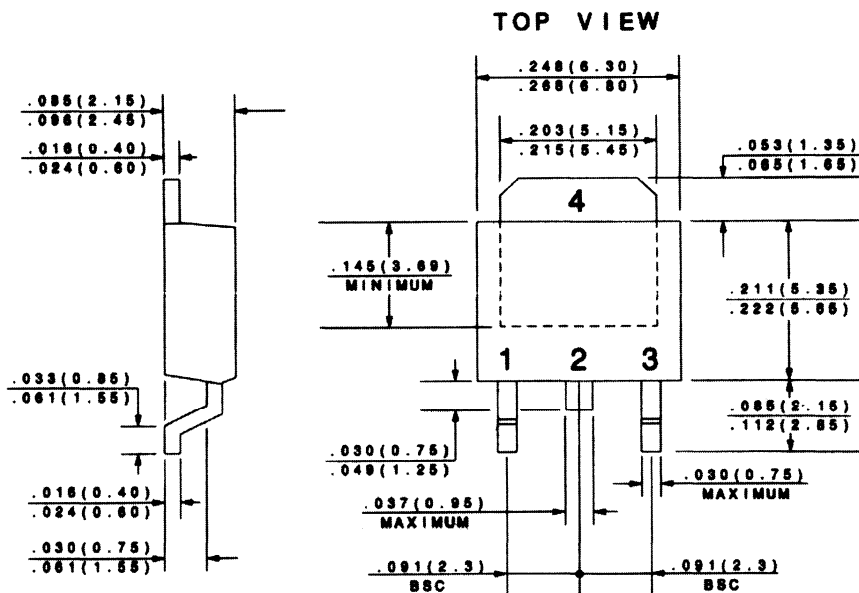
	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Continuous Collector Current	I_C	2.0	A
Peak Collector Current	I_{CM}	4.0	A
Base Current	I_B	50	mA
Power Dissipation ($T_C=25^\circ\text{C}$)	P_D	20	W
Power Dissipation ($T_A=25^\circ\text{C}$)	P_D	1.75	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JC}	6.25	$^\circ\text{C}/\text{W}$
Thermal Resistance	θ_{JA}	71.4	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CEO}	$V_{CE}=50\text{V}$		20	μA
I_{CEV}	$V_{CE}=80\text{V}, V_{BE(off)}=1.5\text{V}$		10	μA
I_{CEV}	$V_{CE}=80\text{V}, V_{BE(off)}=1.5\text{V}, T_C=125^\circ\text{C}$		500	μA
I_{CBO}	$V_{CB}=80\text{V}$		10	μA
I_{CBO}	$V_{CB}=100\text{V}$		20	μA
I_{EBO}	$V_{EB}=5.0\text{V}$		2.0	mA
BV_{CEO}	$I_C=30\text{mA}$		100	V
$V_{CE(SAT)}$	$I_C=2.0\text{A}, I_B=8.0\text{mA}$		2.0	V
$V_{CE(SAT)}$	$I_C=4.0\text{A}, I_B=40\text{mA}$		3.0	V
$V_{BE(SAT)}$	$I_C=4.0\text{A}, I_B=40\text{mA}$		4.0	V

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$V_{BE(ON)}$	$V_{CE}=3.0V, I_C=2.0A$		2.8	V
h_{FE}	$V_{CE}=3.0V, I_C=0.5A$	500		
h_{FE}	$V_{CE}=3.0V, I_C=2.0A$	1000	12000	
h_{FE}	$V_{CE}=3.0V, I_C=4.0A$	200		
f_T	$V_{CE}=10V, I_C=750mA, f=1.0MHz$	25		MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=0.1MHz (CJD112)$		100	pF
C_{ob}	$V_{CB}=10V, I_E=0, f=0.1MHz (CJD117)$		200	pF

All dimensions in inches (mm).



DATA SHEETS

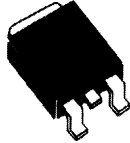
LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

CJD122 NPN
CJD127 PNP

COMPLEMENTARY SILICON
POWER DARLINGTON TRANSISTOR

DPAK POWER!TM



DPAK CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CJD122, CJD127 types are Complementary Silicon Power Darlington Transistors manufactured in a surface mount package designed for low speed switching and amplifier applications.

MAXIMUM RATINGS ($T_C=25^\circ\text{C}$)

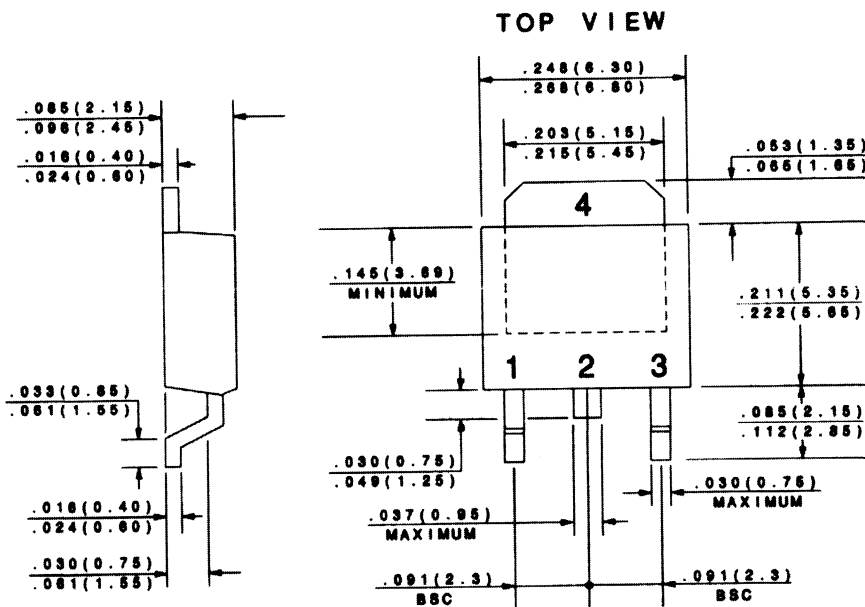
	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Continuous Collector Current	I_C	8.0	A
Peak Collector Current	I_{CM}	16	A
Base Current	I_B	120	mA
Power Dissipation ($T_C=25^\circ\text{C}$)	P_D	20	W
Power Dissipation ($T_A=25^\circ\text{C}$)	P_D	1.75	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JC}	6.25	$^\circ\text{C/W}$
Thermal Resistance	θ_{JA}	71.4	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CEO}	$V_{CE}=50\text{V}$		10	μA
I_{CEV}	$V_{CE}=100\text{V}, V_{BE(off)}=1.5\text{V}$		10	μA
I_{CEV}	$V_{CE}=100\text{V}, V_{BE(off)}=1.5\text{V}, T_C=125^\circ\text{C}$		500	μA
I_{CBO}	$V_{CB}=100\text{V}$		10	μA
I_{EBO}	$V_{EB}=5.0\text{V}$		2.0	mA
BV_{CEO}	$I_C=30\text{mA}$	100		V
$V_{CE(SAT)}$	$I_C=4.0\text{A}, I_B=16\text{mA}$		2.0	V
$V_{CE(SAT)}$	$I_C=8.0\text{A}, I_B=80\text{mA}$		4.0	V
$V_{BE(SAT)}$	$I_C=8.0\text{A}, I_B=80\text{mA}$		4.5	V

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$V_{BE(ON)}$	$V_{CE}=4.0V, I_C=4.0A$		2.8	V
h_{FE}	$V_{CE}=4.0V, I_C=4.0A$	1000	12000	
h_{FE}	$V_{CE}=4.0V, I_C=8.0A$	100		
f_T	$V_{CE}=4.0V, I_C=3.0A, f=1.0MHz$	4.0		MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$ (CJD122)		200	pF
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$ (CJD127)		300	pF
h_{fe}	$V_{CE}=4.0V, I_C=3.0A, f=1.0kHz$		300	

All dimensions in inches (mm).



DATA SHEETS

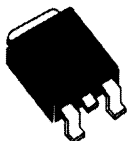
LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

CJD200 NPN
CJD210 PNP

COMPLEMENTARY SILICON
POWER TRANSISTOR

MPAK POWER![™]



DPAK CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CJD200, CJD210 types are Complementary Silicon Power Transistors manufactured in a surface mount package designed for high current amplifier applications.

MAXIMUM RATINGS ($T_C=25^\circ\text{C}$)

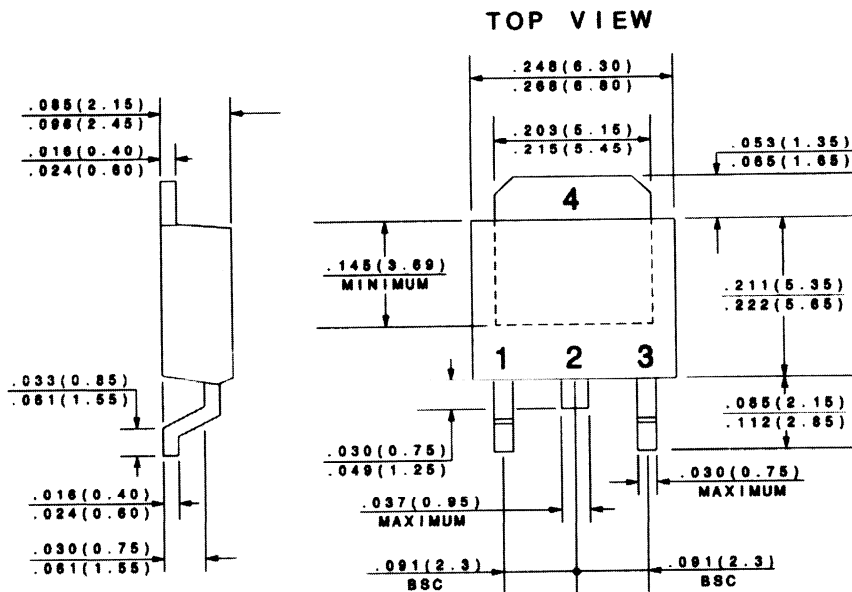
	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EBO}	8.0	V
Continuous Collector Current	I_C	5.0	A
Peak Collector Current	I_{CM}	10	A
Base Current	I_B	1.0	A
Power Dissipation ($T_C=25^\circ\text{C}$)	P_D	12.5	W
Power Dissipation ($T_A=25^\circ\text{C}$)	P_D	1.4	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JC}	10	$^\circ\text{C/W}$
Thermal Resistance	θ_{JA}	89.3	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=40\text{V}$		100	nA
I_{CBO}	$V_{CB}=40\text{V}, T_C=125^\circ\text{C}$		100	μA
I_{EBO}	$V_{EB}=8.0\text{V}$		100	nA
BV_{CEO}	$I_C=10\text{mA}$	25		V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.3	V
$V_{CE(SAT)}$	$I_C=2.0\text{A}, I_B=200\text{mA}$		0.75	V
$V_{CE(SAT)}$	$I_C=5.0\text{A}, I_B=1.0\text{A}$		1.8	V
$V_{BE(SAT)}$	$I_C=5.0\text{A}, I_B=1.0\text{A}$		2.5	V
$V_{BE(ON)}$	$V_{CE}=1.0\text{V}, I_C=2.0\text{A}$		1.6	V
h_{FE}	$V_{CE}=1.0\text{V}, I_C=500\text{mA}$	70		

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=1.0V, I_C=2.0A$	45	180	
h_{FE}	$V_{CE}=2.0V, I_C=5.0A$	10		
f_T	$V_{CE}=10V, I_C=100mA, f=10MHz$	65		MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=0.1MHz (CJD200)$		80	pF
C_{ob}	$V_{CB}=10V, I_E=0, f=0.1MHz (CJD210)$		120	pF

All dimensions in inches (mm).



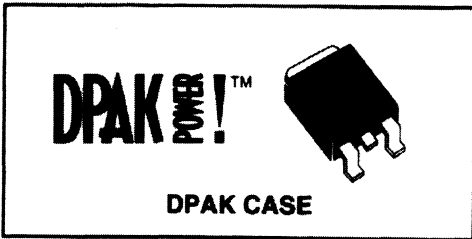
LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

DATA SHEETS

**CJD340 NPN
CJD350 PNP**

**COMPLEMENTARY SILICON
POWER TRANSISTOR**



DESCRIPTION:

The CENTRAL SEMICONDUCTOR CJD340, CJD350 types are Complementary Silicon Power Transistors manufactured in a surface mount package designed for high voltage general purpose applications.

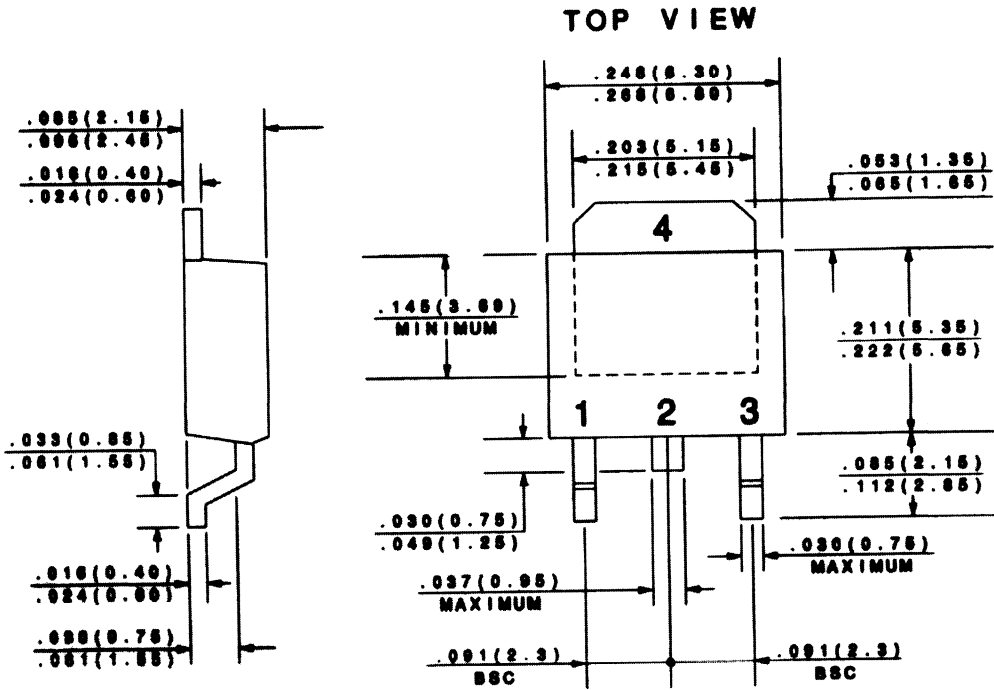
MAXIMUM RATINGS (T_C=25°C)

	SYMBOL		UNITS
Collector-Base Voltage	V _{CB0}	300	V
Collector-Emitter Voltage	V _{CE0}	300	V
Emitter-Base Voltage	V _{EB0}	3.0	V
Continuous Collector Current	I _C	500	mA
Peak Collector Current	I _{CM}	750	mA
Power Dissipation (T _C =25°C)	P _D	15	W
Power Dissipation (T _A =25°C)	P _D	1.56	W
Operating and Storage			
Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	θ _{JC}	8.33	°C/W
Thermal Resistance	θ _{JA}	80.1	°C/W

ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _{CBO}	V _{CB} =300V		100	μA
I _{EBO}	V _{EB} =3.0V		100	μA
BV _{CE0}	I _C =1.0mA	300		V
h _{FE}	V _{CE} =10V, I _C =50mA	30	240	

All dimensions in inches (mm).



LEAD CODE:

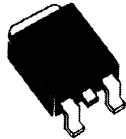
- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

DATA SHEETS

CJD2955 PNP
CJD3055 NPN

COMPLEMENTARY SILICON
POWER TRANSISTOR

DPAK™



DPAK CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CJD2955, CJD3055 types are Complementary Silicon Power Transistors manufactured by the epitaxial base process, mounted in a surface mount package designed for high current amplifier and switching applications.

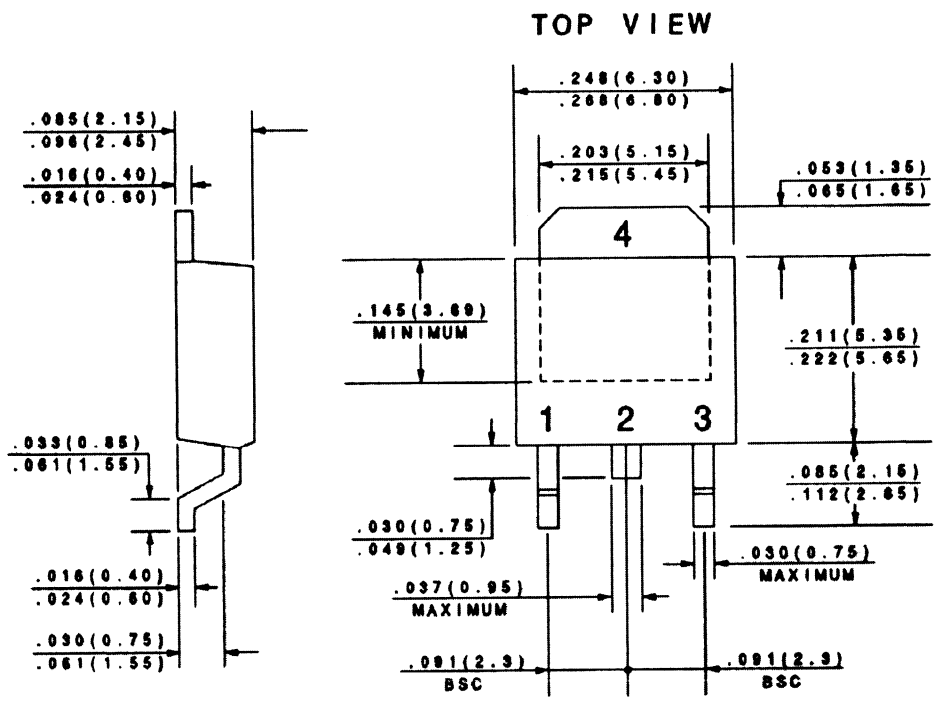
MAXIMUM RATINGS ($T_C=25^\circ\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	70	V
Collector-Emitter Voltage	V_{CE0}	60	V
Emitter-Base Voltage	V_{EB0}	5.0	V
Collector Current	I_C	10	A
Base Current	I_B	6.0	A
Power Dissipation ($T_C=25^\circ\text{C}$)	P_D	20	W
Power Dissipation ($T_A=25^\circ\text{C}$)	P_D	1.75	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JC}	6.25	$^\circ\text{C}/\text{W}$
Thermal Resistance	θ_{JA}	71.4	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CE0}	$V_{CE}=30\text{V}$		50	μA
I_{CEV}	$V_{CE}=70\text{V}, V_{BE(\text{off})}=1.5\text{V}$		20	μA
I_{CEV}	$V_{CE}=70\text{V}, V_{BE(\text{off})}=1.5\text{V}, T_C=150^\circ\text{C}$		2.0	mA
I_{CB0}	$V_{CB}=70\text{V}$		20	μA
I_{CB0}	$V_{CB}=70\text{V}, T_C=150^\circ\text{C}$		2.0	mA
I_{EB0}	$V_{EB}=5.0\text{V}$		500	μA
BV_{CE0}	$I_C=30\text{mA}$	60		V
$V_{CE(\text{SAT})}$	$I_C=4.0\text{A}, I_B=400\text{mA}$		1.1	V
$V_{CE(\text{SAT})}$	$I_C=10\text{A}, I_B=3.3\text{A}$		8.0	V
$V_{BE(\text{ON})}$	$V_{CE}=4.0\text{V}, I_C=4.0\text{A}$		1.8	V
h_{FE}	$V_{CE}=4.0\text{V}, I_C=4.0\text{A}$	20	100	
h_{FE}	$V_{CE}=4.0\text{V}, I_C=10\text{A}$	5.0		
f_T	$V_{CE}=10\text{V}, I_C=500\text{mA}, f=1.0\text{MHz}$	2.0		MHz

All dimensions in inches (mm).



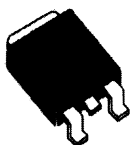
LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR



CJD13003
NPN SILICON
POWER TRANSISTOR

DPAK 3 LEADS **!**



DPAK CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CJD13003 type is an NPN Silicon Power Transistors manufactured in a surface mount package designed for high voltage, high speed power switching inductive applications.

MAXIMUM RATINGS ($T_C=25^\circ\text{C}$)

	SYMBOL		UNITS
Collector-Emitter Voltage	V_{CEV}	700	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	9.0	V
Continuous Collector Current	I_C	1.5	A
Peak Collector Current	I_{CM}	3.0	A
Continuous Base Current	I_B	750	mA
Peak Base Current	I_{BM}	1.5	A
Continuous Emitter Current	I_E	2.25	A
Peak Emitter Current	I_{EM}	4.5	A
Power Dissipation ($T_C=25^\circ\text{C}$)	P_D	15	W
Power Dissipation ($T_A=25^\circ\text{C}$)	P_D	1.56	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JC}	8.33	$^\circ\text{C/W}$
Thermal Resistance	θ_{JA}	80.1	$^\circ\text{C/W}$

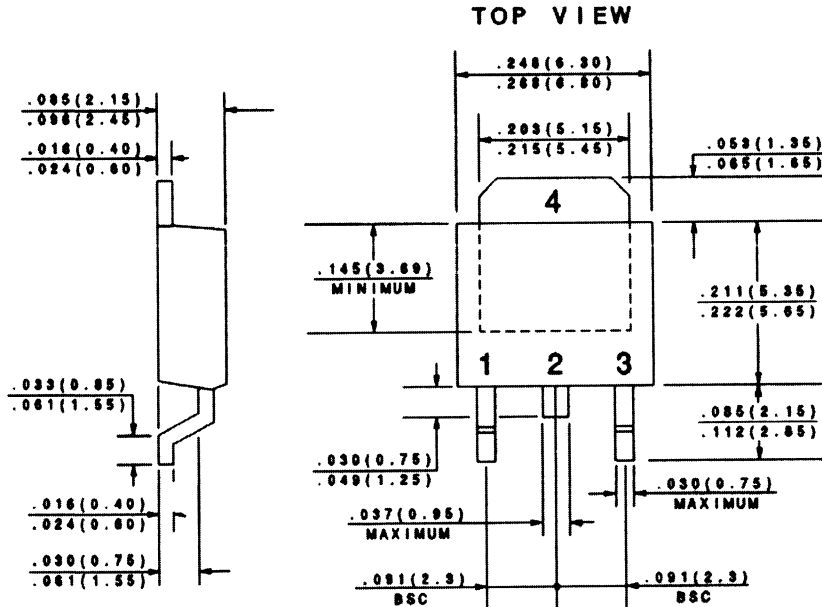
ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CEV}	$V_{CE}=700\text{V}, V_{BE}(\text{off})=1.5\text{V}$			100	μA
I_{CEV}	$V_{CE}=700\text{V}, V_{BE}(\text{off})=1.5\text{V}, T_C=100^\circ\text{C}$			2.0	mA
I_{EBO}	$V_{EB}=9.0\text{V}$			1.0	mA
BV_{CEO}	$I_C=10\text{mA}$	400			V
$V_{CE}(\text{SAT})$	$I_C=500\text{mA}, I_B=100\text{mA}$			0.5	V
$V_{CE}(\text{SAT})$	$I_C=1.0\text{A}, I_B=250\text{mA}$			1.0	V
$V_{CE}(\text{SAT})$	$I_C=1.5\text{A}, I_B=500\text{mA}$			3.0	V
$V_{CE}(\text{SAT})$	$I_C=1.0\text{A}, I_B=250\text{mA}, T_C=100^\circ\text{C}$			1.0	V

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$V_{BE(SAT)}$	$I_C=500mA, I_B=100mA$			1.0	V
$V_{BE(SAT)}$	$I_C=1.0A, I_B=250mA$			1.2	V
$V_{BE(SAT)}$	$I_C=1.0A, I_B=250mA, T_C=100^\circ C$			1.1	V
h_{FE}	$V_{CE}=2.0V, I_C=500mA$	8.0		40	
h_{FE}	$V_{CE}=2.0V, I_C=1.0A$	5.0		25	
f_T	$V_{CE}=10V, I_C=100mA, f=1.0MHz$	4.0			MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=0.1MHz$		20		pF
t_d	$V_{CC}=125V, I_C=1.0A, I_{B1}=I_{B2}=200mA$ (1)			0.1	μs
t_r	$V_{CC}=125V, I_C=1.0A, I_{B1}=I_{B2}=200mA$ (1)			1.0	μs
t_s	$V_{CC}=125V, I_C=1.0A, I_{B1}=I_{B2}=200mA$ (1)			4.0	μs
t_f	$V_{CC}=125V, I_C=1.0A, I_{B1}=I_{B2}=200mA$ (1)			0.7	μs

(1) $t_p=25\mu s$, Duty Cycle $\leq 1\%$

All dimensions in inches (mm).



DATA SHEETS

LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

CLL457A
CLL459A

**SURFACE MOUNT
LOW LEAKAGE SILICON DIODE**



SOD-80 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CLL457A, CLL459A types are silicon planar diodes, manufactured in a hermetically sealed glass surface mount package, designed for low leakage applications.

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

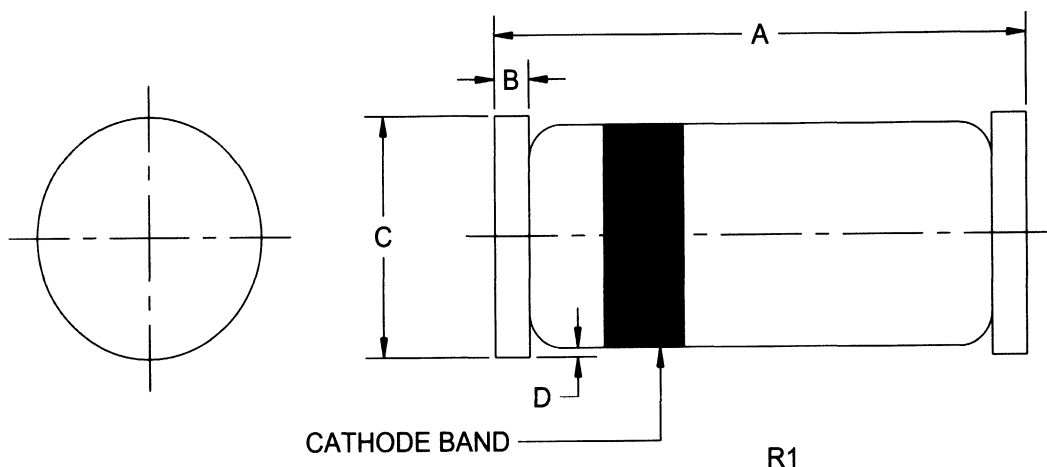
	SYMBOL	CLL457A	CLL459A	UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	70	200	V
Peak Working Reverse Voltage	V_{RWM}	60	175	V
Average Forward Current	I_O		200	mA
Forward Steady-State Current	I_F		500	mA
Peak Forward Surge Current (1.0 μs pulse)	I_{FSM}		4.0	A
Power Dissipation	P_D		500	mW
Operating and Storage				
Junction Temperature	T_J, T_{stg}		-65 to +200	$^\circ\text{C}$
Thermal Resistance	Θ_{JA}		350	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	CLL457A		CLL459A		UNITS
		MIN	MAX	MIN	MAX	
BV_R	$I_R=100\mu\text{A}$	70		200		V
I_R	$V_R=\text{Rated } V_{RWM}$		25		25	nA
I_R	$V_R=\text{Rated } V_{RWM}, T_A=150^\circ\text{C}$		5.0		5.0	μA
V_F	$I_F=100\text{mA}$		1.0		1.0	V
C_T	$V_R=0, f=1.0\text{MHz}$		6.0		6.0	pF

**SURFACE MOUNT
LOW LEAKAGE SILICON
DIODE**

SOD-80 - MECHANICAL OUTLINE



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.130	0.146	3.30	3.71
B	0.016		0.41	
C (DIA)	0.051	0.067	1.30	1.70
D	-	0.004	-	0.10

SOD-80 (REV:R1)

**DATA
SHEETS**

CentralTM Semiconductor Corp.

CLL914
HIGH SPEED
SWITCHING DIODE



SOD-80 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CLL914 type is an ultra-high speed silicon switching diode manufactured by the epitaxial planar process, in a hermetically sealed glass surface mount package, designed for high speed switching applications.

Marking code: Cathode Band.

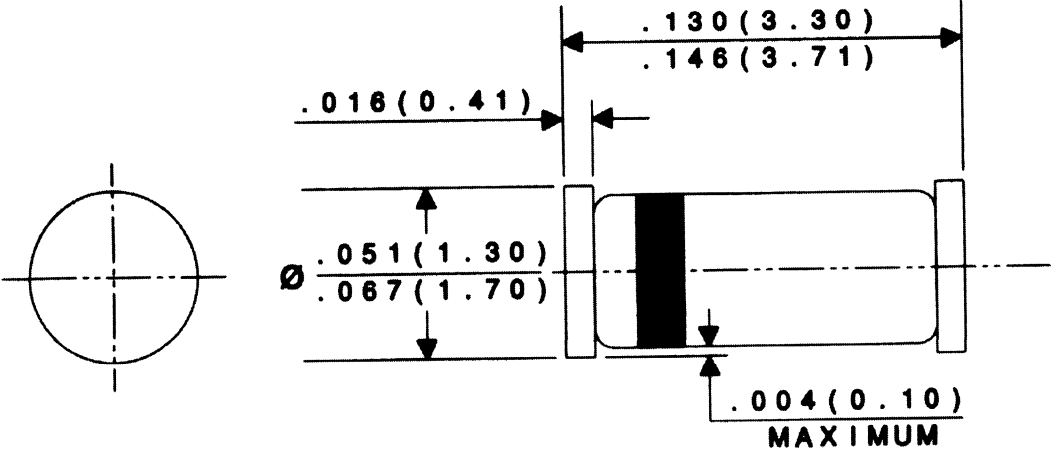
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Continuous Reverse Voltage	V_R	75	V
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
Continuous Forward Current	I_F	250	mA
Peak Repetitive Forward Current	I_{FRM}	250	mA
Forward Surge Current, $t_p=1 \mu\text{sec.}$	I_{FSM}	4000	mA
Forward Surge Current, $t_p=1 \text{ sec.}$	I_{FSM}	1000	mA
Power Dissipation	P_D	500	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +200	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	350	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
V_{BR}	$I_R=100\mu\text{A}$	100		V
I_R	$V_R=20\text{V}$		25	nA
I_R	$V_R=75\text{V}$		5.0	μA
V_F	$I_F=10\text{mA}$		1.0	V
C_T	$V_R=0, f=1 \text{ MHz}$		4.0	pF
t_{rr}	$I_R=I_F=10\text{mA}, R_L=100\Omega, \text{Rec. to } 1.0\text{mA}$		4.0	ns

All dimensions in inches (mm).



DATA SHEETS

CentralTM Semiconductor Corp.

CLL2003

HIGH VOLTAGE
SWITCHING DIODE



SOD-80 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CLL2003 type is a silicon switching diode manufactured by the epitaxial planar process, designed for applications requiring high voltage capability. **Marking Code: Cathode band.**

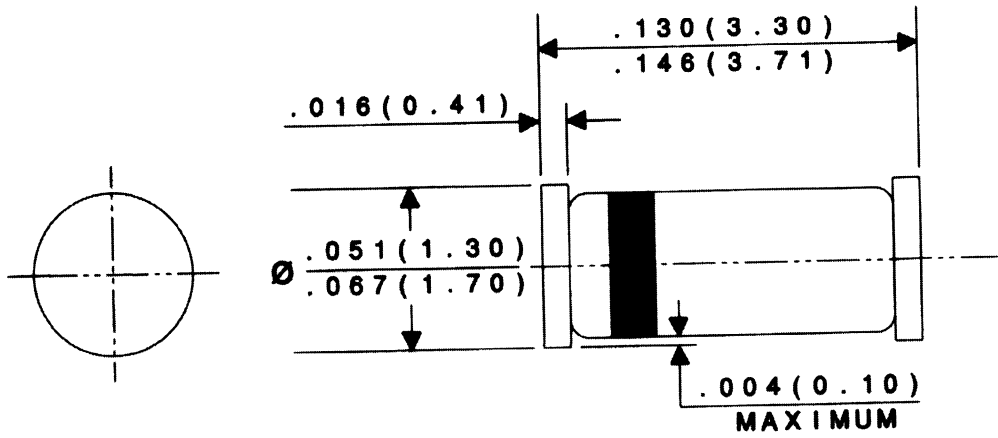
MAXIMUM RATINGS (T_A=25°C)

	SYMBOL		UNITS
Continuous Reverse Voltage	V _R	250	V
Peak Repetitive Reverse Voltage	V _{RRM}	250	V
Average Forward Current	I _O	200	mA
Continuous Forward Current	I _F	250	mA
Peak Repetitive Forward Current	I _{FRM}	625	mA
Forward Surge Current, tp=1 μs	I _{FSM}	4000	mA
Forward Surge Current, tp=1 s	I _{FSM}	1000	mA
Power Dissipation	P _D	500	mW
Operating and Storage	T _J , T _{stg}	-65 to +200	°C
Junction Temperature	θ _{JA}	350	°C/W
Thermal Resistance			

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

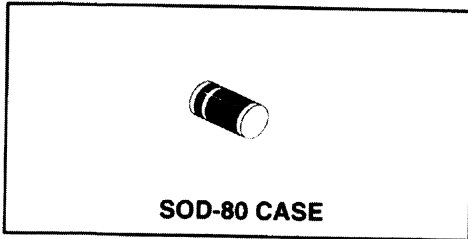
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
BV _R	I _R =100μA	250		V
I _R	V _R =200V		100	nA
I _R	V _R =200V, T _A =150°C		100	μA
V _F	I _F =100mA		1.00	V
V _F	I _F =200mA		1.25	V
C _T	V _R =0, f=1 MHz		5.0	pF
t _{rr}	I _F =I _R =30mA, RECOV. TO 3.0mA, R _L =100Ω		50	ns

All dimensions in inches (mm).



DATA SHEETS

CLL3595
LOW LEAKAGE SILICON DIODE



CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CLL3595 type is an epitaxial planar silicon diode, manufactured in a hermetically sealed glass surface mount package, designed for low leakage, high conductance applications.
Marking Code: Cathode Band.

MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$)

Peak Repetitive Reverse Voltage
Peak Working Reverse Voltage
Average Forward Current
Forward Steady-State Current
Recurrent Peak Forward Current
Peak Forward Surge Current (1.0s pulse)
Peak Forward Surge Current (1.0 μ s pulse)
Power Dissipation
Operating and Storage
Junction Temperature
Thermal Resistance

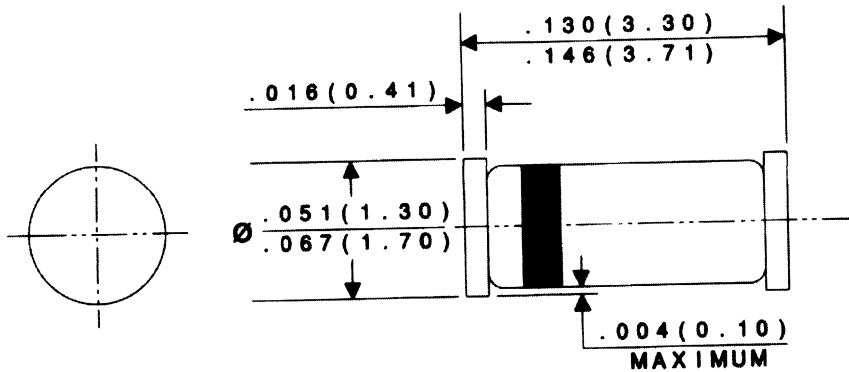
SYMBOL		UNITS
V_{RRM}	150	V
V_{RWM}	125	V
I_O	150	mA
I_F	225	mA
i_f	600	mA
I_{FSM}	500	mA
I_{FSM}	4.0	A
P_D	500	mW
T_J, T_{stg}	-65 to +200	$^{\circ}\text{C}$
Θ_{JA}	350	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
BV_R	$I_R=100\mu\text{A}$	150		V
I_R	$V_R=125\text{V}$		1.0	nA
I_R	$V_R=125\text{V}, T_A=125^{\circ}\text{C}$		500	nA
I_R	$V_R=125\text{V}, T_A=150^{\circ}\text{C}$		3.0	μA
I_R	$V_R=30\text{V}, T_A=125^{\circ}\text{C}$		300	nA
V_F	$I_F=1.0\text{mA}$	0.52	0.68	V
V_F	$I_F=5.0\text{mA}$	0.60	0.75	V
V_F	$I_F=10\text{mA}$	0.65	0.80	V
V_F	$I_F=50\text{mA}$	0.75	0.88	V
V_F	$I_F=100\text{mA}$	0.79	0.92	V
V_F	$I_F=200\text{mA}$	0.83	1.00	V

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
C_T	$V_R=0, f=1.0\text{MHz}$		8.0	pF
t_{rr}	$V_R=3.5\text{V}, I_f=10\text{mA}, R_L=1.0\text{k}\Omega$		3.0	μs

All dimensions in inches (mm).



DATA
SHEETS

CLL4099
THRU
CLL4125

LOW NOISE ZENER DIODE
6.8 VOLTS THRU 47 VOLTS
500mW, 5% TOLERANCE



SOD-80 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CLL4099 Series types are high quality Silicon Zener Diodes designed for low leakage, low current and low noise applications.

Marking code: Cathode Band

MAXIMUM RATINGS:

Power Dissipation (@ $T_A=25^\circ\text{C}$)
Operating and Storage Temperature

SYMBOL

P_D

T_J, T_{stg}

500

-65 to +200

UNIT

mW

$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$) $V_F=1.0\text{V MAX}$ @ $I_F=200\text{mA}$ FOR ALL TYPES)

TYPE NO.	ZENER VOLTAGE			TEST CURRENT	MAXIMUM ZENER IMPEDANCE	MAX REVERSE LEAKAGE CURRENT	MAXIMUM ZENER CURRENT	MAXIMUM NOISE DENSITY	
	$V_Z @ I_{ZT}$			I_{ZT}	$Z_{ZT} @ I_{ZT}$	$I_R @ V_R$	I_{ZM}	$N_D @ I_{ZT}$	
	MIN	NOM	MAX						
	V	V	V	μA	Ω	μA	V	mA	$\mu\text{V}/\sqrt{\text{Hz}}$
CLL4099*	6.460	6.8	7.140	250	200	10	5.2	35.0	40
CLL4100*	7.125	7.5	7.865	250	200	10	5.7	31.8	40
CLL4101*	7.790	8.2	8.610	250	200	1.0	6.3	29.0	40
CLL4102*	8.265	8.7	9.135	250	200	1.0	6.7	27.4	40
CLL4103*	8.645	9.1	9.555	250	200	1.0	7.0	26.2	40
CLL4104*	9.500	10	10.50	250	200	1.0	7.6	24.8	40
CLL4105*	10.45	11	11.55	250	200	0.05	8.5	21.6	40
CLL4106*	11.40	12	12.60	250	200	0.05	9.2	20.4	40
CLL4107*	12.35	13	13.65	250	200	0.05	9.9	19.0	40
CLL4108*	13.30	14	14.70	250	200	0.05	10.7	17.5	40
CLL4109*	14.25	15	15.75	250	100	0.05	11.4	16.3	40
CLL4110*	15.20	16	16.80	250	100	0.05	12.2	15.4	40
CLL4111*	16.15	17	17.85	250	100	0.05	13.0	14.5	40
CLL4112*	17.10	18	18.90	250	100	0.05	13.7	13.2	40
CLL4113*	18.05	19	19.95	250	150	0.05	14.5	12.5	40
CLL4114*	19.00	20	21.00	250	150	0.01	15.2	11.9	40
CLL4115*	20.90	22	23.10	250	150	0.01	16.8	10.8	40

* Available on special order only, please consult factory

LOW NOISE ZENER DIODE
6.8 VOLTS THRU 47 VOLTS
500mW, 5% TOLERANCE

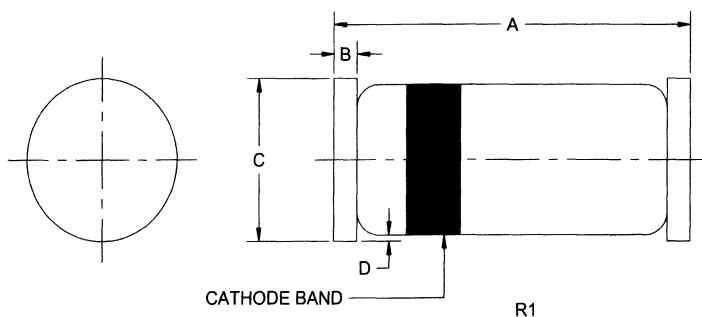
ELECTRICAL CHARACTERISTICS:

($T_A=25^\circ\text{C}$) $V_F=1.0\text{V MAX @ } I_F=200\text{mA FOR ALL TYPES}$)

TYPE NO.	ZENER VOLTAGE			TEST CURRENT	MAXIMUM ZENER IMPEDANCE	MAX REVERSE LEAKAGE CURRENT		MAXIMUM ZENER CURRENT	MAXIMUM NOISE DENSITY
	$V_Z @ I_{ZT}$			I_{ZT}	$Z_{ZT} @ I_{ZT}$	$I_R @ V_R$		I_{ZM}	$N_D @ I_{ZT}$
	MIN	NOM	MAX						
	V	V	V	μA	Ω	μA	V	mA	$\mu\text{V}/\sqrt{\text{Hz}}$
CLL4116*	22.80	24	25.20	250	150	0.01	18.3	9.9	40
CLL4117*	23.75	25	26.25	250	150	0.01	19.0	9.5	40
CLL4118*	25.65	27	28.35	250	150	0.01	20.5	8.8	40
CLL4119*	26.60	28	29.40	250	200	0.01	21.3	8.5	40
CLL4120*	28.50	30	31.50	250	200	0.01	22.8	7.9	40
CLL4121*	31.35	33	34.65	250	200	0.01	25.1	7.2	40
CLL4122*	34.20	36	37.80	250	200	0.01	27.4	6.6	40
CLL4123*	37.05	39	40.95	250	200	0.01	29.7	6.1	40
CLL4124*	40.85	43	45.15	250	250	0.01	32.7	5.5	40
CLL4125*	44.65	47	49.35	250	250	0.01	35.8	5.1	40

* Available on special order only, please consult factory

SOD-80 CASE - MECHANICAL OUTLINE



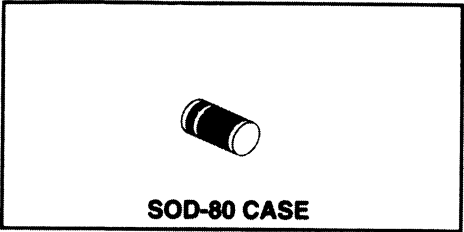
DATA SHEETS

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.130	0.146	3.30	3.71
B	0.016		0.41	
C (DIA)	0.051	0.067	1.30	1.70
D	-	0.004	-	0.10

MARKING CODE: CATHODE BAND

SOD-80 (REV:R1)

CLL4150
HIGH SPEED
SWITCHING DIODE



CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CLL4150 type is an ultra-high speed silicon switching diode manufactured by the epitaxial planar process, in a hermetically sealed glass surface mount package, designed for high speed switching applications.

Marking Code: Cathode Band.

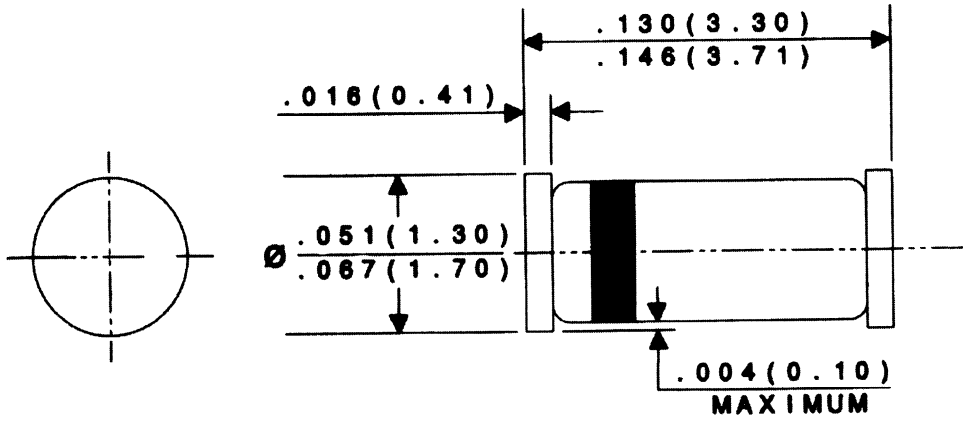
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Continuous Reverse Voltage	V_R	50	V
Peak Repetitive Reverse Voltage	V_{RRM}	50	V
Continuous Forward Current	I_F	300	mA
Peak Repetitive Forward Current	I_{FRM}	600	mA
Forward Surge Current, $t_p=1 \mu\text{sec.}$	I_{FSM}	4000	mA
Forward Surge Current, $t_p=1 \text{ sec.}$	I_{FSM}	1000	mA
Power Dissipation	P_D	500	mW
Operating and Storage	T_J, T_{stg}	-65 to +200	$^{\circ}\text{C}$
Junction Temperature	θ_{JA}	350	$^{\circ}\text{C/W}$
Thermal Resistance			

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
BV_R	$I_R=5.0\mu\text{A}$	75		V
I_R	$V_R=50\text{V}$		100	nA
V_F	$I_F=1.0\text{mA}$	0.54	0.62	V
V_F	$I_F=10\text{mA}$	0.66	0.74	V
V_F	$I_F=50\text{mA}$	0.76	0.86	V
V_F	$I_F=100\text{mA}$	0.82	0.92	V
V_F	$I_F=200\text{mA}$	0.87	1.0	V
C_T	$V_R=0, f=1 \text{ MHz}$		4.0	pF
t_{rr}	$I_R=I_F=10\text{mA}, R_L=100\Omega, \text{Rec. to } 1.0\text{mA}$		4.0	ns

All dimensions in inches (mm).



DATA
SHEETS

CLL4448
HIGH SPEED
SWITCHING DIODE



SOD-80 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CLL4448 type is a ultra-high speed silicon switching diode manufactured by the epitaxial planar process, in a hermetically sealed glass surface mount package, designed for high speed switching applications.

Marking Code: Cathode Band.

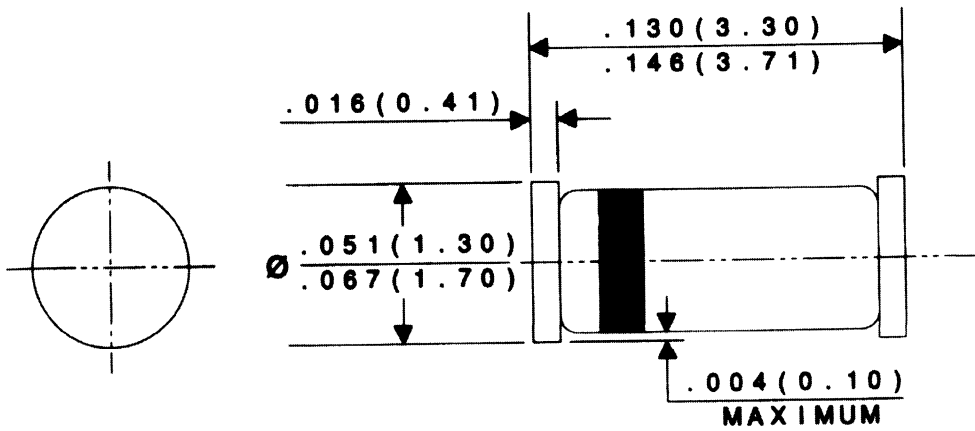
MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Continuous Reverse Voltage	V_R	75	V
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
Continuous Forward Current	I_F	250	mA
Peak Repetitive Forward Current	I_{FRM}	250	mA
Forward Surge Current, $t_p=1 \mu\text{sec.}$	I_{FSM}	4000	mA
Forward Surge Current, $t_p=1 \text{ sec.}$	I_{FSM}	1000	mA
Power Dissipation	P_D	500	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +200	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	350	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
V_{BR}	$I_R=5.0\mu\text{A}$	75		V
V_{BR}	$I_R=100\mu\text{A}$	100		V
I_R	$V_R=20\text{V}$		25	nA
V_F	$I_F=5.0\text{mA}$	0.62	0.72	V
V_F	$I_F=100\text{mA}$		1.0	V
C_T	$V_R=0, f=1 \text{ MHz}$		4.0	pF
t_{rr}	$I_R=I_F=10\text{mA}, R_L=100\Omega, \text{Rec. to } 1.0\text{mA}$		4.0	ns

All dimensions in inches (mm).



CLL4614
THRU
CLL4627

500mW LOW NOISE ZENER DIODE
5% TOLERANCE



SOD-80 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CLL4614 Series Silicon Zener Diode is a high quality voltage regulator designed for low leakage, low current and low noise applications.

Marking Code: Cathode Band

ABSOLUTE MAXIMUM RATINGS

Power Dissipation (@ $T_A=25^\circ\text{C}$)

Operating and Storage Temperature

SYMBOL

P_D

T_J, T_{stg}

500

-65 to +200

UNITS

mW

$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS:

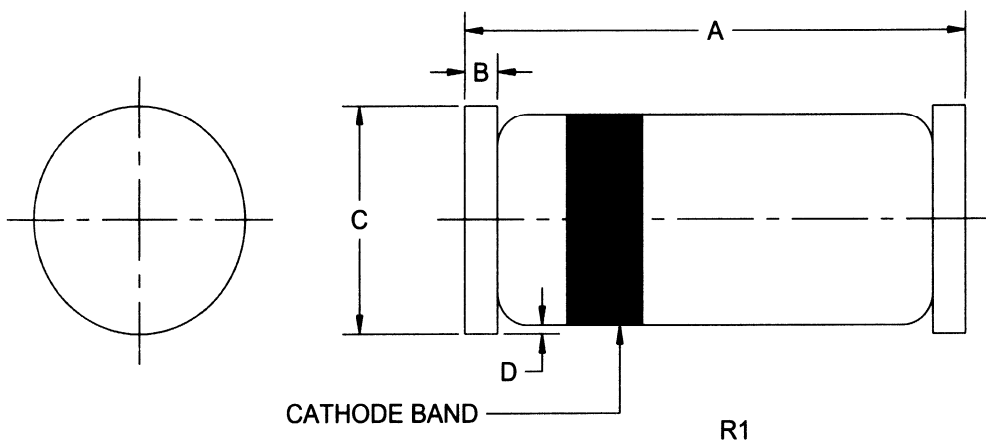
($T_A=25^\circ\text{C}$) $V_F=1.0\text{V MAX @ } I_F=200\text{mA}$ FOR ALL TYPES

TYPE NO.	ZENER VOLTAGE	TEST CURRENT	MAXIMUM ZENER IMPEDANCE	MAXIMUM REVERSE LEAKAGE CURRENT		MAXIMUM ZENER CURRENT	MAXIMUM NOISE DENSITY
	$V_Z@I_{ZT}$	I_{ZT}	$Z_{ZT}@I_{ZT}$	$I_R@V_R$		I_{ZM}	$N_D@I_{ZT}=250\mu\text{A}$
	VOLTS	μA	Ω	μA	VOLTS	mA	$\mu\text{V}/\sqrt{\text{Hz}}$
CLL4614*	1.8	250	1200	7.5	1.0	120	1.0
CLL4615*	2.0	250	1250	5.0	1.0	110	1.0
CLL4616*	2.2	250	1300	4.0	1.0	100	1.0
CLL4617*	2.4	250	1400	2.0	1.0	95	1.0
CLL4618*	2.7	250	1500	1.0	1.0	90	1.0
CLL4619*	3.0	250	1600	0.8	1.0	85	1.0
CLL4620*	3.3	250	1650	7.5	1.5	80	1.0
CLL4621*	3.6	250	1700	7.5	2.0	75	1.0
CLL4622*	3.9	250	1650	5.0	2.0	70	1.0
CLL4623*	4.3	250	1600	4.0	2.0	65	1.0
CLL4624*	4.7	250	1550	10	3.0	60	1.0
CLL4625*	5.1	250	1500	10	3.0	55	2.0
CLL4626*	5.6	250	1400	10	4.0	50	4.0
CLL4627*	6.2	250	1200	10	5.0	45	5.0

*Available on special order; consult factory.

500mW LOW NOISE ZENER DIODE
5% TOLERANCE

SOD-80 CASE - MECHANICAL OUTLINE



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.130	0.146	3.30	3.71
B	0.016		0.41	
C (DIA)	0.051	0.067	1.30	1.70
D	-	0.004	-	0.10

SOD-80 (REV:R1)

DATA
SHEETS

CLL4678
THRU
CLL4717

LOW LEVEL ZENER DIODE
1.8 VOLTS THRU 43 VOLTS
500mW, 5% TOLERANCE



SOD-80 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CLL4678 Series Silicon Low Level Zener Diode is a high quality voltage regulator designed for applications requiring an extremely low operating current and low leakage.

ABSOLUTE MAXIMUM RATINGS:	SYMBOL	UNIT
Power Dissipation (@ $T_A=25^\circ\text{C}$)	P_D	500 mW
Operating and Storage Temperature	T_J, T_{stg}	-65 to +200 $^\circ\text{C}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$), $V_F=1.5\text{V MAX @ } I_F=100\text{mA}$ FOR ALL TYPES.

TYPE	ZENER VOLTAGE $V_Z @ I_{ZT}$			TEST CURRENT	MAXIMUM REVERSE LEAKAGE CURRENT		MAXIMUM VOLTAGE CHANGE**	MAXIMUM ZENER CURRENT
	MIN	NOM	MAX	I_{ZT}	$I_R @ V_R$		ΔV_Z	I_{ZM}
	VOLTS	VOLTS	VOLTS	μA	μA	VOLTS	VOLTS	mA
CLL4678	1.710	1.8	1.890	50	7.5	1.0	0.70	120.0
CLL4679	1.900	2.0	2.100	50	5.0	1.0	0.70	110.0
CLL4680	2.090	2.2	2.310	50	4.0	1.0	0.75	100.0
CLL4681	2.280	2.4	2.520	50	2.0	1.0	0.80	95.0
CLL4682	2.565	2.7	2.835	50	1.0	1.0	0.85	90.0
CLL4683	2.850	3.0	3.150	50	0.8	1.0	0.90	85.0
CLL4684	3.135	3.3	3.465	50	7.5	1.5	0.95	80.0
CLL4685	3.420	3.6	3.780	50	7.5	2.0	0.95	75.0
CLL4686	3.705	3.9	4.095	50	5.0	2.0	0.97	70.0
CLL4687	4.085	4.3	4.515	50	4.0	2.0	0.99	65.0
CLL4688	4.465	4.7	4.935	50	10	3.0	0.99	60.0
CLL4689	4.845	5.1	5.355	50	10	3.0	0.97	55.0
CLL4690	5.320	5.6	5.880	50	10	4.0	0.96	50.0
CLL4691	5.890	6.2	6.510	50	10	5.0	0.95	45.0
CLL4692	6.460	6.8	7.140	50	10	5.1	0.90	35.0
CLL4693	7.125	7.5	7.875	50	10	5.7	0.75	31.8
CLL4694	7.790	8.2	8.610	50	1.0	6.2	0.50	29.0
CLL4695	8.265	8.7	9.135	50	1.0	6.6	0.10	27.4
CLL4696	8.645	9.1	9.555	50	1.0	6.9	0.08	26.2

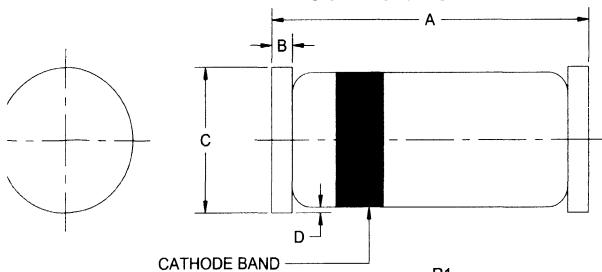
** $\Delta V_Z = V_Z @ 100\mu\text{A}$ MINUS $V_Z @ 10\mu\text{A}$

LOW LEVEL ZENER DIODE
1.8 VOLTS THRU 43 VOLTS
500mW, 5% TOLERANCE

TYPE	ZENER VOLTAGE $V_Z @ I_{ZT}$			TEST CURRENT	MAXIMUM REVERSE LEAKAGE CURRENT		MAXIMUM VOLTAGE CHANGE**	MAXIMUM ZENER CURRENT
	MIN	NOM	MAX	I_{ZT}	$I_R @ V_R$		ΔV_Z	I_{ZM}
	VOLTS	VOLTS	VOLTS	μA	μA	VOLTS	VOLTS	mA
.L4697	9.500	10	10.50	50	1.0	7.6	0.10	24.8
.L4698	10.45	11	11.55	50	0.05	8.4	0.11	21.6
.L4699	11.40	12	12.60	50	0.05	9.1	0.12	20.4
.L4700	12.35	13	13.65	50	0.05	9.8	0.13	19.0
.L4701	13.30	14	14.70	50	0.05	10.6	0.14	17.5
.L4702	14.25	15	15.75	50	0.05	11.4	0.15	16.3
.L4703	15.20	16	16.80	50	0.05	12.1	0.16	15.4
.L4704	16.15	17	17.85	50	0.05	12.9	0.17	14.5
.L4705	17.10	18	18.90	50	0.05	13.6	0.18	13.2
.L4706	18.05	19	19.95	50	0.05	14.4	0.19	12.5
.L4707	19.00	20	21.00	50	0.01	15.2	0.20	11.9
.L4708	20.90	22	23.10	50	0.01	16.7	0.22	10.8
.L4709	22.80	24	25.20	50	0.01	18.2	0.24	9.9
.L4710	23.75	25	26.25	50	0.01	19.0	0.25	9.5
.L4711	25.65	27	28.35	50	0.01	20.4	0.27	8.8
.L4712	26.60	28	29.40	50	0.01	21.2	0.28	8.5
.L4713	28.50	30	31.50	50	0.01	22.8	0.30	7.9
.L4714	31.35	33	34.65	50	0.01	25.0	0.33	7.2
.L4615	34.20	36	37.80	50	0.01	27.3	0.36	6.6
.L4616	37.05	39	40.95	50	0.01	29.6	0.39	6.1
.L4617	40.85	43	45.15	50	0.01	32.6	0.43	5.5

$V_Z = V_Z @ 100\mu A$ MINUS $V_Z @ 10\mu A$

SOD-80 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.130	0.146	3.30	3.71
B	0.016		0.41	
C (DIA)	0.051	0.067	1.30	1.70
D	-	0.004	-	0.10

SOD-80 (REV:R1)

CLL4729A
THRU
CLL4764A

1.0W ZENER DIODE
5% TOLERANCE



MELF CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CLL4729A Series Silicon Zener Diode is a high quality voltage regulator for use in surface mount industrial, commercial, entertainment and computer applications.

Marking Code: Cathode Band

ABSOLUTE MAXIMUM RATINGS

Power Dissipation

Operating and Storage Temperature

SYMBOL

P_D

T_J, T_{stg}

1.0

-65 to +200

UNITS

W

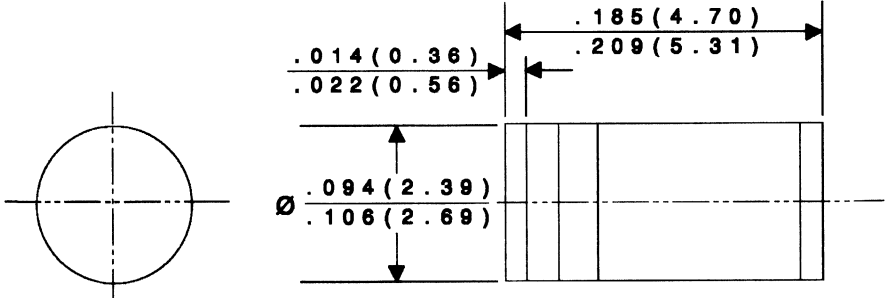
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ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$), $V_F=1.2\text{MAX}$ @ $I_F=200\text{mA}$ FOR ALL TYPES.

TYPE NO.	ZENER VOLTAGE $V_Z @ I_{Z1}$		TEST CURRENT I_{Z1}			MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE CURRENT $I_R @ V_R$		MAXIMUM DC CURRENT I_{ZM}
	VOLTS	mA	$Z_{Z1} @ I_{Z1}$	$Z_{Z2} @ I_{Z2}$		μA	VOLTS	mA			
			Ω	Ω	mA						
CLL4729A	3.6	69	10	400	1.0	100	1.0	1260			
CLL4730A	3.9	64	9.0	400	1.0	50	1.0	1190			
CLL4731A	4.3	58	9.0	400	1.0	10	1.0	1070			
CLL4732A	4.7	53	8.0	500	1.0	10	1.0	970			
CLL4733A	5.1	49	7.0	550	1.0	10	1.0	890			
CLL4734A	5.6	45	5.0	600	1.0	10	2.0	810			
CLL4735A	6.2	41	2.0	700	1.0	10	3.0	730			
CLL4736A	6.8	37	3.5	700	1.0	10	4.0	660			
CLL4737A	7.5	34	4.0	700	0.5	10	5.0	605			
CLL4738A	8.2	31	4.5	700	0.5	10	6.0	560			
CLL4739A	9.1	28	5.0	700	0.5	10	7.0	500			
CLL4740A	10	25	7.0	700	0.25	10	7.6	454			
CLL4741A	11	23	8.0	700	0.25	5.0	8.4	414			
CLL4742A	12	21	9.0	700	0.25	5.0	9.1	380			
CLL4743A	13	19	10	700	0.25	5.0	9.9	344			
CLL4744A	15	17	14	700	0.25	5.0	11.4	304			
CLL4745A	16	15.5	16	700	0.25	5.0	12.2	285			
CLL4746A	18	14	20	750	0.25	5.0	13.7	250			
CLL4747A	20	12.5	22	750	0.25	5.0	15.2	225			
CLL4748A	22	11.5	23	750	0.25	5.0	16.7	205			
CLL4749A	24	10.5	25	750	0.25	5.0	18.2	190			
CLL4750A	27	9.5	35	750	0.25	5.0	20.6	170			
CLL4751A	30	8.5	40	1000	0.25	5.0	22.8	150			
CLL4752A	33	7.5	45	1000	0.25	5.0	25.1	135			
CLL4753A*	36	7.0	50	1000	0.25	5.0	27.4	125			
CLL4754A*	39	6.5	60	1000	0.25	5.0	29.7	115			
CLL4755A*	43	6.0	70	1500	0.25	5.0	32.7	110			
CLL4756A*	47	5.5	80	1500	0.25	5.0	35.8	95			
CLL4757A*	51	5.0	95	1500	0.25	5.0	38.8	90			
CLL4758A*	56	4.5	110	2000	0.25	5.0	42.6	80			
CLL4759A*	62	4.0	125	2000	0.25	5.0	47.1	70			
CLL4760A*	68	3.7	150	2000	0.25	5.0	51.7	65			
CLL4761A*	75	3.3	175	2000	0.25	5.0	56	60			
CLL4762A*	82	3.0	200	3000	0.25	5.0	62.2	55			
CLL4763A*	91	2.8	250	3000	0.25	5.0	69.2	50			
CLL4764A*	100	2.5	350	3000	0.25	5.0	76	45			

* Available on special order only, please consult factory.

All dimensions in inches (mm).



DATA SHEETS

CLL5221B THRU CLL5267B

**SURFACE MOUNT ZENER DIODE
2.4 VOLTS THRU 75 VOLTS
500mW, 5% TOLERANCE**



SOD-80 CASE

**Central™
Semiconductor Corp.**

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CLL5221B Series Silicon Zener Diode is a high quality voltage regulator designed for use in industrial, commercial and entertainment applications.

MAXIMUM RATINGS:

Power Dissipation (@ $T_A=50^\circ\text{C}$)
Operating and Storage Temperature
Tolerance "B"
Tolerance "C"
Tolerance "D"

SYMBOL

P_D 500
 T_J, T_{stg} -65 to +200
±5
±2
±1

UNIT

mW
°C
%
%
%

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$), $V_F=1.1\text{V MAX @ } I_F=200\text{mA}$ FOR ALL TYPES.

TYPE NO.	ZENER VOLTAGE $V_Z @ I_{ZT}$			TEST CURRENT I_{ZT}	MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE CURRENT		MAXIMUM ZENER VOLTAGE TEMPERATURE COEFFICIENT Θ_{VZ}
	MIN	NOM	MAX		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$		
	VOLTS	VOLTS	VOLTS		mA	Ω	Ω	mA	μA}		VOLTS
CLL5221B*	2.280	2.4	2.520	20	30	1200	0.25	100	1.0	-0.085
CLL5222B*	2.375	2.5	2.625	20	30	1250	0.25	100	1.0	-0.085
CLL5223B*	2.565	2.7	2.835	20	30	1300	0.25	75	1.0	-0.080
CLL5224B*	2.660	2.8	2.940	20	30	1400	0.25	75	1.0	-0.080
CLL5225B	2.850	3.0	3.150	20	29	1600	0.25	50	1.0	-0.075
CLL5226B	3.135	3.3	3.465	20	28	1600	0.25	25	1.0	-0.070
CLL5227B	3.420	3.6	3.780	20	24	1700	0.25	15	1.0	-0.065
CLL5228B	3.705	3.9	4.095	20	23	1900	0.25	10	1.0	-0.060
CLL5229B	4.085	4.3	4.515	20	22	2000	0.25	5.0	1.0	±0.055
CLL5230B	4.465	4.7	4.935	20	19	1900	0.25	5.0	2.0	±0.030
CLL5231B	4.845	5.1	5.355	20	17	1600	0.25	5.0	2.0	±0.030
CLL5232B	5.320	5.6	5.880	20	11	1600	0.25	5.0	3.0	+0.038
CLL5233B	5.700	6.0	6.300	20	7.0	1600	0.25	5.0	3.5	+0.038
CLL5234B	5.890	6.2	6.510	20	7.0	1000	0.25	5.0	4.0	+0.045
CLL5235B	6.460	6.8	7.140	20	5.0	750	0.25	3.0	5.0	+0.050
CLL5236B	7.125	7.5	7.875	20	6.0	500	0.25	3.0	6.0	+0.058
CLL5237B	7.790	8.2	8.610	20	8.0	500	0.25	3.0	6.5	+0.062
CLL5238B	8.265	8.7	9.135	20	8.0	600	0.25	3.0	6.5	+0.065
CLL5239B	8.645	9.1	9.555	20	10	600	0.25	3.0	7.0	+0.068
CLL5240B	9.500	10	10.50	20	17	600	0.25	3.0	8.0	+0.075
CLL5241B	10.45	11	11.55	20	22	600	0.25	2.0	8.4	+0.076
CLL5242B	11.40	12	12.60	20	30	600	0.25	1.0	9.1	+0.077
CLL5243B	12.35	13	13.65	9.5	13	600	0.25	0.5	9.9	+0.079
CLL5244B	13.30	14	14.70	9.0	15	600	0.25	0.1	10	+0.082

*Available on special order only, please consult factory.

Continued...

CLL5221B THRU CLL5267B

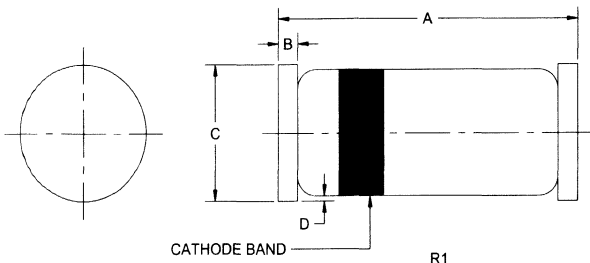
SURFACE MOUNT ZENER DIODE 2.4 VOLTS THRU 75 VOLTS 500MW, 5% TOLERANCE

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$), $V_F=1.1\text{V MAX @ } I_F=200\text{mA}$ FOR ALL

TYPE NO.	ZENER VOLTAGE $V_Z @ I_{ZT}$			TEST CURRENT I_{ZT}	MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE CURRENT		MAXIMUM ZENER VOLTAGE TEMPERATURE COEFFICIENT ΘV_Z
	MIN	NOM	MAX		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_R @ V_R$			
	VOLTS	VOLTS	VOLTS	mA	Ω	Ω	mA	μA	VOLTS	$\%/^{\circ}\text{C}$
CLL5245B	14.25	15	15.75	8.5	16	600	0.25	0.1	11	+0.082
CLL5246B	15.20	16	16.80	7.8	17	600	0.25	0.1	12	+0.083
CLL5247B	16.15	17	17.85	7.4	19	600	0.25	0.1	13	+0.084
CLL5248B	17.10	18	18.90	7.0	21	600	0.25	0.1	14	+0.085
CLL5249B	18.05	19	19.95	6.6	23	600	0.25	0.1	14	+0.086
CLL5250B	19.00	20	21.00	6.2	25	600	0.25	0.1	15	+0.086
CLL5251B	20.90	22	23.10	5.6	29	600	0.25	0.1	17	+0.087
CLL5252B	22.80	24	25.20	5.2	33	600	0.25	0.1	18	+0.088
CLL5253B	23.75	25	26.25	5.0	35	600	0.25	0.1	19	+0.089
CLL5254B	25.65	27	28.35	4.6	41	600	0.25	0.1	21	+0.090
CLL5255B	26.60	28	29.40	4.5	44	600	0.25	0.1	21	+0.091
CLL5256B	28.50	30	31.50	4.2	49	600	0.25	0.1	23	+0.091
CLL5257B	31.35	33	34.65	3.8	58	700	0.25	0.1	25	+0.092
CLL5258B	34.20	36	37.80	3.4	70	700	0.25	0.1	27	+0.093
CLL5259B	37.05	39	40.95	3.2	80	800	0.25	0.1	30	+0.094
CLL5260B	40.85	43	45.15	3.0	93	900	0.25	0.1	33	+0.095
CLL5261B	44.65	47	49.35	2.7	105	1000	0.25	0.1	36	+0.095
CLL5262B	48.45	51	53.55	2.5	125	1100	0.25	0.1	39	+0.096
CLL5263B	53.20	56	58.80	2.2	150	1300	0.25	0.1	43	+0.096
CLL5264B	57.00	60	63.00	2.1	170	1400	0.25	0.1	46	+0.097
CLL5265B	58.90	62	65.10	2.0	185	1400	0.25	0.1	47	+0.097
CLL5266B	64.60	68	71.40	1.8	230	1600	0.25	0.1	52	+0.097
CLL5267B	71.25	75	78.75	1.7	270	1700	0.25	0.1	56	+0.098



SOD-80 CASE - MECHANICAL OUTLINE



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.130	0.146	3.30	3.71
B	0.016		0.41	
C (DIA)	0.051	0.067	1.30	1.70
D	-	0.004	-	0.10

SOD-80 (REV:R1)

CLLRH SERIES

GENERAL PURPOSE RECTIFIER
0.5 AMP, 200 THRU 600 VOLTS



SOD-80 CASE

CentralTM

Semiconductor Corp.

FEATURES:

- SUPER MINI RECTIFIER IN A DIODE CASE
- HIGH CURRENT DENSITY
- HIGH RELIABILITY
- SPECIAL SELECTIONS AVAILABLE
- ROBUST GLASS CONSTRUCTION
- SUPERIOR LOT TO LOT CONSISTENCY

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 0.5 amp leadless glass silicon rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications where space is critical.

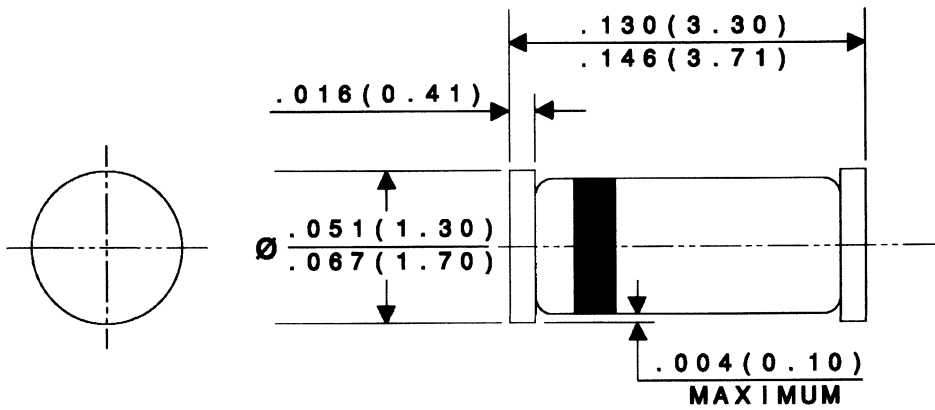
MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

		CLLRH <u>-02</u>	CLLRH <u>-04</u>	CLLRH <u>-06</u>	UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	200	400	600	V
DC Blocking Voltage	V_R	200	400	600	V
RMS Reverse Voltage	$V_{R(RMS)}$	140	280	420	V
Average Forward Current ($T_L=80^\circ\text{C}$)	I_O		0.5		A
Peak Forward Surge Current (Non-Repetitive, 8.3ms surge)	I_{FSM}		10		A
Operating and Storage Junction Temperature	T_J, T_{stg}		-65 to +175		$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
V_F	$I_F=\text{Rated } I_O$		1.1	V
I_R	$V_R=\text{Rated } V_{RRM}$		200	nA
I_R	$V_R=\text{Rated } V_{RRM}, T_A=150^\circ\text{C}$		25	μA
C_J	$V_R=4.0\text{V}, f=1.0\text{MHz}$		10	pF

All dimensions in inches (mm).

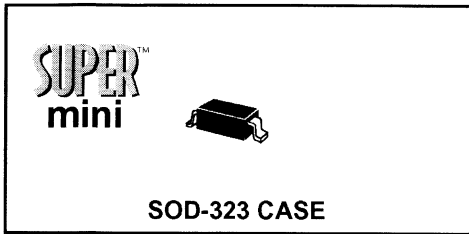


DATA
SHEETS

R1

CMDSH-3

**SUPER-MINI
SCHOTTKY DIODE**



CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMDSH-3 type is a Silicon Schottky Diode, manufactured in a super-mini surface mount package, designed for fast switching applications requiring a low forward voltage drop.

Marking Code is S1.

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

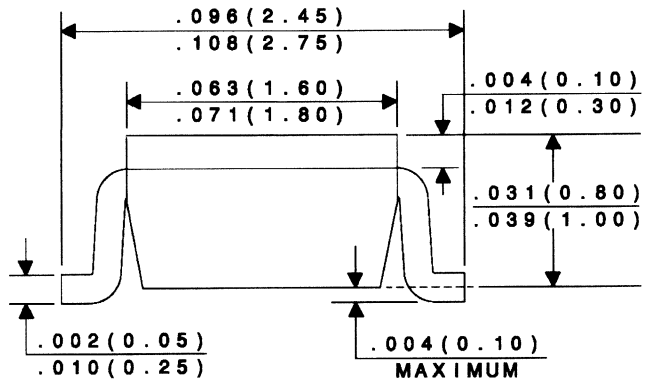
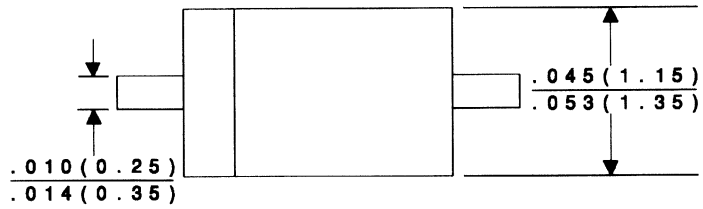
Peak Repetitive Reverse Voltage
 Average Forward Current
 Forward Surge Current, $t_p=10$ ms
 Power Dissipation
 Operating and Storage
 Junction Temperature
 Thermal Resistance

SYMBOL		UNITS
V_{RRM}	30	V
I_O	100	mA
I_{FSM}	750	mA
P_D	250	mW
T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
θ_{JA}	500	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
B_{VR}	$I_F=100\mu\text{A}$	30			V
V_F	$I_F=2.0\text{mA}$		0.30		V
V_F	$I_F=15\text{mA}$		0.36		V
V_F	$I_F=50\text{mA}$		0.47	0.55	V
V_F	$I_F=100\text{mA}$		0.58	0.80	V
I_R	$V_R=25\text{V}$			1.0	μA
C_T	$V_R=10\text{V}, f=1.0$ MHz		7.0		pF

All dimensions in inches (mm).



CMDSH2-3

**SUPER-MINI
SCHOTTKY DIODE
HIGH CURRENT - 200mA**

**SUPER
mini**



SOD-323 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMDSH2-3 type is a Silicon Schottky Diode, manufactured in a super-mini surface mount package, designed for fast switching applications requiring a low forward voltage drop.

Marking Code is S2.

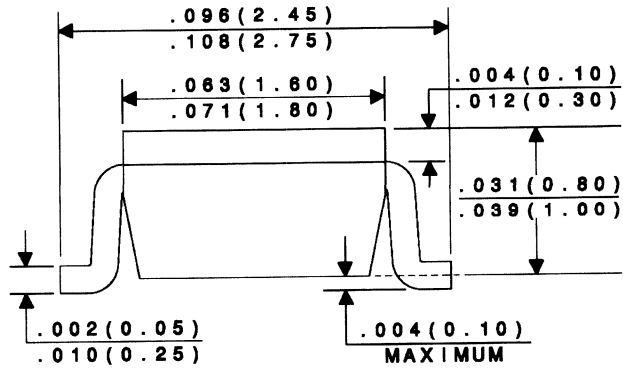
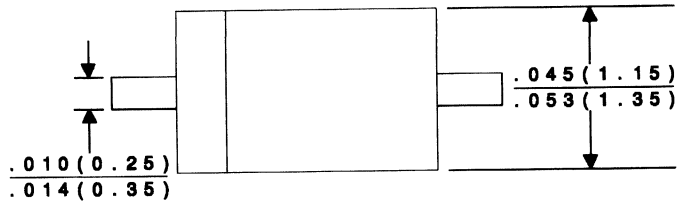
MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	30	V
Average Forward Current	I_O	200	mA
Forward Surge Current, $t_p=10$ ms	I_{FSM}	1.0	A
Power Dissipation	P_D	250	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	500	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
B_{VR}	$I_F=100\mu\text{A}$	30			V
V_F	$I_F=2.0\text{mA}$		0.26		V
V_F	$I_F=15\text{mA}$		0.32		V
V_F	$I_F=100\text{mA}$		0.42		V
V_F	$I_F=200\text{mA}$		0.49	0.55	V
I_R	$V_R=30\text{V}$		0.40	50	μA
C_T	$V_R=10\text{V}, f=1.0$ MHz		15		pF

All dimensions in inches (mm).



DATA
SHEETS

CentralTM Semiconductor Corp.

CMDZ5L1 THRU CMDZ36L

LOW LEVEL ZENER DIODE
250mW, 5.1 VOLTS THRU 36 VOLTS

**SUPERTM
mini**



SOD-323 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMDZ5L1 Series Silicon Low Level Zener Diode is a high quality voltage regulator specifically designed for operation at 500 μ A. Manufactured in a supermini surface mount package, designed for applications requiring a low operating current, low leakage, a sharp knee and tight real estate situations.

ABSOLUTE MAXIMUM RATINGS:

Power Dissipation (@ $T_A=25^\circ\text{C}$)
Operating and Storage Temperature
Thermal Resistance

SYMBOL

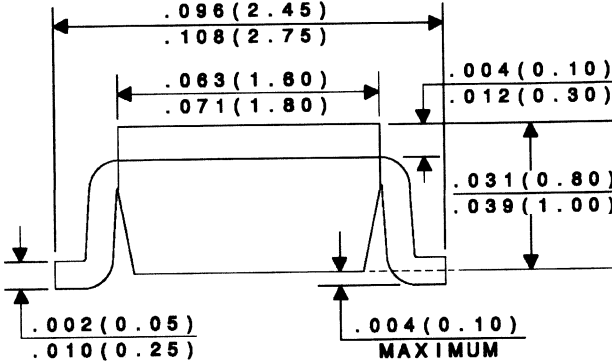
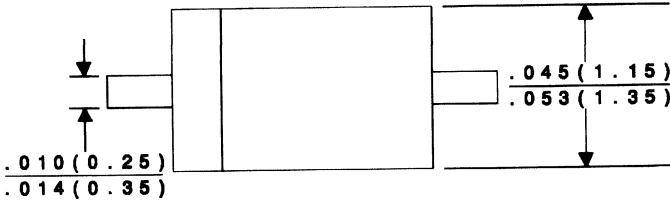
P_D 250 mW
 T_J, T_{stg} -65 to +150 $^\circ\text{C}$
 Θ_{JA} 500 $^\circ\text{C/W}$

UNIT

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$)

TYPE	ZENER VOLTAGE $V_Z @ I_{ZT}$			TEST CURRENT	MAXIMUM ZENER IMPEDANCE	MAXIMUM REVERSE CURRENT		MARKING
	MIN	NOM	MAX	I_{ZT}	$Z_{ZT} @ I_{ZT}$	$I_R @ V_R$		
	(V)	(V)	(V)	(μA)	(Ω)	(μA)	(V)	
CMDZ5L1	4.84	5.1	5.37	500	350	1.0	1.5	LP
CMDZ5L6	5.31	5.6	5.92	500	90	1.0	2.0	NP
CMDZ6L2	5.86	6.2	6.53	500	90	1.0	2.0	OP
CMDZ6L8	6.47	6.8	7.14	500	60	1.0	3.5	PP
CMDZ7L5	7.06	7.5	7.84	500	60	1.0	3.5	QP
CMDZ8L2	7.76	8.2	8.64	500	60	1.0	6.0	RP
CMDZ9L1	8.56	9.1	9.55	500	60	1.0	6.0	SP
CMDZ10L	9.45	10	10.55	500	80	1.0	8.0	TP
CMDZ11L	10.44	11	11.56	500	80	1.0	8.0	UP
CMDZ12L	11.42	12	12.60	500	80	1.0	10.5	VP
CMDZ13L	12.47	13	13.96	500	80	1.0	10.5	XP
CMDZ15L	13.84	15	15.52	500	80	1.0	11.5	YP
CMDZ16L	15.37	16	17.09	500	80	1.0	14	ZP
CMDZ18L	16.94	18	19.03	500	80	1.0	16	1P
CMDZ20L	18.86	20	21.08	500	100	1.0	18	2P
CMDZ22L	20.88	22	23.17	500	100	1.0	20	3P
CMDZ24L	22.93	24	25.57	500	120	1.0	22	4P
CMDZ27L	25.10	27	28.90	500	150	1.0	24	5P
CMDZ30L	28.00	30	32.00	500	200	1.0	27	6P
CMDZ33L	31.00	33	35.00	500	250	1.0	30	7P
CMDZ36L	34.00	36	38.00	500	300	1.0	33	8P

All dimensions in inches (mm).



DATA SHEETS

**CMDZ5221B
THRU
CMDZ5261B**

**SUPER-MINI ZENER DIODE
2.4 VOLTS THRU 47 VOLTS
250mW, 5% TOLERANCE**

**SUPERTM
mini**



SOD-323 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMDZ5221B Series Silicon Zener Diode is a high quality voltage regulator, manufactured in a super-mini surface mount package, designed for use in industrial, commercial, entertainment and computer applications.

ABSOLUTE MAXIMUM RATINGS:

Power Dissipation (@T_A=25°C)
Operating and Storage Temperature
Thermal Resistance

SYMBOL

P_D 250
T_J, T_{stg} -65 to +150
θ_{JA} 500

UNIT

mW
°C
°C/W

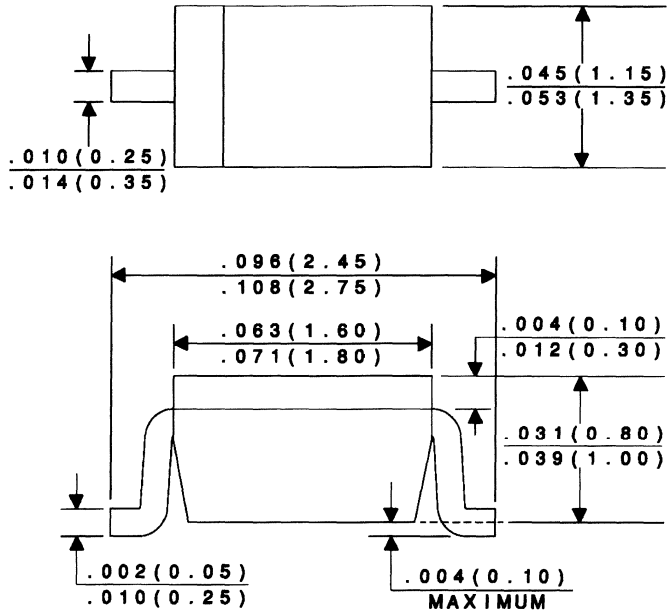
ELECTRICAL CHARACTERISTICS: (T_A=25°C), V_F=0.9V MAX @ I_F=10mA FOR ALL TYPES.

TYPE	ZENER VOLTAGE V _Z @ I _{ZT}			TEST CURRENT	MAXIMUM ZENER IMPEDENCE			MAXIMUM REVERSE CURRENT		MAXIMUM ZENER VOLTAGE TEMPERATURE COEFFICIENT
	MIN	NOM	MAX		I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _R @ V _R		
	VOLTS	VOLTS	VOLTS	mA	Ω	Ω	mA	μA	VOLTS	%/°C
CMDZ5221B	2.280	2.4	2.520	20	30	1200	0.25	100	1.0	-0.085
CMDZ5222B	2.375	2.5	2.625	20	30	1250	0.25	100	1.0	-0.085
CMDZ5223B	2.565	2.7	2.835	20	30	1300	0.25	75	1.0	-0.080
CMDZ5224B	2.660	2.8	2.940	20	30	1400	0.25	75	1.0	-0.080
CMDZ5225B	2.850	3.0	3.150	20	29	1600	0.25	50	1.0	-0.075
CMDZ5226B	3.135	3.3	3.465	20	28	1600	0.25	25	1.0	-0.070
CMDZ5227B	3.420	3.6	3.780	20	24	1700	0.25	15	1.0	-0.065
CMDZ5228B	3.705	3.9	4.095	20	23	1900	0.25	10	1.0	-0.060
CMDZ5229B	4.085	4.3	4.515	20	22	2000	0.25	5.0	1.0	±0.055
CMDZ5230B	4.465	4.7	4.935	20	19	1900	0.25	5.0	2.0	±0.030
CMDZ5231B	4.845	5.1	5.355	20	17	1600	0.25	5.0	2.0	±0.030
CMDZ5232B	5.320	5.6	5.880	20	11	1600	0.25	5.0	3.0	+0.038
CMDZ5233B	5.700	6.0	6.300	20	7.0	1600	0.25	5.0	3.5	+0.038
CMDZ5234B	5.890	6.2	6.510	20	7.0	1000	0.25	5.0	4.0	+0.045
CMDZ5235B	6.460	6.8	7.140	20	5.0	750	0.25	3.0	5.0	+0.050
CMDZ5236B	7.125	7.5	7.875	20	6.0	500	0.25	3.0	6.0	+0.058
CMDZ5237B	7.790	8.2	8.610	20	8.0	500	0.25	3.0	6.5	+0.062
CMDZ5238B	8.265	8.7	9.135	20	8.0	600	0.25	3.0	6.5	+0.065
CMDZ5239B	8.645	9.1	9.555	20	10	600	0.25	3.0	7.0	+0.068
CMDZ5240B	9.500	10	10.50	20	17	600	0.25	3.0	8.0	+0.075
CMDZ5241B	10.45	11	11.55	20	22	600	0.25	2.0	8.4	+0.076
CMDZ5242B	11.40	12	12.60	20	30	600	0.25	1.0	9.1	+0.077

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$), $V_F=0.9\text{V MAX @ } I_F=10\text{mA}$ FOR ALL TYPES.

TYPE	ZENER VOLTAGE $V_Z @ I_{ZT}$			TEST CURRENT	MAXIMUM ZENER IMPEDENCE			MAXIMUM REVERSE CURRENT		MAXIMUM ZENER VOLTAGE TEMPERATURE COEFFICIENT
	MIN	NOM	MAX		I_{ZT}	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_R @ V_R$		
	VOLTS	VOLTS	VOLTS	mA	Ω	Ω	mA	μA	VOLTS	% $^{\circ}\text{C}$
CMDZ5243B	12.35	13	13.65	9.5	13	600	0.25	0.5	9.9	+0.079
CMDZ5244B	13.30	14	14.70	9.0	15	600	0.25	0.1	10	+0.082
CMDZ5245B	14.25	15	15.75	8.5	16	600	0.25	0.1	11	+0.082
CMDZ5246B	15.20	16	16.80	7.8	17	600	0.25	0.1	12	+0.083
CMDZ5247B	16.15	17	17.85	7.4	19	600	0.25	0.1	13	+0.084
CMDZ5248B	17.10	18	18.90	7.0	21	600	0.25	0.1	14	+0.085
CMDZ5249B	18.05	19	19.95	6.6	23	600	0.25	0.1	14	+0.086
CMDZ5250B	19.00	20	21.00	6.2	25	600	0.25	0.1	15	+0.086
CMDZ5251B	20.90	22	23.10	5.6	29	600	0.25	0.1	17	+0.087
CMDZ5252B	22.80	24	25.20	5.2	33	600	0.25	0.1	18	+0.088
CMDZ5253B	23.75	25	26.25	5.0	35	600	0.25	0.1	19	+0.089
CMDZ5254B	25.65	27	28.35	4.6	41	600	0.25	0.1	21	+0.090
CMDZ5255B	26.60	28	29.40	4.5	44	600	0.25	0.1	21	+0.091
CMDZ5256B	28.50	30	31.50	4.2	49	600	0.25	0.1	23	+0.091
CMDZ5257B	31.35	33	34.65	3.8	58	700	0.25	0.1	25	+0.092
CMDZ5258B	34.20	36	37.80	3.4	70	700	0.25	0.1	27	+0.093
CMDZ5259B	37.05	39	40.95	3.2	80	800	0.25	0.1	30	+0.094
CMDZ5260B	40.85	43	45.15	3.0	93	900	0.25	0.1	33	+0.095
CMDZ5261B	44.65	47	49.35	2.7	105	1000	0.25	0.1	36	+0.095

All dimensions in inches (mm).



R1

CMFD2004i

DUAL ISOLATED HIGH VOLTAGE
SWITCHING DIODES



SOT-143 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR CMFD2004i type is a Silicon Dual Isolated High Voltage Switching diode designed for surface mount switching applications requiring high voltage capabilities.

Marking Code is CJP.

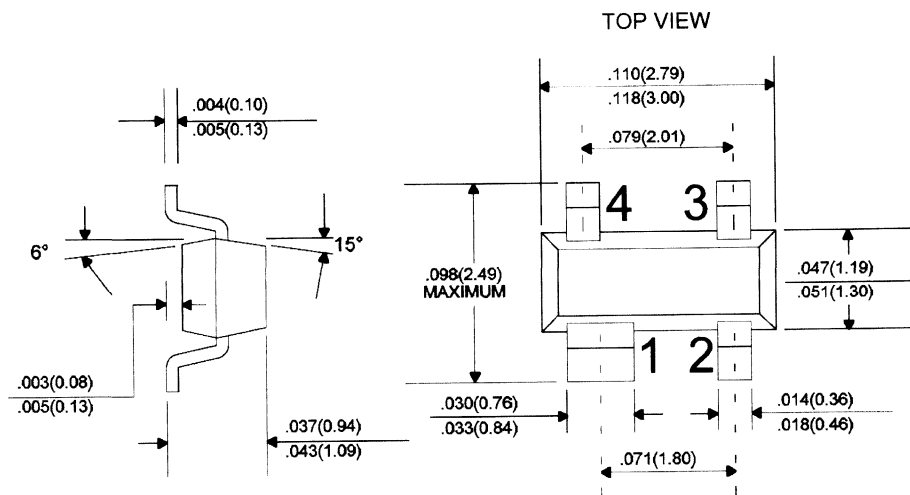
MAXIMUM RATINGS (T_A=25°C)

	SYMBOL		UNITS
Continuous Reverse Voltage	V _R	240	V
Peak Repetitive Reverse Voltage	V _R RM	300	V
Peak Repetitive Reverse Current	I _O	200	mA
Continuous Forward Current	I _F	225	mA
Peak Repetitive Forward Current	I _F RM	625	mA
Forward Surge Current, tp=1 μs	I _F SM	4000	mA
Forward Surge Current, tp=1 s	I _F SM	1000	mA
Power Dissipation	P _D	350	mW
Operating and Storage			
Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	θ _{JA}	357	°C/W

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I _R	V _R =240V			100	nA
I _R	V _R =240V, T _A =150°C			100	μA
B _V R	I _R =100μA	300			V
V _F	I _F =100mA			1.00	V
C _T	V _R =0V, f=1.0MHz			5.0	pF
t _{rr}	I _F =I _R =30mA, I _{rr} =3.0mA, R _L =100Ω			50	ns

All Dimensions in Inches (mm).



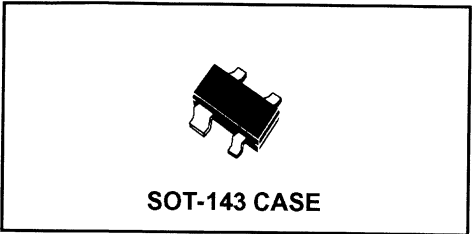
LEAD CODE:

- 1) Cathode 1
- 2) Cathode 2
- 3) Anode 2
- 4) Anode 1



R1

CMFSH-3i
**DUAL ISOLATED
SCHOTTKY DIODES**



DESCRIPTION

The CENTRAL SEMICONDUCTOR CMFSH-3i type is a Silicon Dual Isolated Schottky diode designed for surface mount fast switching applications requiring a low forward voltage drop.

Marking Code is C3I.

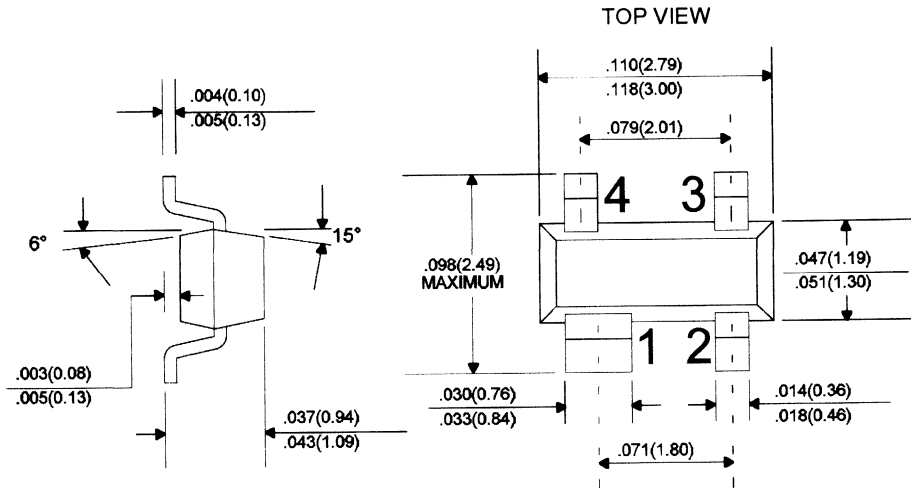
MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	30	V
Continuous Forward Current	I_F	100	mA
Peak Repetitive Forward Current	I_{FRM}	350	mA
Forward Surge Current, $t_p=10\text{ms}$	I_{FSM}	750	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	Θ_{JA}	357	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS PER DIODE ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_R	$V_R=25\text{V}$		90	500	nA
I_R	$V_R=25\text{V}, T_A=100^\circ\text{C}$		25	100	μA
B_{VR}	$I_R=100\mu\text{A}$	30			V
V_F	$I_F=2.0\text{mA}$		0.29	0.33	V
V_F	$I_F=15\text{mA}$		0.40	0.45	V
V_F	$I_F=100\text{mA}$		0.74	1.00	V
C_T	$V_R=1.0\text{V}, f=1.0\text{MHz}$		7.0		pF
t_{rr}	$I_F=I_R=10\text{mA}, I_{rr}=1.0\text{mA}, R_L=100\Omega$			5.0	ns

All Dimensions in Inches (mm).



LEAD CODE:

- 1) Cathode 1
- 2) Cathode 2
- 3) Anode 2
- 4) Anode 1

DATA
SHEETS

R1

CMHD2003
SUPER-MINI
HIGH VOLTAGE
SWITCHING DIODE



SOD-123 CASE

CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMHD2003 is a Silicon Switching Diode, manufactured by the epitaxial planar process, epoxy molded in a super-mini surface mount package, designed for applications requiring high voltage capability. Marking Code is **C03**.

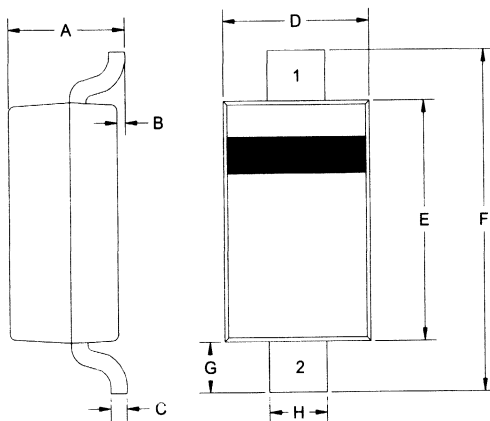
MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

	<u>SYMBOL</u>		<u>UNITS</u>
Continuous Reverse Voltage	V_R	250	V
Continuous Forward Current	I_F	250	mA
Average Rectified Current	I_O	200	mA
Peak Repetitive Forward Current	I_{FRM}	625	mA
Forward Surge Current, $t_p < 1s$, $T_C = 25^\circ\text{C}$	I_{FSM}	1.0	A
Power Dissipation	P_D	400	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	Θ_{JA}	312.5	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>TYP</u>	<u>MAX</u>	<u>UNITS</u>
I_R	$V_R=200V$			100	nA
I_R	$V_R=200V, T_C=100^\circ\text{C}$			15	μA
V_F	$I_F=100\text{mA}$			1.0	V
C_T	$V_R=0, f=1\text{ MHz}$		1.5		pF
t_{rr}	$I_F=I_R=30\text{mA}, R_L=100\Omega, \text{Rec. to } 3.0\text{mA}$			50	ns

MECHANICAL OUTLINE - SOD-123



R2

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.037	0.053	0.95	1.35
B	-	0.004	-	0.10
C	-	0.008	-	0.20
D	0.055	0.071	1.40	1.80
E	0.098	0.112	2.50	2.84
F	0.140	0.154	3.56	3.90
G	0.010	-	0.25	-
H	0.020	0.028	0.50	0.70

SOD-123 (REV: R2)



CMHD4448
SUPER-MINI
HIGH SPEED
SWITCHING DIODE



SOD-123 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMHD4448 type is a ultra-high speed silicon switching diode manufactured by the epitaxial planar process, epoxy molded in a super-mini surface mount package, designed for high speed switching applications. Marking code is **C48**.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

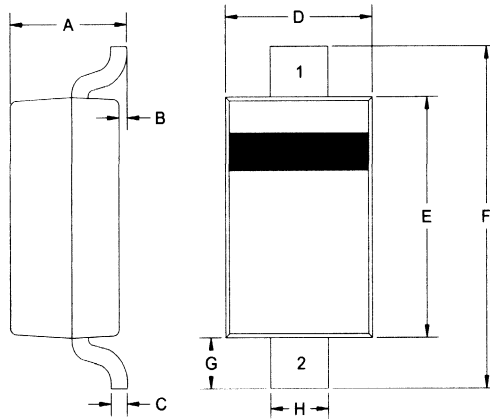
	<u>SYMBOL</u>		<u>UNITS</u>
Continuous Reverse Voltage	V_R	75	V
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
Average Rectified Current	I_O	150	mA
Forward Surge Current, $t_p < 1\text{s}$, $T_C = 25^\circ\text{C}$	I_{FSM}	500	mA
Power Dissipation	P_D	400	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	Θ_{JA}	312.5	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MAX</u>	<u>UNITS</u>
I_R	$V_R=20\text{V}$		25	nA
I_R	$V_R=20\text{V}$, $T_C=25^\circ\text{C}$		50	μA
I_R	$V_R=75\text{V}$		5.0	μA
V_{BR}	$I_R=100\mu\text{A}$	100		V
V_F	$I_F=5.0\text{mA}$	0.62	0.72	V
V_F	$I_F=10\text{mA}$		1.0	V
C_T	$V_R=0$, $f=1\text{ MHz}$		4.0	pF
t_{rr}	$V_R=6.0\text{V}$, $I_F=10\text{mA}$, $I_R=1.0\text{mA}$, $R_L=100\Omega$		4.0	ns

R1 (14-Sept 2000)

MECHANICAL OUTLINE - SOD-123



R2

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.037	0.053	0.95	1.35
B	-	0.004	-	0.10
C	-	0.008	-	0.20
D	0.055	0.071	1.40	1.80
E	0.098	0.112	2.50	2.84
F	0.140	0.154	3.56	3.90
G	0.010	-	0.25	-
H	0.020	0.028	0.50	0.70

SOD-123 (REV: R2)



CMHSH-3
SUPER-MINI
SURFACE MOUNT
SCHOTTKY DIODE



SOD-123 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMHSH-3 type is a Silicon Schottky diode, epoxy molded in a super-mini surface mount package, designed for fast switching applications requiring a low forward voltage drop.

Marking Code is **CH3**.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

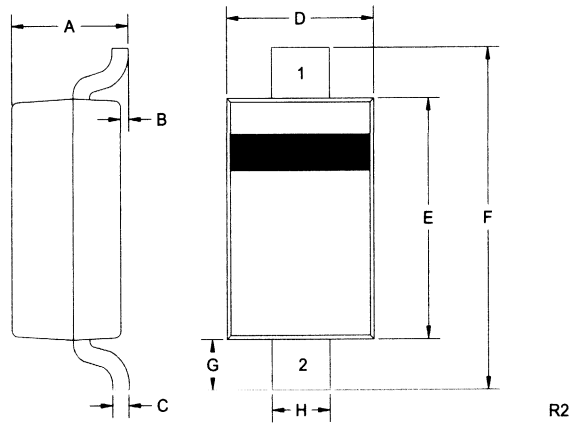
	<u>SYMBOL</u>		<u>UNITS</u>
Peak Repetitive Reverse Voltage	V_{RRM}	30	V
Continuous Forward Current	I_F	200	mA
Peak Repetitive Forward Current	I_{FRM}	300	mA
Forward Surge Current, $t_p < 1.0\text{s}$	I_{FSM}	600	mA
Power Dissipation	P_D	150	mW
Junction Temperature	T_J	-65 to +125	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	Θ_{JA}	650	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>TYP</u>	<u>MAX</u>	<u>UNITS</u>
I_R	$V_R=25\text{V}$			2.0	μA
V_{BR}	$I_R=100\mu\text{A}$	30			V
V_F	$I_F=100\mu\text{A}$			240	mV
V_F	$I_F=1.0\text{mA}$			320	mV
V_F	$I_F=10\text{mA}$			400	mV
V_F	$I_F=30\text{mA}$			500	mV
V_F	$I_F=100\text{mA}$			1000	mV
C_T	$V_R=1.0\text{V}$, $f=1\text{ MHz}$		10		pF
t_{rr}	$I_F=I_R=10\text{mA}$, $R_L=100\Omega$, Rec. to 1.0mA		10		ns

R1 (14-Sept 2000)

MECHANICAL OUTLINE - SOD-123



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.037	0.053	0.95	1.35
B	-	0.004	-	0.10
C	-	0.008	-	0.20
D	0.055	0.071	1.40	1.80
E	0.098	0.112	2.50	2.84
F	0.140	0.154	3.56	3.90
G	0.010	-	0.25	-
H	0.020	0.028	0.50	0.70

SOD-123 (REV: R2)

**DATA
SHEETS**

CMHSH5-2L
SURFACE MOUNT
SCHOTTKY RECTIFIER
500mA, 20 VOLTS
LOW FORWARD VOLTAGE



Central™
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMHSH5-2L type is a Silicon Schottky Rectifier, epoxy molded in a surface mount package, designed for high current, fast switching applications requiring a low forward voltage drop.

The Marking Code is **C2L**.

MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

	<u>SYMBOL</u>		<u>UNIT</u>
Peak Repetitive Reverse Voltage	V _R RM	20	V
Peak Working Reverse Voltage	V _R WM	20	V
DC Blocking Voltage	V _R	20	V
Average Rectified Current	I _O	500	mA
Peak Forward Surge Current (@ rated load, halfwave, single phase, 60Hz)	I _{FSM}	5.5	A
Junction Temperature	T _J	-65 to +125	°C
Storage Temperature	T _{stg}	-65 to +150	°C
Thermal Resistance	θ _{JL}	150	°C/W
Thermal Resistance	θ _{JA}	340	°C/W

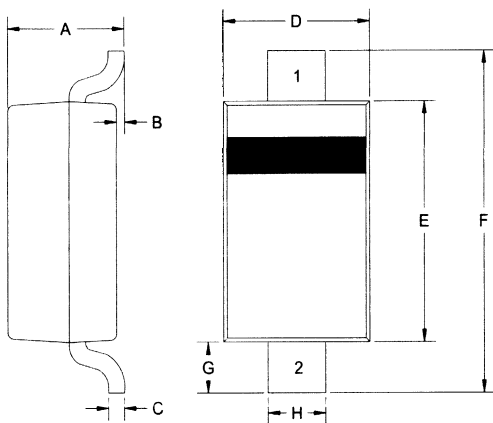
ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>TYP</u>	<u>MAX</u>	<u>UNIT</u>
I _R	V _R =10V			75	μA
I _R	V _R =10V, T _A =100°C			5.0	mA
I _R	V _R =20V			250	μA
I _R	V _R =20V, T _A =100°C			8.0	mA
V _F	I _F =100mA			300	mV
V _F	I _F =100mA, T _A =100°C			220	mV
V _F	I _F =500mA			385	mV
V _F	I _F =500mA, T _A =100°C			330	mV
C _T	V _R =4.0V, f=1.0MHz		60		pF

R1 (14-Sept 2000)

**SURFACE MOUNT
SCHOTTKY RECTIFIER**

MECHANICAL OUTLINE - SOD-123



R2

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.037	0.053	0.95	1.35
B	-	0.004	-	0.10
C	-	0.008	-	0.20
D	0.055	0.071	1.40	1.80
E	0.098	0.112	2.50	2.84
F	0.140	0.154	3.56	3.90
G	0.010	-	0.25	-
H	0.020	0.028	0.50	0.70

SOD-123 (REV: R2)



CMHSH5-4
SURFACE MOUNT
SCHOTTKY RECTIFIER
500mA, 40 VOLTS



SOD-123 CASE

CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMHSH5-4 type is a Silicon Schottky Rectifier, epoxy molded in a surface mount package, designed for high current, fast switching applications requiring a low forward voltage drop.

The Marking Code is **C54**.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

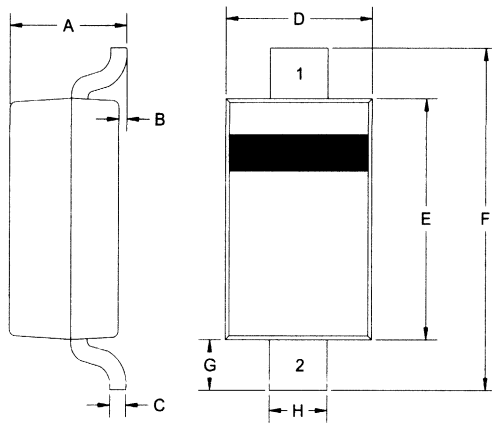
	<u>SYMBOL</u>		<u>UNITS</u>
Peak Repetitive Reverse Voltage	V_{RRM}	40	V
Peak Working Reverse Voltage	V_{RWM}	40	V
DC Blocking Voltage	V_R	40	V
Average Rectified Current	I_O	500	mA
Peak Repetitive Forward Current (@ rated V_R , square wave, 20kHz, $T_C=115^{\circ}\text{C}$)	I_{FRM}	1.0	A
Peak Forward Surge Current (@ rated load, halfwave, single phase, 60Hz)	I_{FSM}	5.5	A
Junction Temperature	T_J	-65 to +125	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	Θ_{JL}	118	$^{\circ}\text{C}/\text{W}$
Thermal Resistance	Θ_{JA}	206	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>TYP</u>	<u>MAX</u>	<u>UNITS</u>
I_R	$V_R=20\text{V}$			10	μA
I_R	$V_R=20\text{V}, T_A=100^{\circ}\text{C}$			5.0	mA
I_R	$V_R=40\text{V}$			20	μA
I_R	$V_R=40\text{V}, T_A=100^{\circ}\text{C}$			13	mA
V_F	$I_F=500\text{mA}$			510	mV
V_F	$I_F=500\text{mA}, T_A=100^{\circ}\text{C}$			460	mV
V_F	$I_F=1.0\text{A}$			620	mV
V_F	$I_F=1.0\text{A}, T_A=100^{\circ}\text{C}$			610	mV
C_T	$V_R=4.0\text{V}, f=1.0\text{MHz}$		50		pF

R1 (14-Sept 2000)

MECHANICAL OUTLINE - SOD-123



R2

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.037	0.053	0.95	1.35
B	-	0.004	-	0.10
C	-	0.008	-	0.20
D	0.055	0.071	1.40	1.80
E	0.098	0.112	2.50	2.84
F	0.140	0.154	3.56	3.90
G	0.010	-	0.25	-
H	0.020	0.028	0.50	0.70

SOD-123 (REV: R2)

**DATA
SHEETS**

**CMHZ5225B
THRU
CMHZ5267B**

**SURFACE MOUNT ZENER DIODE
3.0 VOLTS THRU 75 VOLTS
500mW, 5% TOLERANCE**



SOD-123 CASE

**Central™
Semiconductor Corp.**

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMHZ5221B Series Silicon Zener Diode is a high quality voltage regulator, manufactured in a super-mini surface mount package, designed for use in industrial, commercial, entertainment and computer applications.

ABSOLUTE MAXIMUM RATINGS:

Power Dissipation (@ $T_L=75^\circ\text{C}$)
Storage Temperature Range
Maximum Junction Temperature
Thermal Resistance

SYMBOL

SYMBOL	UNIT
P_D	500 mW
T_{stg}	-65 to +175 $^\circ\text{C}$
T_J	+150 $^\circ\text{C}$
θ_{JL}	150 $^\circ\text{C/W}$

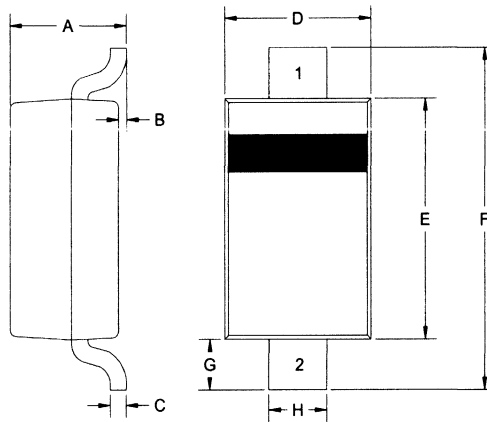
ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$), $V_F=0.9\text{V MAX @ } I_F=10\text{mA}$ FOR ALL TYPES.

TYPE NO.	ZENER VOLTAGE $V_Z @ I_{ZT}$			TEST CURRENT I_{ZT}	MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE CURRENT		MAX. TEMP. COEFF.	MKG. CODE
	MIN	NOM	MAX		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$	θ_{VZ}		
	VOLTS	VOLTS	VOLTS			Ω	Ω					mA	$\mu\text{A}$	VOLTS	%/$^\circ\text{C}$
CMHZ5225B	2.850	3.0	3.150	20	30	1600	0.25	50	1.0	-0.075	CC5
CMHZ5226B	3.135	3.3	3.465	20	28	1600	0.25	25	1.0	-0.070	CD1
CMHZ5227B	3.420	3.6	3.780	20	24	1700	0.25	15	1.0	-0.065	CD2
CMHZ5228B	3.705	3.9	4.095	20	23	1900	0.25	10	1.0	-0.06	CD3
CMHZ5229B	4.085	4.3	4.515	20	22	2000	0.25	5.0	1.0	± 0.055	CD4
CMHZ5230B	4.465	4.7	4.935	20	19	1900	0.25	5.0	2.0	± 0.030	CD5
CMHZ5231B	4.845	5.1	5.355	20	17	1600	0.25	5.0	2.0	± 0.030	CE1
CMHZ5232B	5.320	5.6	5.880	20	11	1600	0.25	5.0	3.0	0.038	CE2
CMHZ5233B	5.700	6.0	6.300	20	7.0	1600	0.25	5.0	3.5	0.038	CE3
CMHZ5234B	5.890	6.2	6.510	20	7.0	1000	0.25	5.0	4.0	0.045	CE4
CMHZ5235B	6.460	6.8	7.140	20	5.0	750	0.25	3.0	5.0	0.050	CE5
CMHZ5236B	7.125	7.5	7.875	20	6.0	500	0.25	3.0	6.0	0.058	CF1
CMHZ5237B	7.790	8.2	8.610	20	8.0	500	0.25	3.0	6.5	0.062	CF2
CMHZ5238B	8.265	8.7	9.135	20	8.0	600	0.25	3.0	6.5	0.065	CF3
CMHZ5239B	8.645	9.1	9.555	20	10	600	0.25	3.0	7.0	0.068	CF4
CMHZ5240B	9.50	10	10.50	20	17	600	0.25	3.0	8.0	0.075	CF5
CMHZ5241B	10.45	11	11.55	20	22	600	0.25	2.0	8.4	0.076	CH1
CMHZ5242B	11.40	12	12.60	20	30	600	0.25	1.0	9.1	0.077	CH2
CMHZ5243B	12.35	13	13.65	9.50	13	600	0.25	0.5	9.9	0.079	CH3
CMHZ5244B	13.30	14	14.70	9.00	15	600	0.25	0.1	10	0.082	CH4
CMHZ5245B	14.25	15	15.75	8.50	16	600	0.25	0.1	11	0.082	CH5
CMHZ5246B	15.20	16	16.80	7.80	17	600	0.25	0.1	12	0.083	CJ1
CMHZ5247B	16.15	17	17.85	7.40	19	600	0.25	0.1	13	0.084	CJ2
CMHZ5248B	17.10	18	18.90	7.00	21	600	0.25	0.1	14	0.085	CJ3
CMHZ5249B	18.05	19	19.95	6.60	23	600	0.25	0.1	14	0.086	CJ4
CMHZ5250B	19.00	20	21.00	6.20	25	600	0.25	0.1	15	0.086	CJ5
CMHZ5251B	20.90	22	23.10	5.60	29	600	0.25	0.1	17	0.087	CK1
CMHZ5252B	22.80	24	25.20	5.20	33	600	0.25	0.1	18	0.087	CK2
CMHZ5253B	23.75	25	26.25	5.00	35	600	0.25	0.1	19	0.089	CK3
CMHZ5254B	25.65	27	28.35	4.60	41	600	0.25	0.1	21	0.090	CK4
CMHZ5255B	26.60	28	29.40	4.50	44	600	0.25	0.1	21	0.091	CK5

SURFACE MOUNT ZENER DIODE

TYPE NO.	ZENER VOLTAGE $V_Z @ I_ZT$			TEST CURRENT I_ZT	MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE CURRENT		MAX. TEMP. COEFF.	MFG. CODE
	MIN	NOM	MAX		$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$		ΔV_Z		
	VOLTS	VOLTS	VOLTS	mA	Ω	Ω	mA	μA	VOLTS	%/°C	
CMHZ5256B	28.50	30	31.50	4.20	49	600	0.25	0.1	23	0.091	CM1
CMHZ5257B	31.35	33	34.65	3.80	58	700	0.25	0.1	25	0.092	CM2
CMHZ5258B	34.20	36	37.80	3.40	70	700	0.25	0.1	27	0.093	CM3
CMHZ5259B	37.05	39	40.95	3.20	80	800	0.25	0.1	30	0.094	CM4
CMHZ5260B	40.85	43	45.15	3.00	93	900	0.25	0.1	33	0.095	CM5
CMHZ5261B	44.65	47	49.35	2.70	105	1000	0.25	0.1	36	0.095	CN1
CMHZ5262B	48.45	51	53.55	2.50	125	1100	0.25	0.1	39	0.096	CN2
CMHZ5263B	53.20	56	58.80	2.20	150	1300	0.25	0.1	43	0.096	CN3
CMHZ5264B	57.00	60	63.00	2.10	170	1400	0.25	0.1	46	0.097	CN4
CMHZ5265B	58.90	62	65.10	2.00	185	1400	0.25	0.1	47	0.097	CN5
CMHZ5266B	64.60	68	71.40	1.80	230	1600	0.25	0.1	52	0.097	CP1
CMHZ5267B	71.25	75	78.75	1.70	270	1700	0.25	0.1	56	0.098	CP2

MECHANICAL OUTLINE - SOD-123



R2

DATA SHEETS

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.037	0.053	0.95	1.35
B	-	0.004	-	0.10
C	-	0.008	-	0.20
D	0.055	0.071	1.40	1.80
E	0.098	0.112	2.50	2.84
F	0.140	0.154	3.56	3.90
G	0.010	-	0.25	-
H	0.020	0.028	0.50	0.70

SOD-123 (REV: R2)

CMPD914

HIGH SPEED SWITCHING DIODE



SOT-23 CASE

CentralTM

Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR CMPD914 type is a ultra-high speed silicon switching diode manufactured by the epitaxial planar process, in an epoxy molded surface mount package, designed for high speed switching applications.

Marking code is C5D.

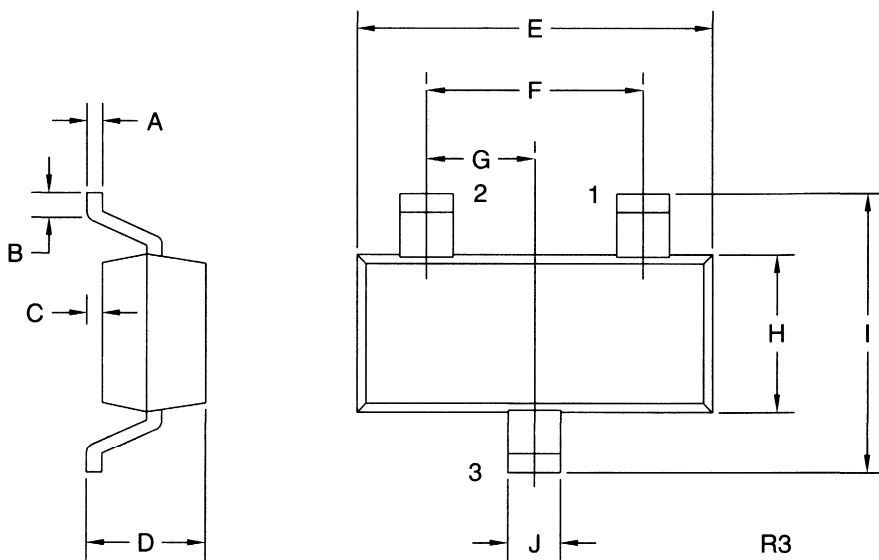
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Continuous Reverse Voltage	V_R	75	V
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
Continuous Forward Current	I_F	250	mA
Peak Repetitive Forward Current	I_{FRM}	250	mA
Forward Surge Current, $t_p=1\ \mu\text{sec.}$	I_{FSM}	4000	mA
Forward Surge Current, $t_p=1\ \text{msec.}$	I_{FSM}	2000	mA
Forward Surge Current, $t_p=1\ \text{sec.}$	I_{FSM}	1000	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	357	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

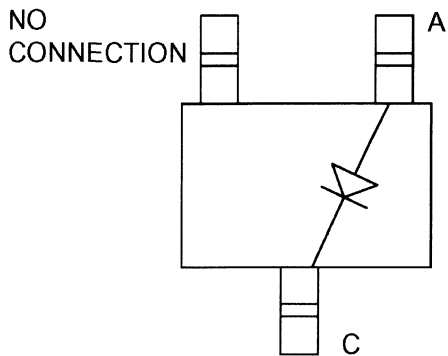
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
V_{BR}	$I_R=100\ \mu\text{A}$	100		V
I_R	$V_R=20\text{V}$		25	nA
I_R	$V_R=75\text{V}$		5.0	μA
V_F	$I_F=10\text{mA}$		1.0	V
C_T	$V_R=0, f=1\ \text{MHz}$		4.0	pF
t_{rr}	$I_R=I_F=10\text{mA}, R_L=100\ \Omega, \text{Rec. to } 1.0\text{mA}$		4.0	ns

SOT-23 CASE - MECHANICAL OUTLINE



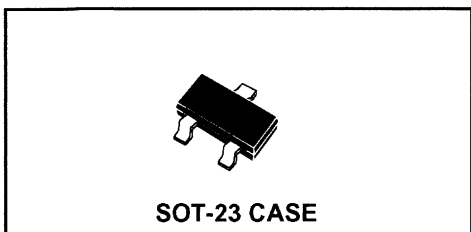
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)



CMPD1001
 CMPD1001A
 CMPD1001S

**HIGH CURRENT
 SWITCHING DIODE**



DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPD1001 series types are silicon switching diodes manufactured by the epitaxial planar process, designed for applications requiring high current capability.

The following configurations are available:

CMPD1001	SINGLE
CMPD1001S	DUAL, IN SERIES
CMPD1001A	DUAL, COMMON ANODE

MARKING CODE: L20
MARKING CODE: L21
MARKING CODE: L22

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

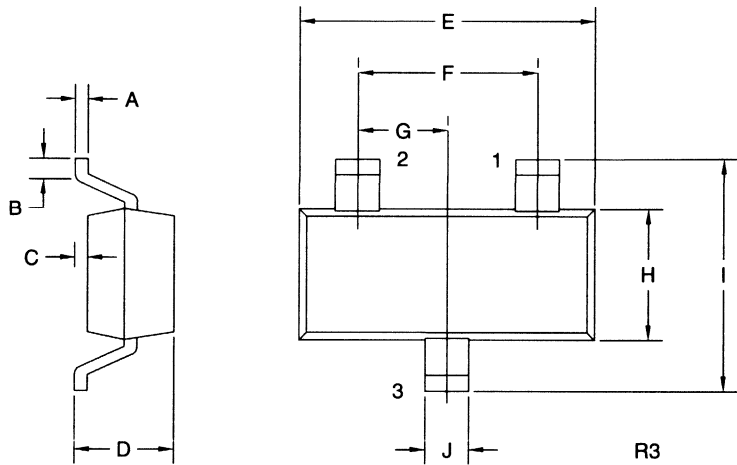
	SYMBOL		UNITS
Continuous Reverse Voltage	V_R	90	V
Continuous Forward Current	I_F	250	mA
Peak Repetitive Forward Current	I_{FRM}	600	mA
Peak Repetitive Reverse Current	I_{RRM}	600	mA
Forward Surge Current, $t_p=1 \mu\text{s}$	I_{FSM}	6000	mA
Forward Surge Current, $t_p=1 \text{s}$	I_{FSM}	1000	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	357	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
B_{VR}	$I_R=100 \mu\text{A}$	90		V
I_R	$V_R=90\text{V}$		100	nA
I_R	$V_R=90\text{V}, T_A=150^{\circ}\text{C}$		100	μA
V_F	$I_F=10\text{mA}$		0.75	V

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
V_F	$I_F=50\text{mA}$		0.84	V
V_F	$I_F=100\text{mA}$		0.90	V
V_F	$I_F=200\text{mA}$		1.00	V
V_F	$I_F=400\text{mA}$		1.25	V
C_T	$V_R=0, f=1\text{ MHz}$		35	pF
t_{rr}	$I_F=I_R=30\text{mA}, \text{RECOV. TO } 3.0\text{mA}, R_L=100\Omega$		50	ns

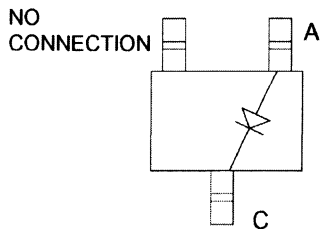
SOT-23 CASE - MECHANICAL OUTLINE



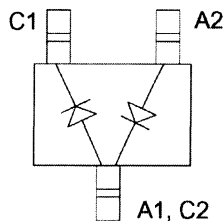
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

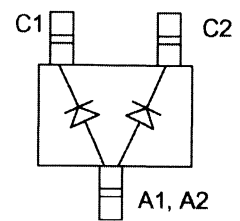
DATA SHEETS



CMPD1001



CMPD1001S



CMPD1001A

CMPD2003
 CMPD2003C
 CMPD2003S
 CMPD2004
 CMPD2004C
 CMPD2004S

**SURFACE MOUNT
 HIGH VOLTAGE SWITCHING DIODE**



SOT-23 CASE

CentralTM Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR CMPD2003, CMPD2003C, CMPD2003S, CMPD2004, CMPD2004C, and CMPD2004S types are silicon switching diodes manufactured by the epitaxial planar process, designed for applications requiring high voltage capability.

The following configurations are available:

CMPD2003	SINGLE
CMPD2003C	DUAL, COMMON CATHODE
CMPD2003S	DUAL, IN SERIES
CMPD2004	SINGLE
CMPD2004C	DUAL, COMMON CATHODE
CMPD2004S	DUAL, IN SERIES

MARKING CODE: A82
MARKING CODE: C3C
MARKING CODE: C3S
MARKING CODE: D53
MARKING CODE: DB7
MARKING CODE: DB6

MAXIMUM RATINGS (T_A=25°C)

	<u>SYMBOL</u>	<u>CMPD2003</u> <u>CMPD2003C</u> <u>CMPD2003S</u>	<u>CMPD2004</u> <u>CMPD2004C</u> <u>CMPD2004S</u>	<u>UNITS</u>
Continuous Reverse Voltage	V _R	200	240	V
Peak Repetitive Reverse Voltage	V _{RRM}	250	300	V
Peak Repetitive Reverse Current	I _O	200	200	mA
Continuous Forward Current	I _F	250	225	mA
Peak Repetitive Forward Current	I _{FRM}	625	625	mA
Forward Surge Current, tp=1 ms	I _{FSM}	4000	4000	mA
Forward Surge Current, tp=1 s	I _{FSM}	1000	1000	mA
Power Dissipation	P _D		350	mW
Operating and Storage				
Junction Temperature	T _J , T _{stg}	-65 to +150		°C
Thermal Resistance	θ _{JA}	357		°C/W

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

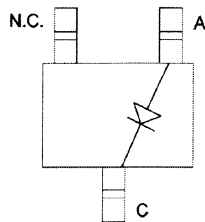
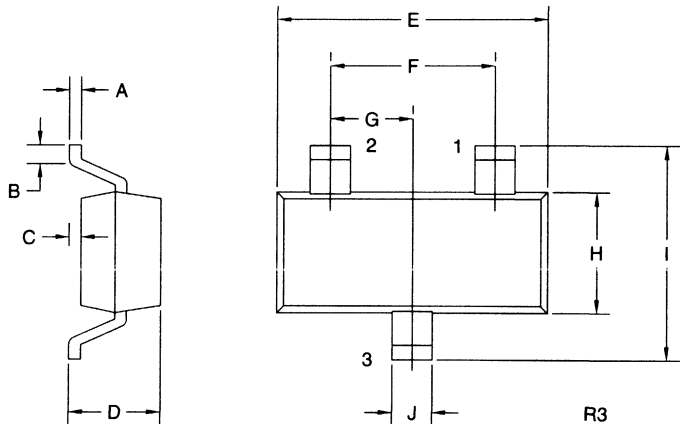
<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>CMPD2003</u> <u>CMPD2003C</u> <u>CMPD2003S</u>		<u>CMPD2004</u> <u>CMPD2004C</u> <u>CMPD2004S</u>		<u>UNIT</u>
		<u>MIN</u>	<u>MAX</u>	<u>MIN</u>	<u>MAX</u>	
BV _R	I _R =100μA	250		300		V
I _R	V _R =200V		100		-	nA

SYMBOL	TEST CONDITIONS	CMPD2003 CMPD2003C CMPD2003S		CMPD2004 CMPD2004C CMPD2004S		UNIT
		MIN	MAX	MIN	MAX	
I_R	$V_R=200V, T_A=150^\circ C$		100		-	μA
I_R	$V_R=240V$		-		100	nA
I_R	$V_R=240V, T_A=150^\circ C$		-		100	μA
V_F	$I_F=100mA$		1.0		1.0	V
V_F	$I_F=200mA$		1.25		-	V
C_T	$V_R=0, f=1\text{ MHz}$		5.0		5.0	pF
t_{rr}	$I_F=I_R=30mA, \text{Rec. TO } 3.0mA, R_L=100\Omega$		50		50	ns

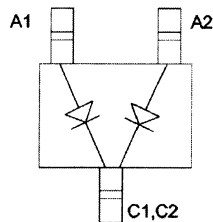
SOT-23 CASE - MECHANICAL OUTLINE

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

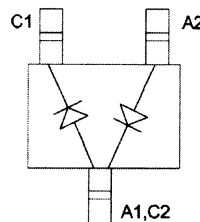
SOT-23 (REV: R3)



**CMPD2003
CMPD2004**



**CMPD2003C
CMPD2004C**



**CMPD2003S
CMPD2004S**

**DATA
SHEETS**

CMPD2836
CMPD2838

DUAL SILICON
SWITCHING DIODE



SOT-23 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPD2836, CMPD2838 types are ultra-high speed silicon switching diodes manufactured by the epitaxial planar process, in an epoxy molded surface mount package, designed for high speed switching applications.

The following configurations are available:

CMPD2836 DUAL, COMMON ANODE
CMPD2838 DUAL, COMMON CATHODE

MARKING CODE: CA2
MARKING CODE: CA6

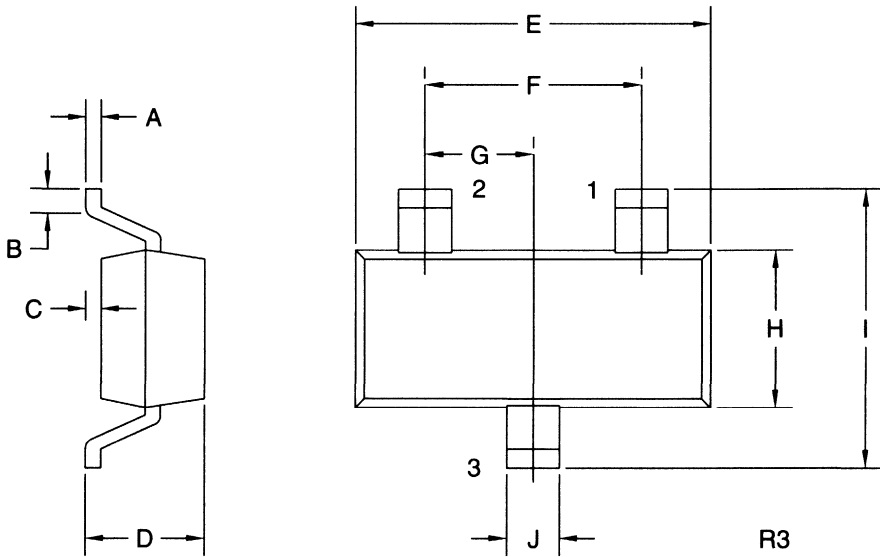
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	75	V
Average Forward Current	I_O	200	mA
Peak Forward Current	I_{FM}	300	mA
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	357	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
BV_R	$I_R=100\mu\text{A}$	75			V
I_R	$V_R=50\text{V}$			100	mA
V_F	$I_F=10\text{mA}$			1.0	V
V_F	$I_F=50\text{mA}$			1.0	V
V_F	$I_F=100\text{mA}$			1.2	V
C_T	$V_R=0, f=1\text{ MHz}$		1.5	4.0	pF
t_{rr}	$I_R=I_F=10\text{mA}, R_L=100\Omega, \text{Rec. to } 1.0\text{mA}$			4.0	ns

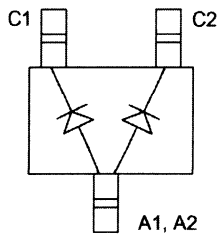
SOT-23 CASE - MECHANICAL OUTLINE



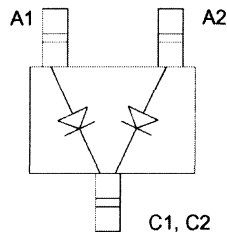
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA SHEETS



CMPD2836



CMPD2838



CMPD3003
 CMPD3003A
 CMPD3003C
 CMPD3003S

**SURFACE MOUNT
 LOW LEAKAGE
 SWITCHING DIODE**



SOT-23 CASE

Central™
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPD3003 series types are silicon switching diodes manufactured by the epitaxial planar process, designed for switching applications requiring an extremely low leakage diode.

The following configurations are available:

CMPD3003
 CMPD3003A
 CMPD3003C
 CMPD3003S

SINGLE
 DUAL, COMMON ANODE
 DUAL, COMMON CATHODE
 DUAL, IN SERIES

MARKING CODE: LLO
 MARKING CODE: LLA
 MARKING CODE: LLC
 MARKING CODE: LLS

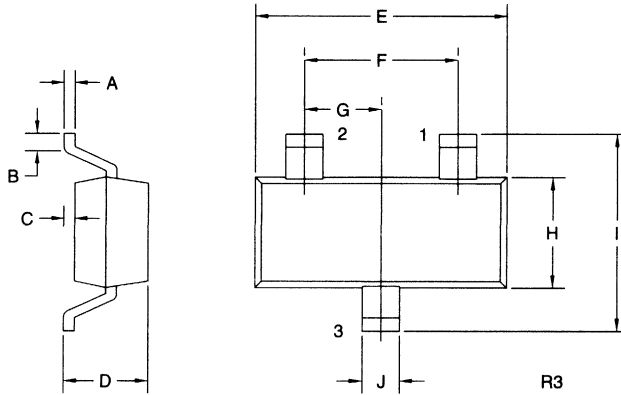
MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Continuous Reverse Voltage	V_R	180	V
Average Rectified Current	I_O	200	mA
DC Forward Current	I_F	600	mA
Peak Repetitive Forward Current	I_{FRM}	700	mA
Peak Forward Surge Current, $t_p=1$ s	I_{FSM}	1.0	A
Peak Forward Surge Current, $t_p=1$ μ s	I_{FSM}	2.0	A
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	357	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS PER DIODE: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
B_{VR}	$I_R=5.0\mu\text{A}$	200		V
I_R	$V_R=125\text{V}$		1.0	nA
I_R	$V_R=125\text{V}, T_A=150^\circ\text{C}$		3.0	μA
I_R	$V_R=180\text{V}$		10	nA
I_R	$V_R=180\text{V}, T_A=150^\circ\text{C}$		5.0	μA
V_F	$I_F=1.0\text{mA}$	0.62	0.72	V
V_F	$I_F=10\text{mA}$	0.72	0.83	V
V_F	$I_F=50\text{mA}$	0.80	0.89	V
V_F	$I_F=100\text{mA}$	0.83	0.93	V
V_F	$I_F=200\text{mA}$	0.87	1.10	V
V_F	$I_F=300\text{mA}$	0.90	1.15	V
C_T	$V_R=0, f=1$ MHz		4.0	pF

SOT-23 CASE - MECHANICAL OUTLINE

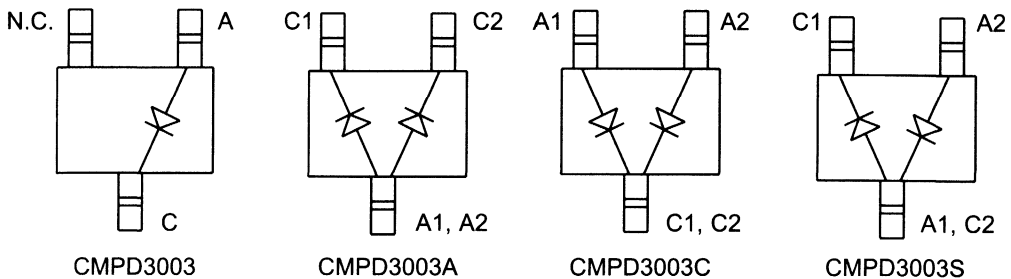


DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

**DATA
SHEETS**

Pin Configuration



CMPD4150**HIGH CURRENT
HIGH SPEED
SWITCHING DIODE****SOT-23 CASE****Central™
Semiconductor Corp.****DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPD4150 type is an ultra-high speed silicon switching diode manufactured by the epitaxial planar process, in an epoxy molded surface mount package, designed for high speed switching applications.

Marking code is ABA.

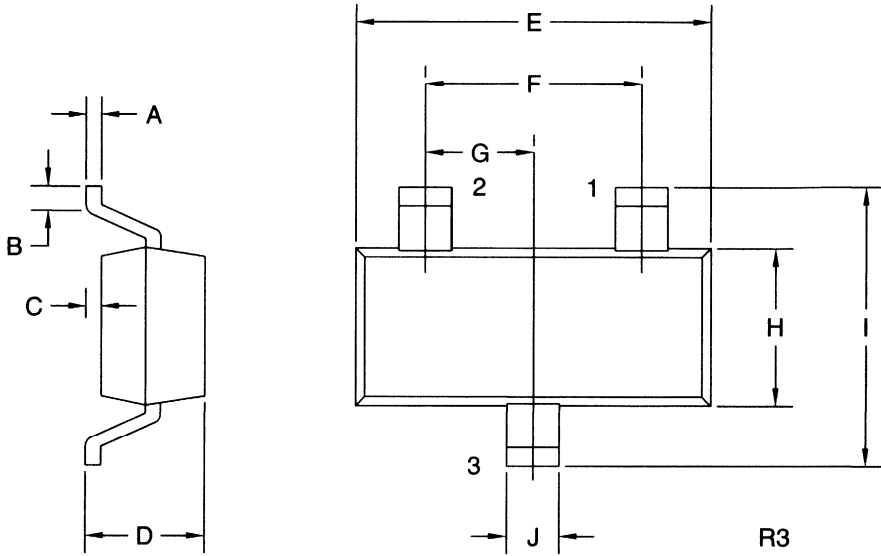
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Continuous Reverse Voltage	V_R	50	V
Peak Repetitive Reverse Voltage	V_{RRM}	50	V
Continuous Forward Current	I_F	250	mA
Peak Repetitive Forward Current	I_{FRM}	250	mA
Forward Surge Current, $t_p=1\ \mu\text{sec.}$	I_{FSM}	4000	mA
Forward Surge Current, $t_p=1\ \text{sec.}$	I_{FSM}	1000	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	357	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_R	$V_R=50\text{V}$		100	nA
V_F	$I_F=1.0\text{mA}$	0.54	0.62	V
V_F	$I_F=10\text{mA}$	0.66	0.74	V
V_F	$I_F=50\text{mA}$	0.76	0.86	V
V_F	$I_F=100\text{mA}$	0.82	0.92	V
V_F	$I_F=200\text{mA}$	0.87	1.0	V
C_T	$V_R=0, f=1\ \text{MHz}$		4.0	pF
t_{rr}	$I_R=I_F=10\text{mA}, R_L=100\Omega, \text{Rec. to } 1.0\text{mA}$		4.0	ns

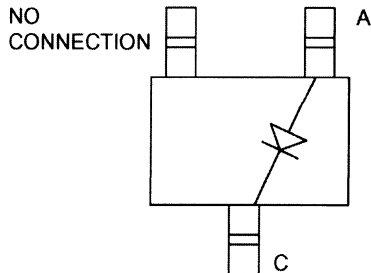
SOT-23 CASE - MECHANICAL OUTLINE



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA SHEETS



CMPD4448
HIGH SPEED
SWITCHING DIODE



SOT-23 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPD4448 type is a ultra-high speed silicon switching diode manufactured by the epitaxial planar process, in an epoxy molded surface mount package, designed for high speed switching applications.

Marking code is AAD.

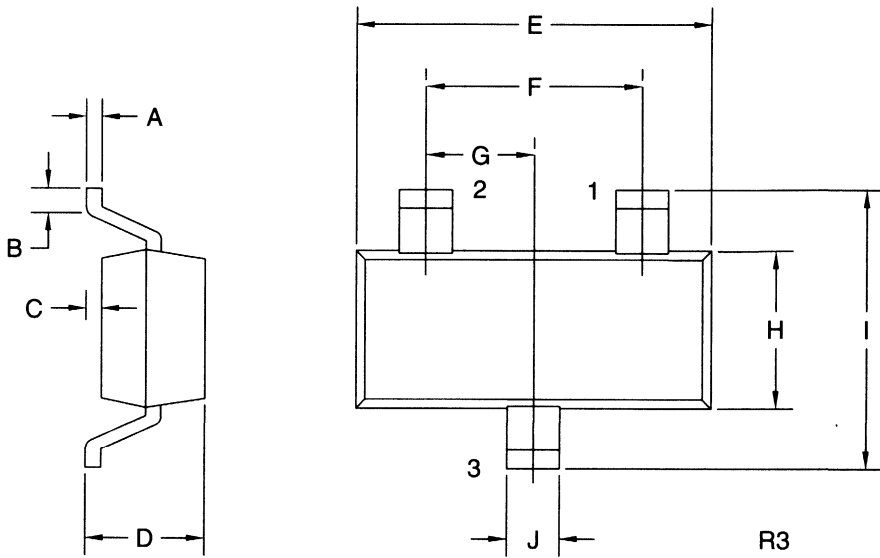
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Continuous Reverse Voltage	V_R	75	V
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
Continuous Forward Current	I_F	250	mA
Peak Repetitive Forward Current	I_{FRM}	250	mA
Forward Surge Current, $t_p=1 \mu\text{sec.}$	I_{FSM}	4000	mA
Forward Surge Current, $t_p=1 \text{sec.}$	I_{FSM}	1000	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	357	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
V_{BR}	$I_R=5.0\mu\text{A}$	75		V
V_{BR}	$I_R=100\mu\text{A}$	100		V
I_R	$V_R=20\text{V}$		25	mA
V_F	$I_F=5.0\text{mA}$	0.62	0.72	V
V_F	$I_F=100\text{mA}$		1.0	V
C_T	$V_R=0, f=1 \text{MHz}$		4.0	pF
t_{rr}	$I_R=I_F=10\text{mA}, R_L=100\Omega, \text{Rec. to } 1.0\text{mA}$		4.0	ns

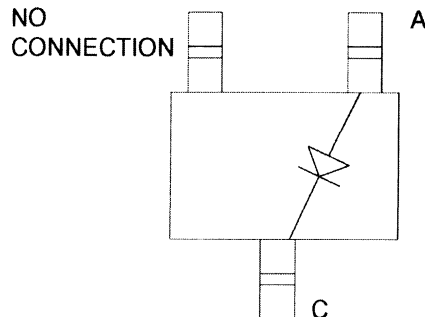
SOT-23 CASE - MECHANICAL OUTLINE



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA SHEETS



**CMPD5001
CMPD5001S**

**HIGH CURRENT
INDUCTIVE LOAD
SWITCHING DIODE**



SOT-23 CASE

Central™
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPD5001 series types are silicon switching diodes manufactured by the epitaxial planar process, designed for switching inductive load applications requiring extremely high current capability.

The following configurations are available:

CMPD5001 SINGLE
CMPD5001S DUAL, IN SERIES

MARKING CODE: DA2
MARKING CODE: D49

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

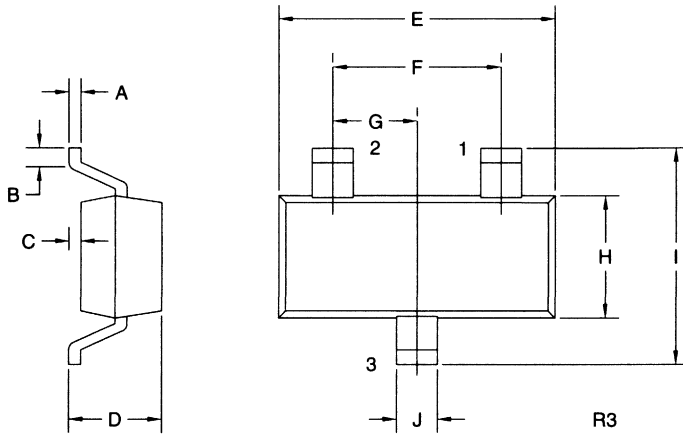
	SYMBOL		UNITS
Continuous Reverse Voltage	V_R	120	V
Continuous Forward Current	I_F	400	mA
Peak Repetitive Forward Current	I_{FRM}	800	mA
Peak Repetitive Reverse Current	I_{RRM}	600	mA
Forward Surge Current, $t_p=1 \mu\text{s}$	I_{FSM}	6000	mA
Forward Surge Current, $t_p=1 \text{s}$	I_{FSM}	1500	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	Θ_{JA}	357	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
B_{VR}	$I_R=1.0\text{mA}$	120	175	V
I_R	$V_R=90\text{V}$		100	nA
I_R	$V_R=90\text{V}, T_A=150^{\circ}\text{C}$		100	μA
V_F	$I_F=10\text{mA}$		0.75	V
V_F	$I_F=50\text{mA}$		0.84	V
V_F	$I_F=100\text{mA}$		0.90	V
V_F	$I_F=200\text{mA}$		1.00	V

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
V_F	$I_F=400\text{mA}$		1.25	V
C_T	$V_R=0, f=1\text{ MHz}$		35	pF
t_{rr}	$I_F=I_R=30\text{mA}, \text{RECOV. TO } 1.0\text{mA}, R_L=100\Omega$		60	ns
t_{rr}	$I_F=I_R=10\text{mA}, \text{RECOV. TO } 1.0\text{mA}, R_L=100\Omega$		50	ns

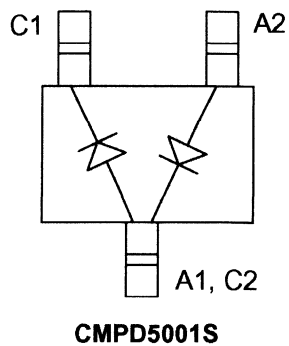
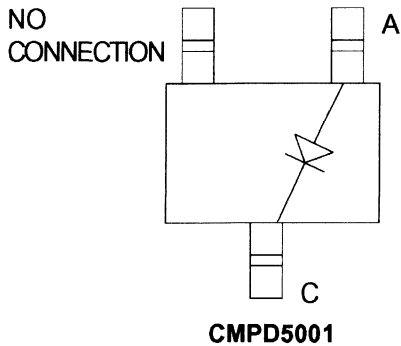
SOT-23 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA SHEETS





CMPD6001
CMPD6001A
CMPD6001C
CMPD6001S

**SURFACE MOUNT
LOW LEAKAGE
SWITCHING DIODE**



SOT-23 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPD6001 series types are silicon switching diodes manufactured by the epitaxial planar process, designed for switching applications requiring an extremely low leakage diode.

The following configurations are available:

CMPD6001	SINGLE	MARKING CODE: ULO
CMPD6001A	DUAL, COMMON ANODE	MARKING CODE: ULA
CMPD6001C	DUAL, COMMON CATHODE	MARKING CODE: ULC
CMPD6001S	DUAL, IN SERIES	MARKING CODE: ULS

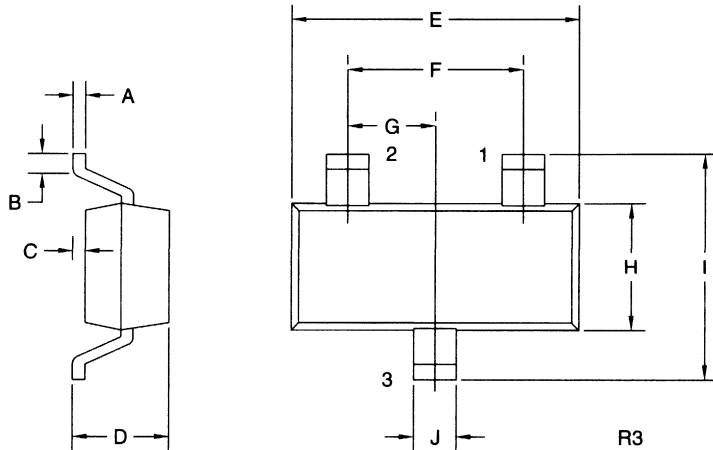
MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Continuous Reverse Voltage	V_R	75	V
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
Continuous Forward Current	I_F	250	mA
Peak Repetitive Forward Current	I_{FRM}	250	mA
Forward Surge Current, $t_p=1 \mu\text{sec}$.	I_{FSM}	4000	mA
Forward Surge Current, $t_p=1 \text{sec}$.	I_{FSM}	1000	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	357	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS PER DIODE: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_R	$V_R=75\text{V}$		500	pA
V_{BR}	$I_R=100\mu\text{A}$	100		V
V_F	$I_F=1.0\text{mA}$		0.85	V
V_F	$I_F=10\text{mA}$		0.95	V
V_F	$I_F=100\text{mA}$		1.1	V
C_T	$V_R=0, f=1.0 \text{MHz}$		2.0	pF
t_{rr}	$I_R=I_F=10\text{mA}, R_L=100\Omega, \text{Rec. to } 1.0\text{mA}$		3.0	μs

SOT-23 CASE - MECHANICAL OUTLINE

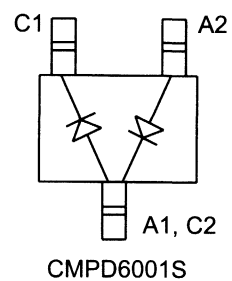
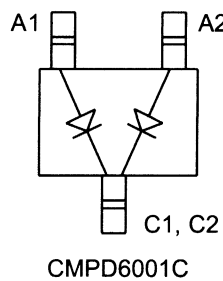
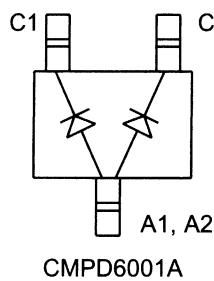
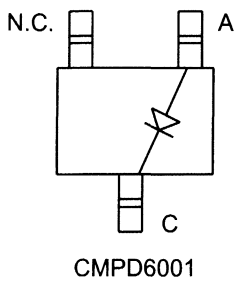


SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

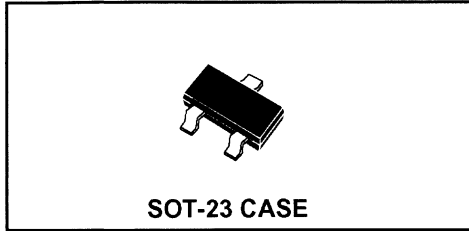


Pin Configuration



CMPD6263
 CMPD6263A
 CMPD6263C
 CMPD6263S

SCHOTTKY DIODES



DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPD6263 Series types are Silicon Schottky diodes designed for low current surface mount fast switching applications requiring a low forward voltage drop.

The following configurations are available:

CMPD6263	SINGLE	MARKING CODE: D76
CMPD6263A	DUAL, COMMON ANODE	MARKING CODE: D98
CMPD6263C	DUAL, COMMON CATHODE	MARKING CODE: D97
CMPD6263S	DUAL, IN SERIES	MARKING CODE: D96

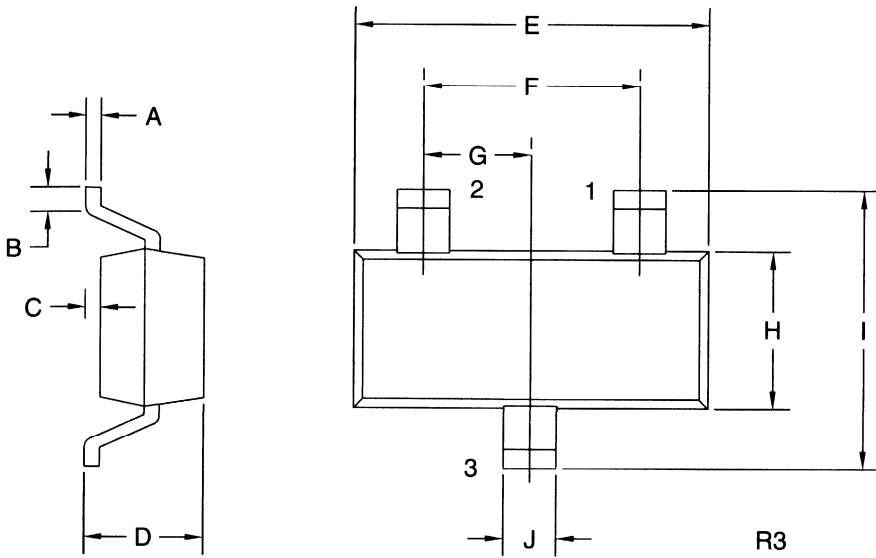
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	70	V
Continuous Forward Current	I_F	15	mA
Forward Surge Current, $t_p=1.0$ s	I_{FSM}	50	mA
Power Dissipation	P_D	350	mW
Operating and Storage	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Junction Temperature	θ_{JA}	357	$^{\circ}\text{C/W}$
Thermal Resistance			

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
B_{VR}	$I_R=10\mu\text{A}$	70			V
V_F	$I_F=1.0\text{mA}$		395	410	mV
I_R	$V_R=50\text{V}$		98	200	nA
C_T	$V_R=0\text{V}, f=1.0\text{MHz}$			2.0	pF

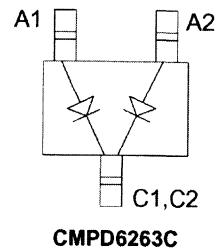
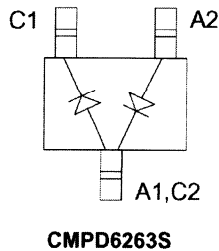
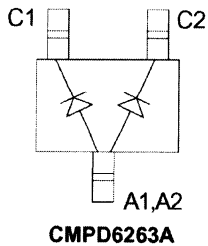
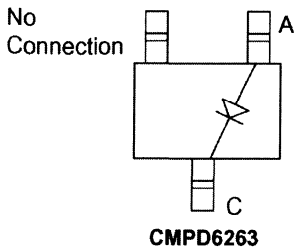
SOT-23 CASE - MECHANICAL OUTLINE



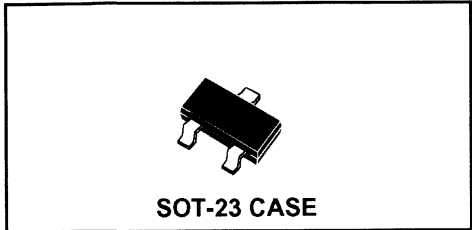
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA SHEETS



CMPD7000
DUAL SILICON SWITCHING DIODE
SERIES CONNECTION



CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPD7000 type is an ultra-high speed silicon switching diodes manufactured by the epitaxial planar process, in an epoxy molded surface mount package, connected in a series configuration, designed for high speed switching applications.

Marking Code is C5C.

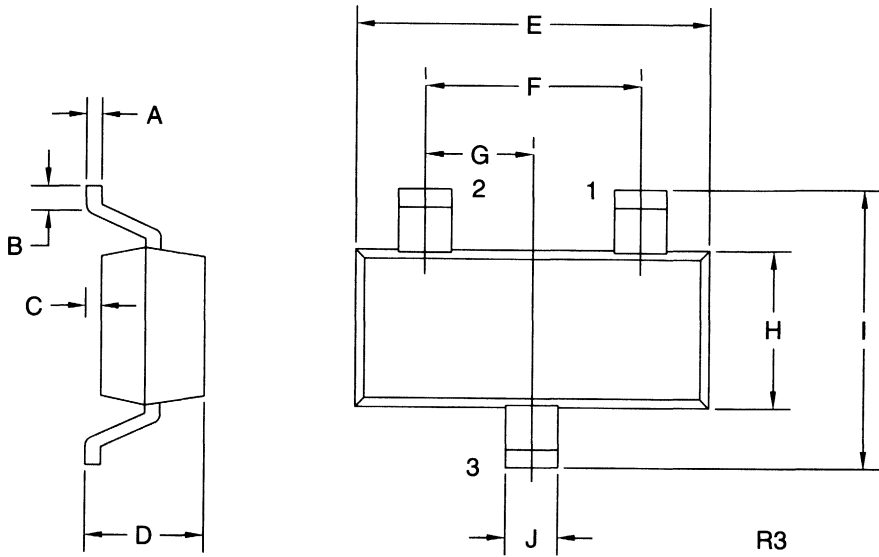
MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
Average Forward Current	I_O	200	mA
Peak Forward Current	I_{FM}	500	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	Θ_{JA}	357	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
BV_R	$I_R=100\mu\text{A}$	100			V
I_R	$V_R=50\text{V}$			300	nA
I_R	$V_R=50\text{V}, T_A=125^\circ\text{C}$			100	μA
I_R	$V_R=100\text{V}$			500	nA
V_F	$I_F=1.0\text{mA}$	0.55		0.70	V
V_F	$I_F=10\text{mA}$	0.67		0.82	V
V_F	$I_F=100\text{mA}$	0.75		1.10	V
C_T	$V_R=0, f=1\text{ MHz}$			1.5	pF
t_{rr}	$I_R=I_F=10\text{mA}, R_L=100\Omega, \text{Rec. to } 1.0\text{mA}$		2.0	4.0	ns

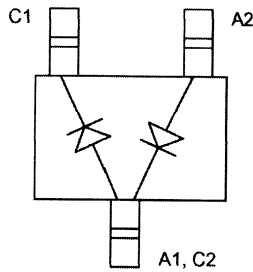
SOT-23 CASE - MECHANICAL OUTLINE



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA SHEETS



CMPF4391
 CMPF4392
 CMPF4393

N-CHANNEL JFET



SOT-23 CASE

CentralTM
 Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPF4391 series types are N-Channel Silicon Field Effect Transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for switching applications.

Marking Codes are 6J, 6K, and 6G Respectively.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

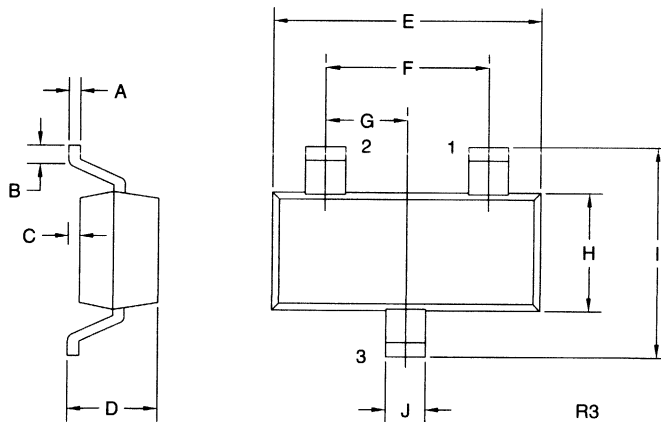
	SYMBOL		UNITS
Drain-Gate Voltage	V_{GD}	40	V
Gate-Source Voltage	V_{GS}	40	V
Drain-Source Voltage	V_{DS}	40	V
Gate Current	I_G	50	mA
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	357	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	CMPF4391		CMPF4392		CMPF4393		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
I_{GSS}	$V_{GS}=20\text{V}$		0.1		0.1		0.1	nA
I_{GSS}	$V_{GS}=20\text{V}, T_A=100^{\circ}\text{C}$		0.2		0.2		0.2	μA
I_{DSS}	$V_{DS}=20\text{V}$	50	150	25	75	5.0	30	mA
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=12\text{V}$		0.1		-		-	nA
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=7.0\text{V}$		-		0.1		-	nA
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=5.0\text{V}$		-		-		0.1	nA
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=12\text{V}, T_A=100^{\circ}\text{C}$		0.2		-		-	μA
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=7.0\text{V}, T_A=100^{\circ}\text{C}$		-		0.2		-	μA
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=5.0\text{V}, T_A=100^{\circ}\text{C}$		-		-		0.2	μA
BV_{GSS}	$I_G=1.0\mu\text{A}$	40		40		40		V
$V_{GS(OFF)}$	$V_{DS}=20\text{V}, I_D=1.0\text{nA}$	4.0	10	2.0	5.0	0.5	3.0	V
$V_{GS(f)}$	$I_G=1.0\text{mA}$		1.0		1.0		1.0	V
$V_{DS(ON)}$	$I_D=12\text{mA}$		0.4		-		-	V
$V_{DS(ON)}$	$I_D=6.0\text{mA}$		-		0.4		-	V
$V_{DS(ON)}$	$I_D=3.0\text{mA}$		-		-		0.4	V

SYMBOL	TEST CONDITIONS	CMPF4391		CMPF4392		CMPF4393		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
$r_{DS(ON)}$	$I_D=1.0mA, V_{GS}=0$		30	60		100		Ω
$r_{ds(ON)}$	$V_{GS}=0, I_D=0, f=1.0kHz$		30	60		100		Ω
C_{iss}	$V_{DS}=20V, V_{GS}=0, f=1.0MHz$		14	14		14		pF
C_{rss}	$V_{GS}=12V, V_{DS}=0, f=1.0MHz$	3.5		-		-		pF
C_{rss}	$V_{GS}=7.0V, V_{DS}=0, f=1.0MHz$	-		3.5		-		pF
C_{rss}	$V_{GS}=5.0V, V_{DS}=0, f=1.0MHz$	-		-		3.5		pF
t_{ON}	$I_{D(ON)}=12mA$	15		-		-		ns
t_{ON}	$I_{D(ON)}=6.0mA$	-		15		-		ns
t_{ON}	$I_{D(ON)}=3.0mA$	-		-		15		ns
t_{OFF}	$V_{GS(OFF)}=12V$	20		-		-		ns
t_{OFF}	$V_{GS(OFF)}=7.0V$	-		35		-		ns
t_{OFF}	$V_{GS(OFF)}=5.0V$	-		-		50		ns

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

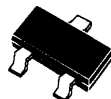
- 1) DRAIN
- 2) SOURCE
- 3) GATE

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA SHEETS

CMPF4416A
SILICON N-CHANNEL JFET



SOT-23 CASE

CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPF4416A type is an epoxy molded N-Channel Silicon Junction Field Effect Transistor manufactured in an SOT-23 case, designed for VHF amplifier and mixer applications.

Marking code is 6BG.

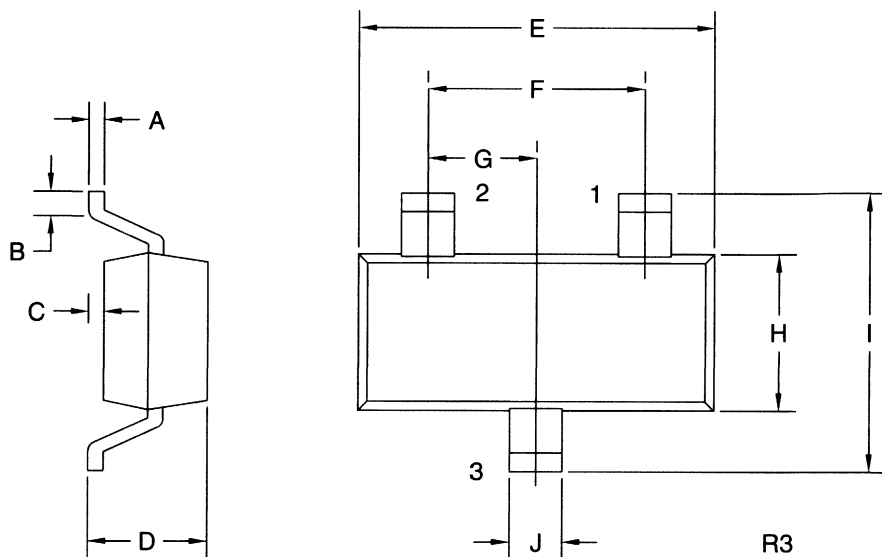
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Drain-Source Voltage	V_{DS}	35	V
Gate-Source Voltage	V_{GS}	35	V
Gate Current	I_G	10	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	357	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{GSS}	$V_{GS}=20\text{V}$		1.0	nA
I_{DSS}	$V_{DS}=15\text{V}, V_{GS}=0$	5.0	15	mA
BV_{GSS}	$I_G=1.0\mu\text{A}$	35		V
$V_{GS}(\text{off})$	$V_{DS}=15\text{V}, I_D=1.0\text{nA}$	2.5	6.0	V
g_{fs}	$V_{DS}=15\text{V}, V_{GS}=0, f=1.0\text{kHz}$	4.5	7.5	mmhos
C_{iss}	$V_{DS}=15\text{V}, V_{GS}=0, f=1.0\text{MHz}$		4.5	pF
C_{rss}	$V_{DS}=15\text{V}, V_{GS}=0, f=1.0\text{MHz}$		1.2	pF
N_F	$V_{DS}=15\text{V}, V_{GS}=0, f=1.0\text{kHz}, R_G=1.0\text{M}\Omega$		2.5	dB

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) DRAIN
- 2) SOURCE
- 3) GATE

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)



CMPF5484
CMPF5485
CMPF5486

N-CHANNEL JFET



SOT-23 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPF5484 Series types are surface mount, N-Channel JFET's designed for RF amplifier and mixer applications. These devices will operate well in the VHF/UHF frequency range.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

	SYMBOL		UNITS
Gate-Drain Voltage	V_{GD}	25	V
Gate-Source Voltage	V_{GS}	25	V
Drain Current	I_D	30	mA
Gate Current	I_G	10	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	357	$^{\circ}\text{C/W}$

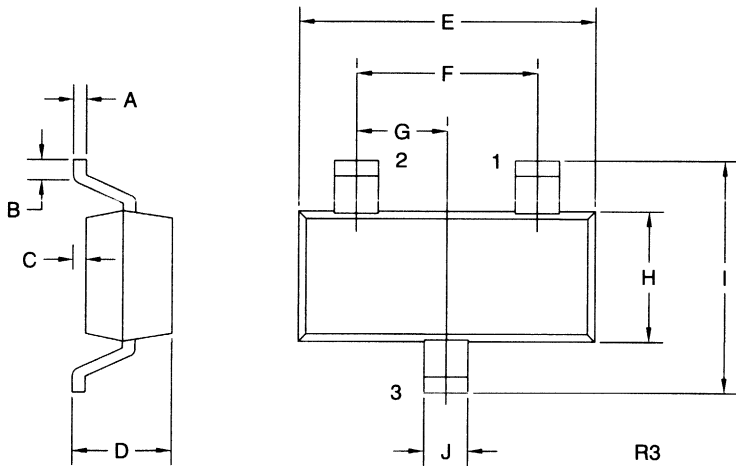
ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	CMPF5484		CMPF5485		CMPF5486		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
I_{GSS}	$V_{GS}=20\text{V}$		1.0		1.0		1.0	nA
I_{GSS}	$V_{GS}=20\text{V}, T_A=100^{\circ}\text{C}$		0.2		0.2		0.2	μA
I_{DSS}	$V_{DS}=15\text{V}$	1.0	5.0	4.0	10	8.0	20	mA
BV_{GSS}	$I_G=1.0\mu\text{A}$	25		25		25		V
$V_{GS(off)}$	$V_{DS}=15\text{V}, I_D=10\text{nA}$	0.3	3.0	0.5	4.0	2.0	6.0	V
Y_{fs}	$V_{DS}=15\text{V}, V_{GS}=0, f=1.0\text{kHz}$	3000	6000	3500	7000	4000	8000	μmhos
Y_{os}	$V_{DS}=15\text{V}, V_{GS}=0, f=1.0\text{kHz}$		50		60		75	μmhos
C_{iss}	$V_{DS}=15\text{V}, V_{GS}=0, f=1.0\text{MHz}$		5.0		5.0		5.0	pF
C_{oss}	$V_{DS}=15\text{V}, V_{GS}=0, f=1.0\text{MHz}$		2.0		2.0		2.0	pF
C_{rss}	$V_{DS}=15\text{V}, V_{GS}=0, f=1.0\text{MHz}$		1.0		1.0		1.0	pF
$R_{e(yis)}$	$V_{DS}=15\text{V}, V_{GS}=0, f=100\text{MHz}$		100		-		-	μmhos
$R_{e(yis)}$	$V_{DS}=15\text{V}, V_{GS}=0, f=400\text{MHz}$		-		1000		1000	μmhos
$R_{e(yos)}$	$V_{DS}=15\text{V}, V_{GS}=0, f=100\text{MHz}$		75		-		-	μmhos
$R_{e(yos)}$	$V_{DS}=15\text{V}, V_{GS}=0, f=400\text{MHz}$		-		100		100	μmhos

ELECTRICAL CHARACTERISTICS (cont'd.) ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	CMPF5484		CMPF5485		CMPF5486		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
$R_e(\text{yfs})$	$V_{DS}=15\text{V}, V_{GS}=0, f=100\text{MHz}$	2500		-		-		μmhos
$R_e(\text{yfs})$	$V_{DS}=15\text{V}, V_{GS}=0, f=400\text{MHz}$	-		3000		3500		μmhos
NF	$V_{DS}=15\text{V}, V_{GS}=0, R_G=1\text{M}\Omega, f=1.0\text{KHz}$		2.5		2.5		2.5	dB
NF	$V_{DS}=15\text{V}, I_D=1.0\text{mA}, R_G=1\text{K}\Omega, f=100\text{MHz}$		3.0		-			dB
NF	$V_{DS}=15\text{V}, I_D=1.0\text{mA}, R_G=1\text{K}\Omega, f=200\text{MHz}$		4.0 TYP		-			dB
NF	$V_{DS}=15\text{V}, I_D=4.0\text{mA}, R_G=1\text{K}\Omega, f=100\text{MHz}$		-		2.0		2.0	dB
NF	$V_{DS}=15\text{V}, I_D=4.0\text{mA}, R_G=1\text{K}\Omega, f=400\text{MHz}$		-		4.0		4.0	dB
GPS	$V_{DS}=15\text{V}, I_D=1.0\text{mA}, f=100\text{MHz}$	16	25	-	-	-	-	dB
GPS	$V_{DS}=15\text{V}, I_D=1.0\text{mA}, f=200\text{MHz}$		14 TYP					dB
GPS	$V_{DS}=15\text{V}, I_D=4.0\text{mA}, f=100\text{MHz}$		-	18	30	18	30	dB
GPS	$V_{DS}=15\text{V}, I_D=4.0\text{mA}, f=400\text{MHz}$		-	10	20	10	20	dB

SOT-23 CASE - MECHANICAL OUTLINE



DATA SHEETS

LEAD CODE:

- 1) DRAIN
- 2) SOURCE
- 3) GATE

MARKING CODE:

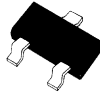
- CMPF5484 - 6B
 CMPF5485 - 6B1
 CMPF5486 - 6H

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

CMPS5061
 CMPS5062
 CMPS5063
 CMPS5064

**SURFACE MOUNT
 SILICON CONTROLLED RECTIFIER**



SOT-23 CASE

**Central™
 Semiconductor Corp.**

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPS5061 Series types are epoxy molded PNP Silicon Controlled Rectifiers manufactured in an SOT-23 case, designed for control systems and sensing circuit applications.

Marking codes are P2A, P2B, P2C, and P2D respectively.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

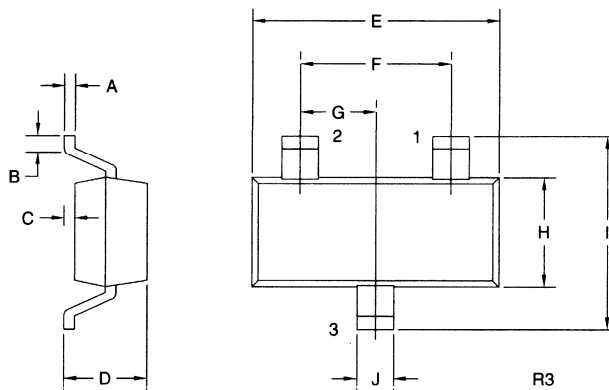
	<u>SYMBOL</u>	<u>CMPS5061</u>	<u>CMPS5062</u>	<u>CMPS5063</u>	<u>CMPS5064</u>	<u>UNITS</u>
Peak Repetitive Off-State Voltage	V_{DRM}	100	200	300	400	V
Peak Repetitive Reverse Voltage	V_{RRM}	100	200	300	400	V
RMS On-State Current	$I_T(RMS)$			0.8		A
Average On-State Current ($T_C=67^\circ\text{C}$)	$I_T(AV)$			0.51		A
Power Dissipation	P_D			350		mW
Operating and Storage						
Junction Temperature	T_J, T_{stg}			-65 to +150		$^\circ\text{C}$
Thermal Resistance	θ_{JA}			357		$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>CMPS5061 CMPS5062 CMPS5063 CMPS5064</u>				<u>UNITS</u>
		<u>MIN</u>	<u>MAX</u>	<u>MIN</u>	<u>MAX</u>	
I_{DRM}	$V_D=\text{Rated } V_{DRM}, R_{GK}=1\text{K}\Omega$		1.0	1.0	1.0	μA
I_{RRM}	$V_D=\text{Rated } V_{DRM}, R_{GK}=1\text{K}\Omega$		1.0	1.0	1.0	μA
I_{DRM}	$V_D=\text{Rated } V_{DRM}, R_{GK}=1\text{K}\Omega, T_C=125^\circ\text{C}$		50	50	50	μA
I_{RRM}	$V_D=\text{Rated } V_{DRM}, R_{GK}=1\text{K}\Omega, T_C=125^\circ\text{C}$		50	50	50	μA
V_T	$I_T=1.2\text{A}$		1.7	1.7	1.7	V
I_{GT}	$V_D=7.0\text{V}, R_L=100\Omega, R_{GK}=1\text{K}\Omega$		200	200	200	μA
V_{GT}	$V_D=7.0\text{V}, R_L=100\Omega, R_{GK}=1\text{K}\Omega$		0.8	0.8	0.8	V
V_{GD}	$V_D=\text{Rated } V_{DRM}, R_L=100\Omega, T_C=125^\circ\text{C}$	0.1		0.1	0.1	V
I_H	$V_D=7.0, R_{GK}=1\text{K}\Omega$		5.0	5.0	5.0	mA
t_{ON}	$V_D=\text{Rated } V_{DRM}, I_{GT}=1.0\text{mA}, R_{GK}=1.0\Omega,$ $di/dt=6.0\text{A}/\mu\text{s}$		2.8 TYP	2.8 TYP	2.8 TYP	2.8 TYP μs

**SURFACE MOUNT
SILICON CONTROLLED RECTIFIER**

MECHANICAL OUTLINE - SOT-23



LEAD CODE:

- 1) CATHODE
- 2) GATE
- 3) ANODE

MARKING CODES:

- CMPS5061:P2A
- CMPS5062:P2B
- CMPS5063:P2C
- CMPS5064:P2D

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)



CMP SH-3
 CMP SH-3A
 CMP SH-3C
 CMP SH-3S

SCHOTTKY DIODES

Central[™]
 Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMP SH-3 Series types are Silicon Schottky diodes designed for surface mount fast switching applications requiring a low forward voltage drop.



SOT-23 CASE

The following configurations are available:

CMP SH-3	SINGLE	MARKING CODE: D95
CMP SH-3A	DUAL, COMMON ANODE	MARKING CODE: DB1
CMP SH-3C	DUAL, COMMON CATHODE	MARKING CODE: DB2
CMP SH-3S	DUAL, IN SERIES	MARKING CODE: DA5

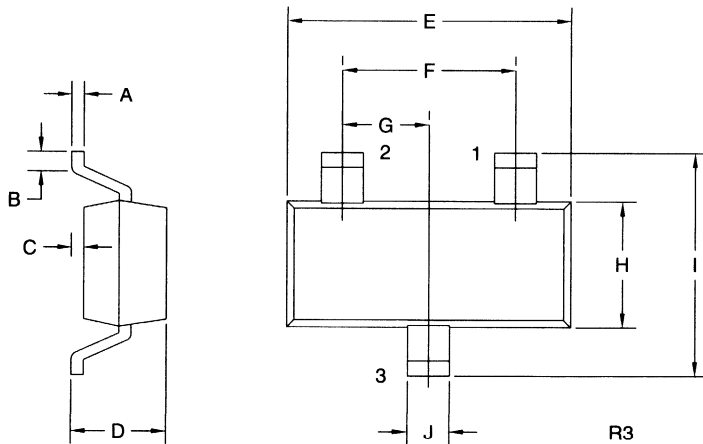
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	30	V
Continuous Forward Current	I_F	100	mA
Peak Repetitive Forward Current	I_{FRM}	350	mA
Forward Surge Current, $t_p=10$ ms	I_{FSM}	750	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	Θ_{JA}	357	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

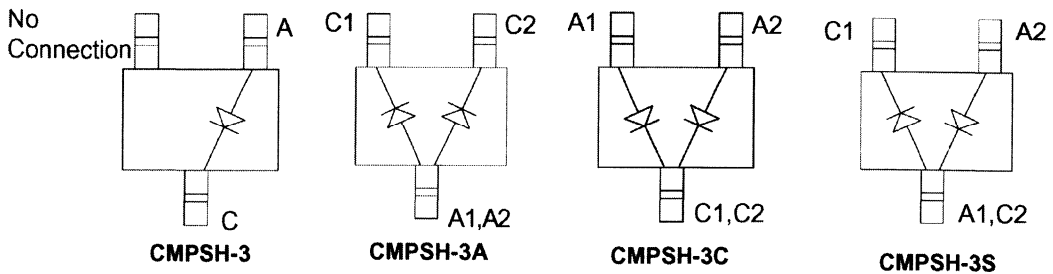
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
B_{VR}	$I_R=100\mu\text{A}$	30			V
V_F	$I_F=2.0\text{mA}$		0.29	0.33	V
V_F	$I_F=15\text{mA}$		0.40	0.45	V
V_F	$I_F=100\text{mA}$		0.74	1.00	V
I_R	$V_R=25\text{V}$		90	500	nA
I_R	$V_R=25\text{V}, T_A=100^{\circ}\text{C}$		25	100	μA
C_T	$V_R=1.0\text{V}, f=1\text{ MHz}$		7.0		pF
t_{rr}	$I_F=I_R=10\text{mA}, I_{rr}=1.0\text{mA}, R_L=100\Omega$			5.0	ns

SOT-23 CASE - MECHANICAL OUTLINE



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)





CMPT404A

SURFACE MOUNT
PNP SILICON TRANSISTOR



SOT-23 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT404A type is an PNP silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for chopper applications.

Marking Code is C2N.

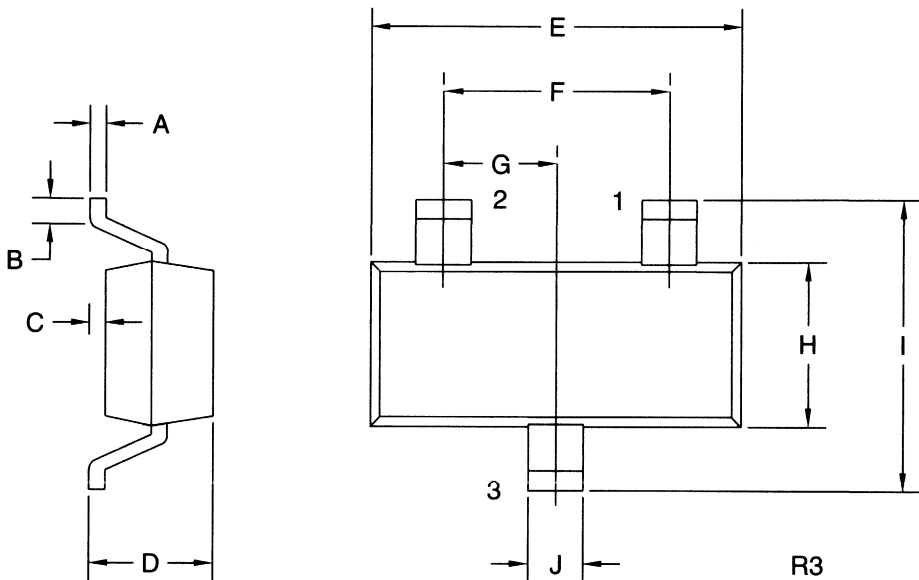
MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	40	V
Collector-Emitter Voltage	V_{CEO}	35	V
Emitter-Base Voltage	V_{EBO}	25	V
Collector Current	I_C	150	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	357	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=10\text{V}$			100	nA
I_{EBO}	$V_{EB}=10\text{V}$			100	nA
BV_{CB0}	$I_C=10\mu\text{A}$	40			V
BV_{CEO}	$I_C=10\text{mA}$	35			V
BV_{EBO}	$I_E=10\mu\text{A}$	25			V
$V_{CE(SAT)}$	$I_C=12\text{mA}, I_B=400\mu\text{A}$			0.15	V
$V_{CE(SAT)}$	$I_C=24\text{mA}, I_B=1.0\text{mA}$			0.20	V
$V_{BE(SAT)}$	$I_C=12\text{mA}, I_B=400\mu\text{A}$			0.85	V
$V_{BE(SAT)}$	$I_C=24\text{mA}, I_B=1.0\text{mA}$			1.00	V
h_{FE}	$V_{CE}=0.15\text{V}, I_C=12\text{mA}$	100		400	
C_{ob}	$V_{CB}=6.0\text{V}, I_E=0, f=1.0\text{MHz}$		40		pF
t_d	$V_{CC}=10\text{V}, I_C=10\text{mA}, I_{B1}=1.0\text{mA}$		150		ns
t_r	$V_{CC}=10\text{V}, I_C=10\text{mA}, I_{B1}=1.0\text{mA}$		400		ns
t_s	$V_{CC}=10\text{V}, I_C=10\text{mA}, I_{B1}=I_{B2}=1.0\text{mA}$		3.0		μs
t_f	$V_{CC}=10\text{V}, I_C=10\text{mA}, I_{B1}=I_{B2}=1.0\text{mA}$		750		ns

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

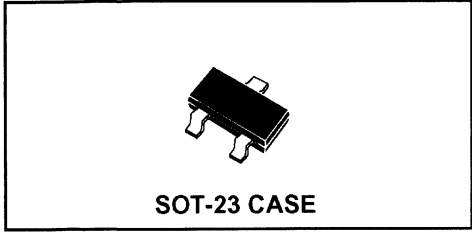
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)



CMPT918

NPN SILICON RF TRANSISTOR



CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT918 type is an NPN silicon RF transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high frequency (VHF/UHF) amplifier and oscillator applications.

Marking code is C3B.

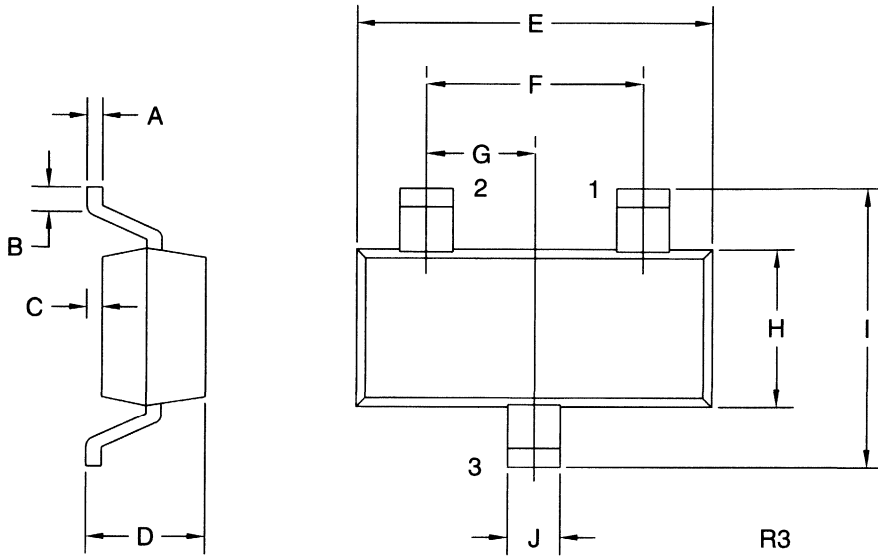
MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	30	V
Collector-Emitter Voltage	V_{CE0}	15	V
Emitter-Base Voltage	V_{EB0}	3.0	V
Collector Current	I_C	50	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	357	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CB0}	$V_{CB}=15\text{V}$		10	nA
BV_{CB0}	$I_C=1.0\mu\text{A}$	30		V
BV_{CE0}	$I_C=3.0\text{mA}$	15		V
BV_{EB0}	$I_E=10\mu\text{A}$	3.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.4	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		1.0	V
h_{FE}	$V_{CE}=1.0\text{V}, I_C=3.0\text{mA}$	20		
f_T	$V_{CE}=10\text{V}, I_C=4.0\text{mA}, f=100\text{MHz}$	600		MHz
C_{ob}	$V_{CB}=0\text{V}, I_E=0, f=1.0\text{MHz}$		3.0	pF
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		1.7	pF
C_{ib}	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		2.0	pF
P_{out}	$V_{CB}=15\text{V}, I_C=8.0\text{mA}, f=500\text{MHz}$	30		mW
G_{pe}	$V_{CB}=12\text{V}, I_C=6.0\text{mA}, f=200\text{MHz}$	11		dB
NF	$V_{CE}=6.0\text{V}, I_C=1.0\text{mA}, R_S=50\Omega, f=60\text{MHz}$		6.0	dB

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)



CMPT930
NPN SILICON TRANSISTOR



SOT-23 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR CMPT930 type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for small signal general purpose amplifier applications.

Marking Code is C1X.

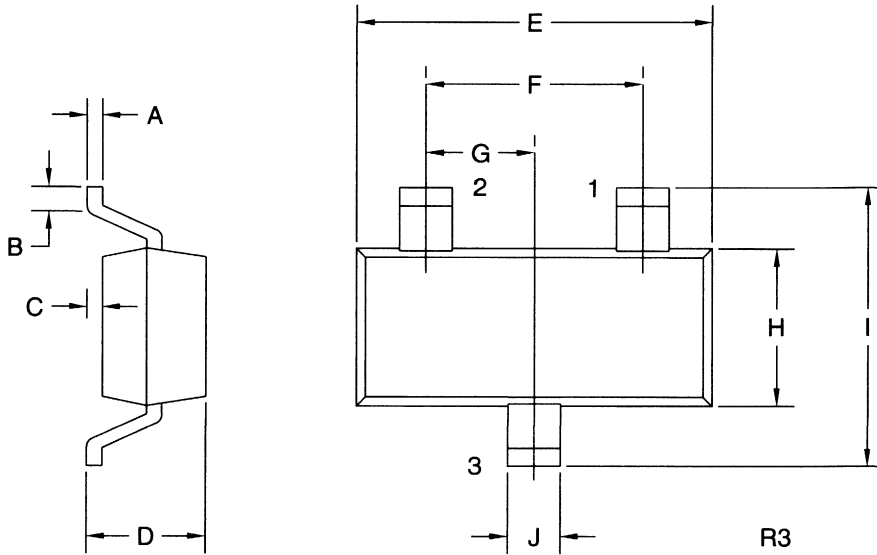
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	45	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	30	mA
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	357	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CB0}	$V_{CB}=45\text{V}$		10	nA
I_{CEO}	$V_{CE}=5.0\text{V}$		10	nA
I_{CES}	$V_{CE}=45\text{V}$		10	nA
I_{EBO}	$V_{EB}=5.0\text{V}$		10	nA
BV_{CB0}	$I_C=10\mu\text{A}$	45		V
BV_{CEO}	$I_C=10\text{mA}$	45		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$		1.0	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$	0.6	1.0	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\mu\text{A}$	100	300	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=500\mu\text{A}$	150		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$		600	
f_T	$V_{CE}=5.0\text{V}, I_C=500\text{mA}, f=30\text{MHz}$	30		MHz
C_{ob}	$V_{CB}=5.0\text{V}, I_E=0, f=1.0\text{MHz}$		8.0	pF
NF	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, R_S=10\text{k}\Omega,$ $f=10\text{Hz to }15.7\text{kHz}$		3.0	dB

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA SHEETS

CMPT2222A

NPN SILICON TRANSISTOR



SOT-23 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT2222A type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for small signal general purpose and switching applications.

Marking Code is C1P.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

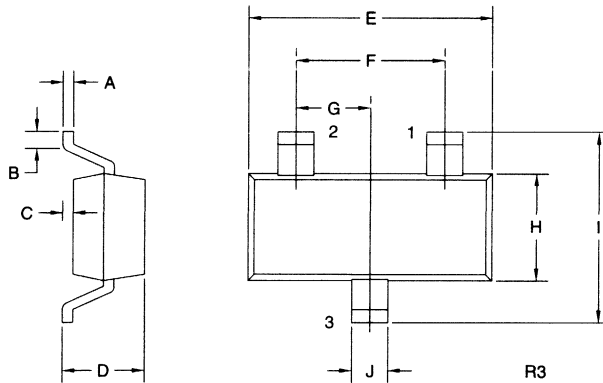
	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	75	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	600	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	357	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=60\text{V}$		10	nA
I_{CBO}	$V_{CB}=60\text{V}, T_A=125^{\circ}\text{C}$		10	μA
I_{CEV}	$V_{CE}=60\text{V}, V_{EB}=3.0\text{V}$		10	nA
I_{EBO}	$V_{EB}=3.0\text{V}$		10	nA
BV_{CB0}	$I_C=10\mu\text{A}$	75		V
BV_{CEO}	$I_C=10\text{mA}$	40		V
BV_{EBO}	$I_E=10\mu\text{A}$	6.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.3	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.0	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$	0.6	1.2	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		2.0	V
h_{FE}	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	35		
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	50		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	75		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=150\text{mA}$	50		

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=10V, I_C=150mA$	100	300	
h_{FE}	$V_{CE}=10V, I_C=500mA$	40		
f_T	$V_{CE}=20V, I_C=20mA, f=100MHz$	300		MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		8.0	pF
C_{ib}	$V_{EB}=0.5V, I_C=0, f=1.0MHz$		25	pF
h_{ie}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	2.0	8.0	$k\Omega$
h_{ie}	$V_{CE}=10V, I_C=10mA, f=1.0kHz$	0.25	1.25	$k\Omega$
h_{re}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$		8.0	$\times 10^{-4}$
h_{re}	$V_{CE}=10V, I_C=10mA, f=1.0kHz$		4.0	$\times 10^{-4}$
h_{fe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	50	300	
h_{fe}	$V_{CE}=10V, I_C=10mA, f=1.0kHz$	75	375	
h_{oe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	5.0	35	$\mu mhos$
h_{oe}	$V_{CE}=10V, I_C=10mA, f=1.0kHz$	25	200	$\mu mhos$
$rb'C_C$	$V_{CB}=10V, I_E=20mA, f=31.8MHz$		150	ps
NF	$V_{CE}=10V, I_C=100\mu A, R_S=1.0k\Omega, f=1.0kHz$		4.0	dB
t_d	$V_{CC}=30V, V_{BE}=0.5, I_C=150mA, I_{B1}=15mA$		10	ns
t_r	$V_{CC}=30V, V_{BE}=0.5, I_C=150mA, I_{B1}=15mA$		25	ns
t_s	$V_{CC}=30V, I_C=150mA, I_{B1}=I_{B2}=15mA$		225	ns
t_f	$V_{CC}=30V, I_C=150mA, I_{B1}=I_{B2}=15mA$		60	ns

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA SHEETS

CMPT2369

NPN SILICON TRANSISTOR



SOT-23 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT2369 type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for ultra high speed switching applications.

Marking Code is C1J.

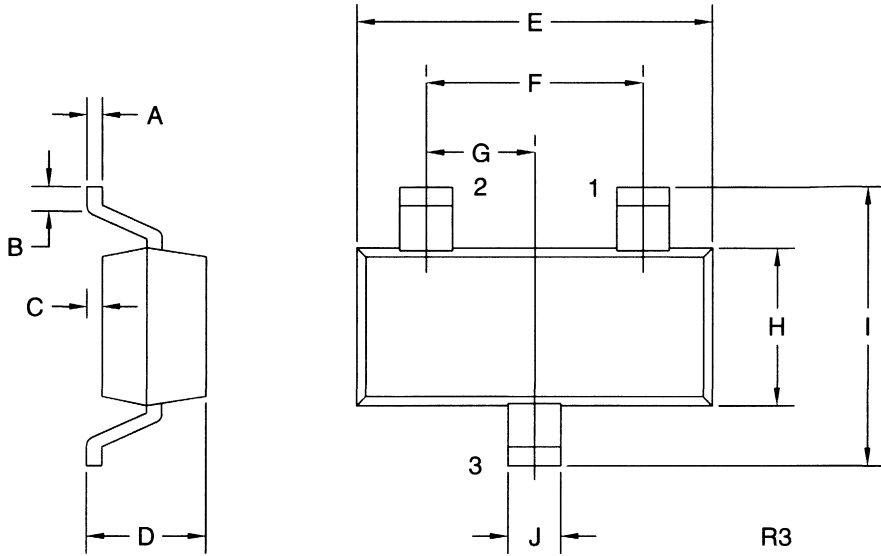
MAXIMUM RATINGS (T_A=25°C)

	SYMBOL		UNITS
Collector-Base Voltage	V _{CB0}	40	V
Collector-Emitter Voltage	V _{CES}	40	V
Collector-Emitter Voltage	V _{CEO}	15	V
Emitter-Base Voltage	V _{EBO}	4.5	V
Collector Current	I _C	500	mA
Power Dissipation	P _D	350	mW
Operating and Storage			
Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	θ _{JA}	357	°C/W

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _{CB0}	V _{CB} =20V		0.4	μA
I _{CB0}	V _{CB} =20V, T _A =125°C		30	μA
BV _{CB0}	I _C =10μA	40		V
BV _{CES}	I _C =10μA	40		V
BV _{CEO}	I _C =10mA	15		V
BV _{EBO}	I _E =10μA	4.5		V
V _{CE(SAT)}	I _C =10mA, I _B =1.0mA		0.25	V
V _{BE(SAT)}	I _C =10mA, I _B =1.0mA	0.7	0.85	V
h _{FE}	V _{CE} =1.0V, I _C =10mA	40	120	
h _{FE}	V _{CE} =2.0V, I _C =100mA	20		
C _{ob}	V _{CB} =5.0V, I _E =0, f=1.0MHz		4.0	pF
f _T	V _{CE} =10V, I _C =10mA, f=100MHz	500		MHz
t _s	V _{CC} =3.0V, I _C =I _{B1} =I _{B2} =10mA		13	ns
t _{on}	V _{CC} =3.0V, I _C =10mA, I _{B1} =3.0mA		12	ns
t _{off}	V _{CC} =3.0V, I _C =10mA, I _{B1} =3.0mA, I _{B2} =1.5mA		18	ns

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)



CMPT2484
NPN SILICON
LOW NOISE TRANSISTOR



SOT-23 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT2484 type is an NPN silicon low noise transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for low noise amplifier applications.

Marking Code is C1U.

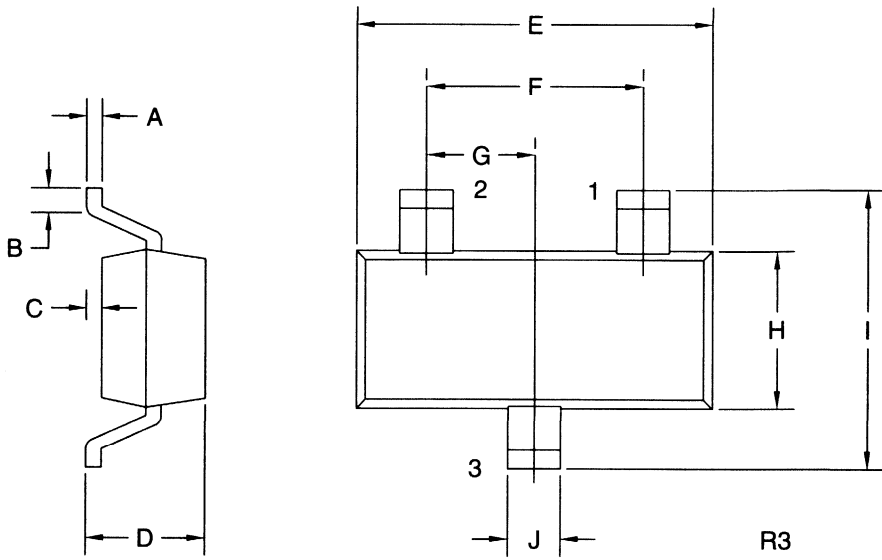
MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	60	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	50	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	357	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=45\text{V}$		10	nA
I_{CBO}	$V_{CB}=45\text{V}, T_A=150^\circ\text{C}$		10	μA
I_{EBO}	$V_{EB}=5.0\text{V}$		10	nA
BV_{CB0}	$I_C=10\mu\text{A}$	60		V
BV_{CEO}	$I_C=10\text{mA}$	60		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=1.0\text{mA}, I_B=100\mu\text{A}$		0.35	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$		0.95	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	250	---	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	---	800	
C_{ob}	$V_{CB}=5.0\text{V}, I_E=0, f=1.0\text{MHz}$		6.0	pF
C_{ib}	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		6.0	pF
NF	$V_{CE}=5.0\text{V}, I_C=10\mu\text{A}, R_S=10\text{k}\Omega$ $f=1.0\text{kHz}, BW=200\text{Hz}$		3.0	dB

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

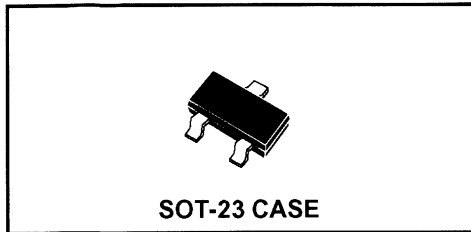
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA SHEETS

CMPT2907A

PNP SILICON TRANSISTOR



Central[™]

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT2907A type is an PNP silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for small signal general purpose and switching applications.

Marking Code is C2F.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

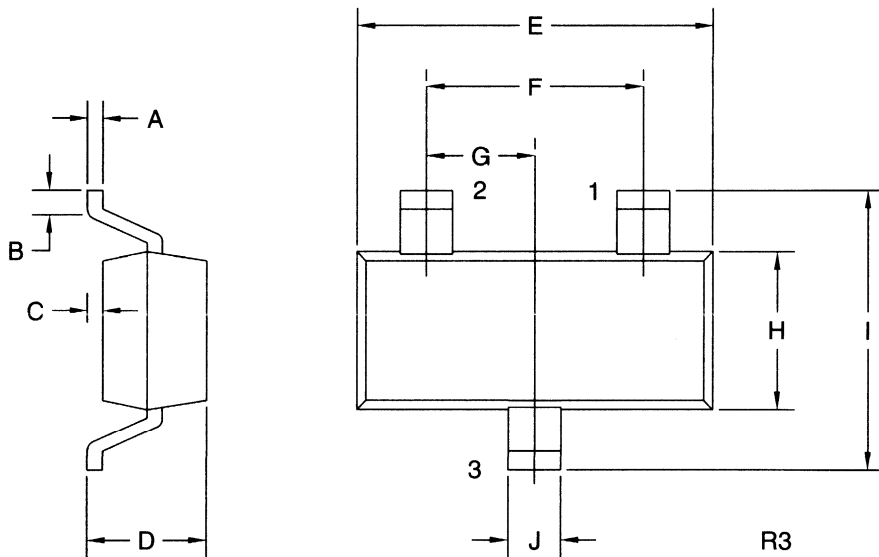
	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	60	V
Collector-Emitter Voltage	V_{CE0}	60	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	600	mA
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	Θ_{JA}	357	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=50\text{V}$		10	nA
I_{CBO}	$V_{CB}=50\text{V}, T_A=125^\circ\text{C}$		10	μA
I_{CEV}	$V_{CE}=30\text{V}, V_{BE}=0.5\text{V}$		50	nA
BV_{CBO}	$I_C=10\mu\text{A}$	60		V
BV_{CEO}	$I_C=10\text{mA}$	60		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.4	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.6	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		1.3	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		2.6	V
h_{FE}	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	75		
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	100		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	100		
h_{FE}	$V_{CE}=10\text{V}, I_C=150\text{mA}$	100	300	

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=10V, I_C=500mA$	50		
f_T	$V_{CE}=20V, I_C=50mA, f=100MHz$	200		MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		8.0	pF
C_{ib}	$V_{BE}=2.0V, I_C=0, f=1.0MHz$		30	pF
t_{on}	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		45	ns
t_d	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		10	ns
t_r	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		40	ns
t_{off}	$V_{CC}=6.0V, I_C=150mA, I_{B1}=I_{B2}=15mA$		100	ns
t_s	$V_{CC}=6.0V, I_C=150mA, I_{B1}=I_{B2}=15mA$		80	ns
t_f	$V_{CC}=6.0V, I_C=150mA, I_{B1}=I_{B2}=15mA$		30	ns

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

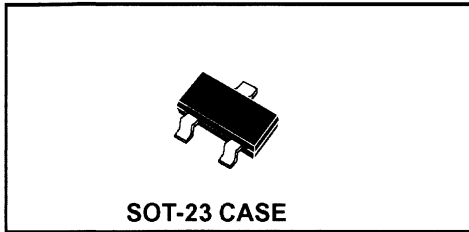
- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F		0.075		1.90
G		0.037		0.95
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA SHEETS

CMPT3019
NPN SILICON TRANSISTOR



Central[™]
Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR CMPT3019 type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for very high current, general purpose amplifier applications.

Marking Code is C3A.

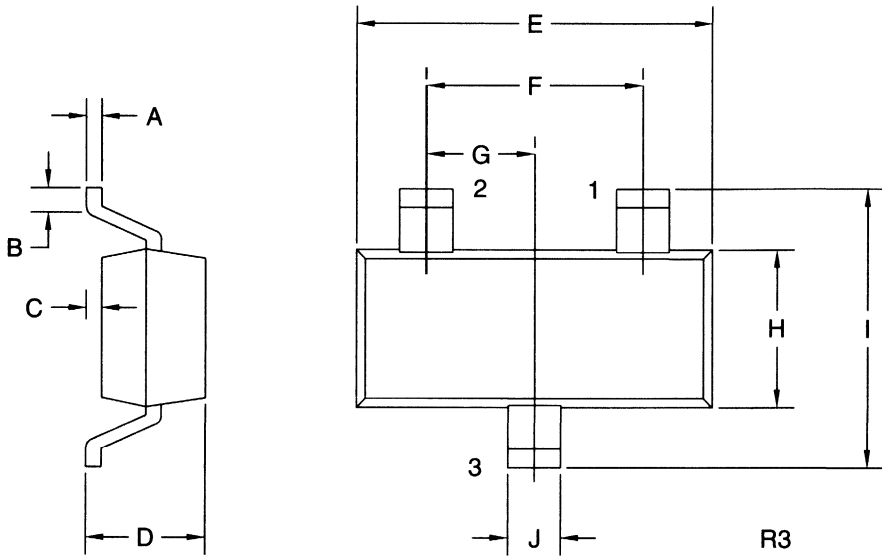
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	120	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	7.0	V
Collector Current	I_C	500	mA
Collector Current (Peak)	I_{CM}	1.0	A
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	357	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=90\text{V}$		10	nA
I_{EBO}	$V_{EB}=5.0\text{V}$		10	nA
BV_{CBO}	$I_C=100\mu\text{A}$	120		V
BV_{CEO}	$I_C=30\text{mA}$	80		V
BV_{EBO}	$I_E=100\mu\text{A}$	7.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.2	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.5	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		1.1	V
h_{FE}	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	50		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	90		
h_{FE}	$V_{CE}=10\text{V}, I_C=150\text{mA}$	100	300	
h_{FE}	$V_{CE}=10\text{V}, I_C=500\text{mA}$	50		
f_T	$V_{CE}=10\text{V}, I_C=50\text{mA}, f=1.0\text{MHz}$	100		MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		12	pF
C_{ib}	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		60	pF
NF	$V_{CE}=10\text{V}, I_C=100\text{mA}, R_S=1\text{k}\Omega, f=1.0\text{kHz}$		4.0	dB

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

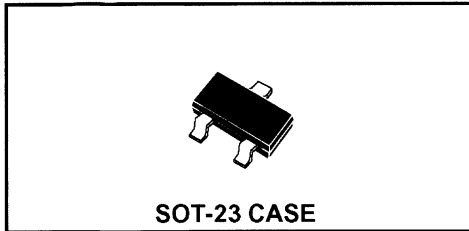
DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA SHEETS

CMPT3640

PNP SILICON TRANSISTOR



CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT3640 type is an PNP silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for saturated switching applications.

Marking code is C2J.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

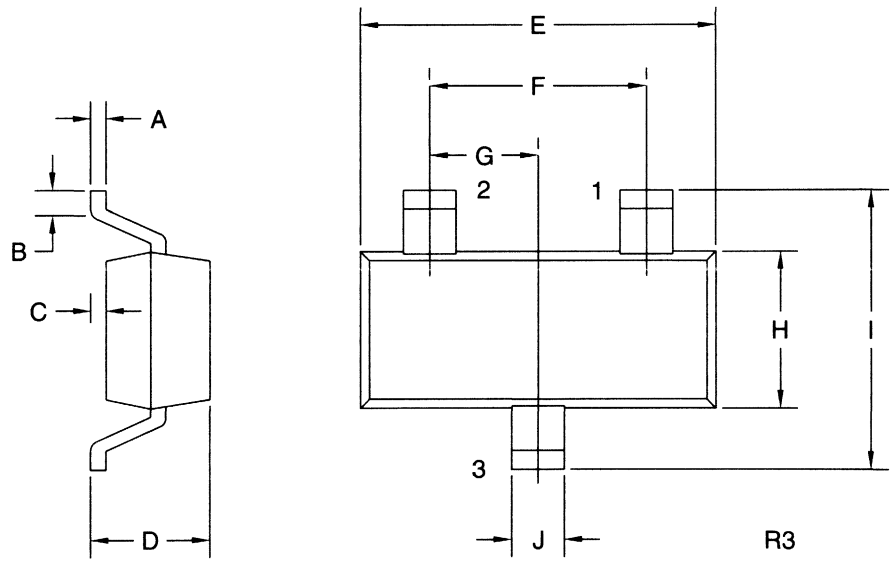
	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	12	V
Collector-Emitter Voltage	V_{CEO}	12	V
Emitter-Base Voltage	V_{EBO}	4.0	V
Collector Current	I_C	80	mA
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	Θ_{JA}	357	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CES}	$V_{CE}=6.0\text{V}$		10	nA
I_{CES}	$V_{CE}=6.0\text{V}, T_A=65^\circ\text{C}$		10	μA
I_B	$V_{CE}=6.0\text{V}, V_{EB}=0$		10	nA
BV_{CBO}	$I_C=100\mu\text{A}$	12		V
BV_{CEO}	$I_C=10\text{mA}$	12		V
BV_{EBO}	$I_E=100\mu\text{A}$	4.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.20	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.60	V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}, T_A=65^\circ\text{C}$		0.25	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$	0.75	0.95	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	0.80	1.00	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		1.50	V
h_{FE}	$V_{CE}=0.3\text{V}, I_C=10\text{mA}$	30	120	

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=1.0V, I_C=50mA$	20		
f_T	$V_{CE}=5.0V, I_C=10mA, f=100MHz$	500		MHz
C_{ob}	$V_{CB}=5.0V, I_E=0, f=1.0MHz$		3.5	pF
C_{ib}	$V_{BE}=0.5V, I_C=0, f=1.0MHz$		3.5	pF
t_d	$V_{CC}=6.0V, V_{BE}=1.9V, I_C=50mA, I_{B1}=5.0mA$		10	ns
t_r	$V_{CC}=6.0V, V_{BE}=1.9V, I_C=50mA, I_{B1}=5.0mA$		30	ns
t_s	$V_{CC}=6.0V, I_C=50mA, I_{B1}=I_{B2}=5.0mA$		20	ns
t_f	$V_{CC}=6.0V, I_C=50mA, I_{B1}=I_{B2}=5.0mA$		12	ns
t_{on}	$V_{CC}=6.0V, V_{BE}=1.9V, I_C=50mA, I_{B1}=5.0mA$		25	ns
t_{on}	$V_{CC}=1.5V, I_C=10mA, I_{B1}=0.5mA$		60	ns
t_{off}	$V_{CC}=6.0V, V_{BE}=1.9V, I_C=50mA, I_{B1}=5.0mA$		35	ns
t_{off}	$V_{CC}=1.5V, I_C=10mA, I_{B1}=I_{B2}=0.5mA$		75	ns

SOT-23 CASE - MECHANICAL OUTLINE



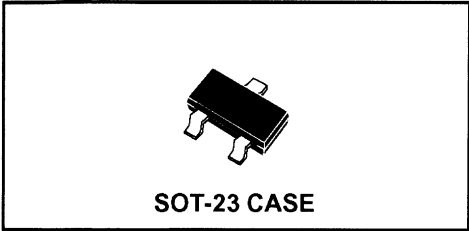
LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

CMPT3646
NPN SILICON TRANSISTOR



Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT3646 type is an NPN Silicon Transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high current, ultra high speed switching applications.

Marking code is C2R.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

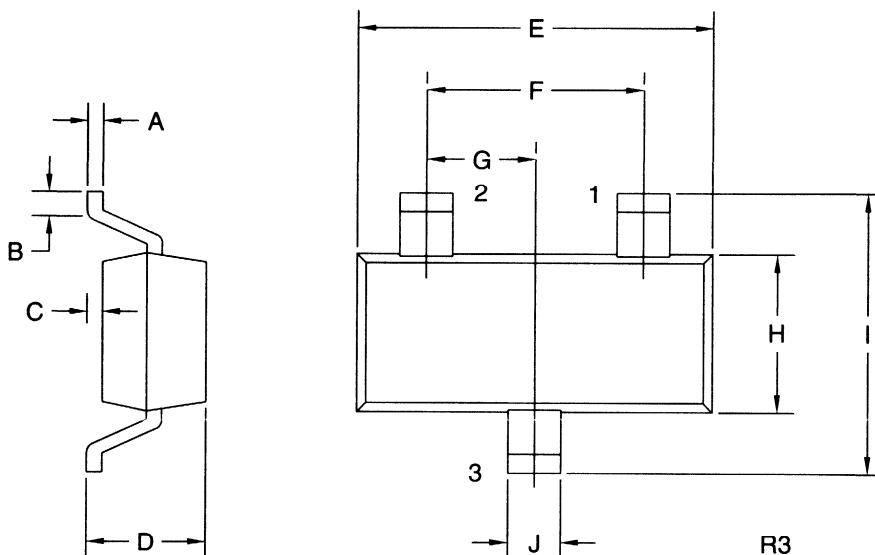
	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CES}	40	V
Collector-Emitter Voltage	V_{CEO}	15	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	200	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	357	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CES}	$V_{CE}=20\text{V}$		0.5	μA
I_{CES}	$V_{CE}=20\text{V}, T_A=65^\circ\text{C}$		3.0	μA
BV_{CBO}	$I_C=100\mu\text{A}$	40		V
BV_{CES}	$I_C=10\mu\text{A}$	40		V
BV_{CEO}	$I_C=10\text{mA}$	15		V
BV_{EBO}	$I_E=100\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=30\text{mA}, I_B=3.0\text{mA}$		0.20	V
$V_{CE(SAT)}$	$I_C=30\text{mA}, I_B=3.0\text{mA}, T_A=65^\circ\text{C}$		0.30	V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		0.28	V
$V_{CE(SAT)}$	$I_C=300\text{mA}, I_B=30\text{mA}$		0.50	V
$V_{BE(SAT)}$	$I_C=30\text{mA}, I_B=3.0\text{mA}$	0.75	0.95	V
$V_{BE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		1.20	V
$V_{BE(SAT)}$	$I_C=300\text{mA}, I_B=30\text{mA}$		1.70	V
h_{FE}	$V_{CE}=0.4\text{V}, I_C=30\text{mA}$	30	120	
h_{FE}	$V_{CE}=0.5\text{V}, I_C=100\text{mA}$	25		

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=1.0V, I_C=300mA$	15		
f_T	$V_{CE}=10V, I_C=30mA, f=100MHz$	350		MHz
C_{ob}	$V_{CB}=5.0V, I_E=0, f=1.0MHz$		5.0	pF
C_{ib}	$V_{BE}=0.5V, I_C=0, f=1.0MHz$		8.0	pF
t_{on}	$V_{CC}=10V, I_C=300mA, I_{B1}=30mA$		18	ns
t_{off}	$V_{CC}=10V, I_C=300mA, I_{B1}=I_{B2}=30mA$		28	ns
t_s	$V_{CC}=10V, I_C=I_{B1}=I_{B2}=10mA$		18	ns

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA
SHEETS

CMPT3904 NPN
CMPT3906 PNP

COMPLEMENTARY
SILICON TRANSISTORS



SOT-23 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT3904, CMPT3906 types are complementary silicon transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for small signal general purpose amplifier and switching applications.

**Marking Codes are C1A, C2A
Respectively.**

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

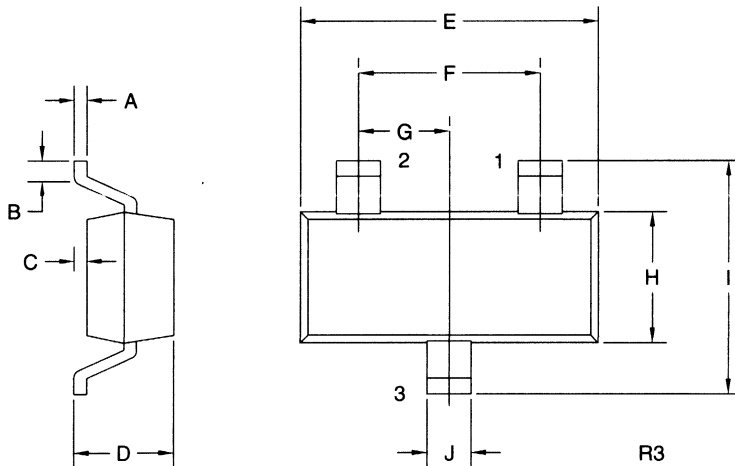
	SYMBOL	CMPT3904	CMPT3906	UNITS
Collector-Base Voltage	V_{CBO}	60	40	V
Collector-Emitter Voltage	V_{CEO}	40	40	V
Emitter-Base Voltage	V_{EBO}	6.0	5.0	V
Collector Current	I_C		200	mA
Power Dissipation	P_D		350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150		$^\circ\text{C}$
Thermal Resistance	θ_{JA}	357		$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	CMPT3904		CMPT3906		UNITS
		MIN	MAX	MIN	MAX	
I_{CEV}	$V_{CE}=30\text{V}, V_{EB}=3.0\text{V}$		50		50	nA
I_{BL}	$V_{CE}=30\text{V}, V_{EB}=3.0\text{V}$		50			nA
BV_{CBO}	$I_C=10\mu\text{A}$	60		40		V
BV_{CEO}	$I_C=1.0\text{mA}$	40		40		V
BV_{EBO}	$I_E=10\mu\text{A}$	6.0		5.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.20		0.25	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.30		0.40	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	0.65	0.85	0.65	0.85	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.95		0.95	V
h_{FE}	$V_{CE}=1.0\text{V}, I_C=0.1\text{mA}$	40		60		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=1.0\text{mA}$	70		80		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=10\text{mA}$	100	300	100	300	
h_{FE}	$V_{CE}=1.0\text{V}, I_C=50\text{mA}$	60		60		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=100\text{mA}$	30		30		

SYMBOL	TEST CONDITIONS	CMPT3904		CMPT3906		UNITS
		MIN	MAX	MIN	MAX	
f_T	$V_{CE}=20V, I_C=10mA, f=100MHz$	300		250		MHz
C_{ob}	$V_{CB}=5.0V, I_E=0, f=1.0MHz$		4.0		4.5	pF
C_{ib}	$V_{BE}=0.5V, I_C=0, f=1.0MHz$		8.0		10	pF
h_{ie}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	1.0	10	2.0	12	$k\Omega$
h_{re}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	0.5	8.0	0.1	10	$\times 10^{-4}$
h_{fe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	100	400	100	400	
h_{oe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	1.0	40	3.0	60	$\mu mhos$
NF	$V_{CE}=5.0V, I_C=100\mu A, R_S=1.0k\Omega$ $f=10Hz$ to $15.7kHz$		5.0		4.0	dB
t_d	$V_{CC}=3.0V, V_{BE}=0.5V, I_C=10mA, I_{B1}=1.0mA$		35		35	ns
t_r	$V_{CC}=3.0V, V_{BE}=0.5V, I_C=10mA, I_{B1}=1.0mA$		35		35	ns
t_s	$V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=1.0mA$		200		225	ns
t_f	$V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=1.0mA$		50		75	ns

SOT-23 CASE - MECHANICAL OUTLINE



DATA SHEETS

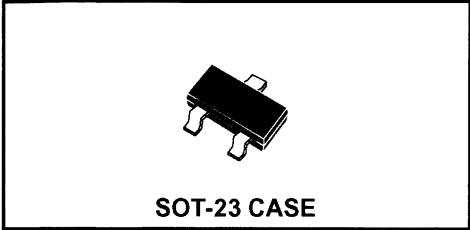
LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

CMPT4033
PNP SILICON TRANSISTOR



CentralTM

Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR CMPT4033 type is an PNP silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for very high current, general purpose amplifier applications.

Marking Code is C4A.

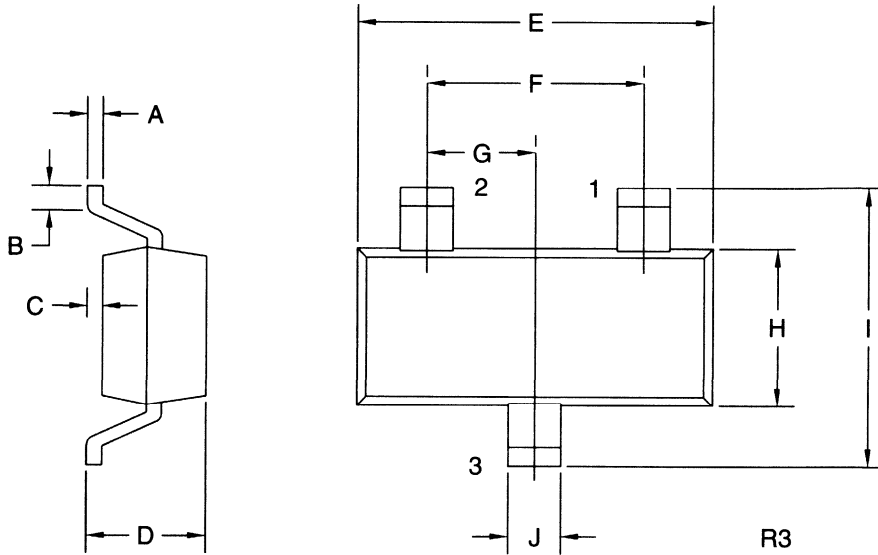
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	500	mA
Collector Current (Peak)	I_{CM}	1.0	A
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	Θ_{JA}	357	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=60\text{V}$		50	nA
I_{EBO}	$V_{EB}=5.0\text{V}$		10	nA
BV_{CBO}	$I_C=10\mu\text{A}$	80		V
BV_{CEO}	$I_C=10\text{mA}$	80		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.15	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.50	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.90	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.10	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=0.1\text{mA}$	75		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$	100	300	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=500\text{mA}$	70		
f_T	$V_{CE}=10\text{V}, I_C=50\text{mA}, f=1.0\text{MHz}$	100		MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		20	pF
C_{ib}	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		110	pF

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA
SHEETS

CMPT4401 NPN
CMPT4403 PNP

COMPLEMENTARY
SILICON TRANSISTORS



SOT-23 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT4401, CMPT4403 types are complementary silicon transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for small signal general purpose amplifier and switching applications.

**Marking Codes are C2X, C2T
Respectively.**

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

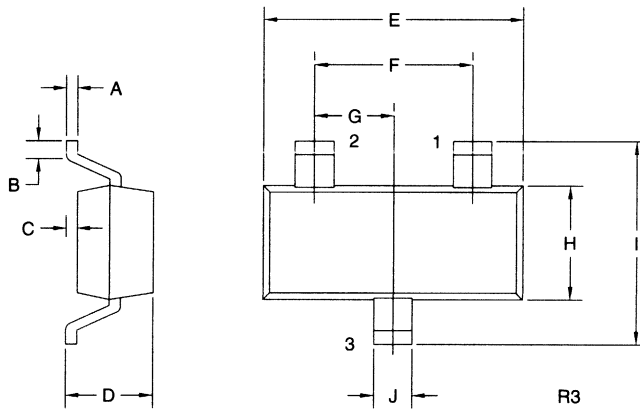
	SYMBOL	CMPT4401	CMPT4403	UNITS
Collector-Base Voltage	V_{CB0}	60	40	V
Collector-Emitter Voltage	V_{CE0}	40	40	V
Emitter-Base Voltage	V_{EB0}	6.0	5.0	V
Collector Current	I_C	600		mA
Power Dissipation	P_D	350		mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150		$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	357		$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	CMPT4401		CMPT4403		UNITS
		MIN	MAX	MIN	MAX	
I_{CEV}	$V_{CE}=35\text{V}, V_{EB}=0.4\text{V}$		0.1		0.1	μA
I_{BEV}	$V_{CE}=35\text{V}, V_{EB}=0.4\text{V}$		0.1		0.1	μA
BV_{CB0}	$I_C=100\mu\text{A}$	60		40		V
BV_{CE0}	$I_C=1.0\text{mA}$	40		40		V
BV_{EB0}	$I_E=100\mu\text{A}$	6.0		5.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.40		0.40	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.75		0.75	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$	0.75	0.95	0.75	0.95	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.2		1.3	V
h_{FE}	$V_{CE}=1.0\text{V}, I_C=0.1\text{mA}$	20		30		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=1.0\text{mA}$	40		60		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=10\text{mA}$	80		100		

SYMBOL	TEST CONDITIONS	CMPT3904		CMPT3906		UNITS
		MIN	MAX	MIN	MAX	
f_T	$V_{CE}=20V, I_C=10mA, f=100MHz$	300		250		MHz
C_{ob}	$V_{CB}=5.0V, I_E=0, f=1.0MHz$		4.0		4.5	pF
C_{ib}	$V_{BE}=0.5V, I_C=0, f=1.0MHz$		8.0		10	pF
h_{ie}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	1.0	10	2.0	12	k Ω
h_{re}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	0.5	8.0	0.1	10	$\times 10^{-4}$
h_{fe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	100	400	100	400	
h_{oe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	1.0	40	3.0	60	$\mu mhos$
NF	$V_{CE}=5.0V, I_C=100\mu A, R_S=1.0k\Omega$ $f=10Hz$ to $15.7kHz$		5.0		4.0	dB
t_d	$V_{CC}=3.0V, V_{BE}=0.5V, I_C=10mA, I_{B1}=1.0mA$		35		35	ns
t_r	$V_{CC}=3.0V, V_{BE}=0.5V, I_C=10mA, I_{B1}=1.0mA$		35		35	ns
t_s	$V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=1.0mA$		200		225	ns
t_f	$V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=1.0mA$		50		75	ns

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA
SHEETS

CMPT5086
CMPT5087

PNP SILICON TRANSISTOR



SOT-23 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT5086, CMPT5087 types are PNP silicon transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring high gain and low noise.

**Marking Codes are C2P and C2Q
Respectively.**

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

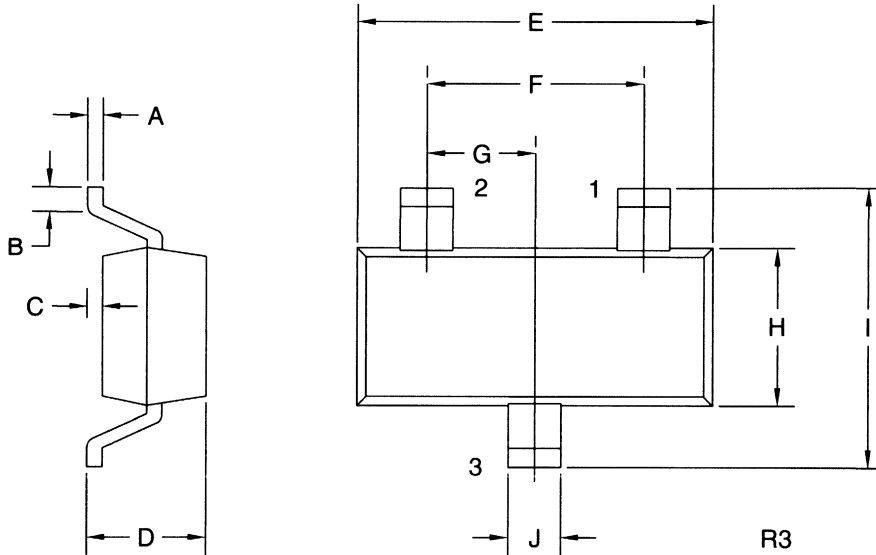
	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	50	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current	I_C	50	mA
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	357	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	CMPT5086		CMPT5087		UNITS
		MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB}=10\text{V}$		10		10	nA
I_{CBO}	$V_{CB}=35\text{V}$		50		50	nA
BV_{CBO}	$I_C=100\mu\text{A}$	50		50		V
BV_{CEO}	$I_C=1.0\text{mA}$	50		50		V
BV_{EBO}	$I_E=100\mu\text{A}$	3.0		3.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.30		0.30	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.85		0.85	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=0.1\text{mA}$	150	500	250	800	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	150		250		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	150		250		
f_T	$V_{CE}=5.0\text{V}, I_C=500\mu\text{A}, f=20\text{MHz}$	40		40		MHz
C_{ob}	$V_{CB}=5.0\text{V}, I_E=0, f=1.0\text{MHz}$		4.0		4.0	pF
h_{fe}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	150	600	250	900	

SYMBOL	TEST CONDITIONS	CMPT5086		CMPT5087		UNITS
		MIN	MAX	MIN	MAX	
NF	$V_{CE}=5.0V$, $I_C=20mA$, $R_S=10k\Omega$ $f=10Hz$ to $15.7kHz$		3.0	2.0		dB
NF	$V_{CE}=5.0V$, $I_C=100\mu A$, $R_S=3.0k\Omega$, $f=1.0kHz$		3.0	2.0		dB

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA SHEETS

CMPT5088
CMPT5089

NPN SILICON TRANSISTORS



SOT-23 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT5088, CMPT5089 types are NPN silicon transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring high gain and low noise.

**Marking Codes are C1Q, C1R
Respectively.**

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

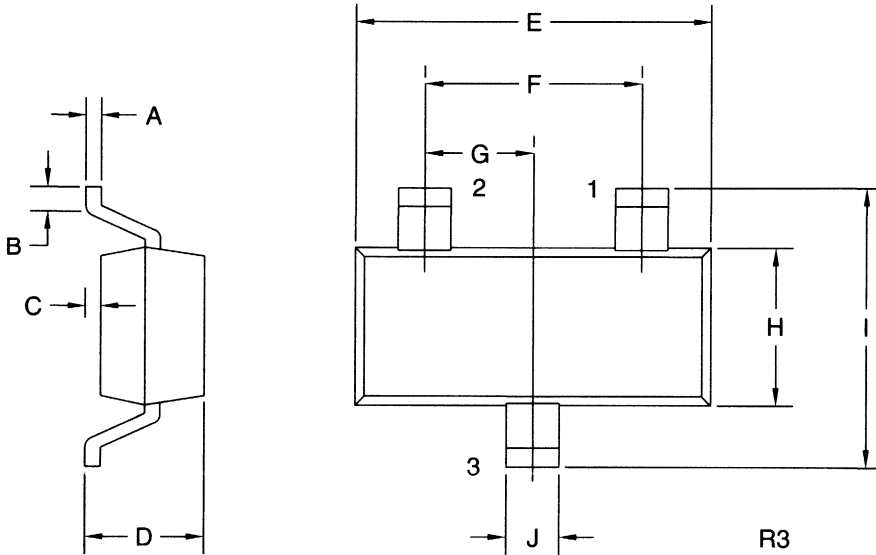
	SYMBOL	CMPT5088	CMPT5089	UNITS
Collector-Base Voltage	V_{CBO}	35	30	V
Collector-Emitter Voltage	V_{CEO}	30	25	V
Emitter-Base Voltage	V_{EBO}		4.5	V
Collector Current	I_C		50	mA
Power Dissipation	P_D		350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}		-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}		357	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	CMPT5088		CMPT5089		UNITS
		MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB}=20\text{V}$		50		-	nA
I_{CBO}	$V_{CB}=15\text{V}$		-		50	nA
I_{EBO}	$V_{EB}=3.0\text{V}$		50		-	nA
I_{EBO}	$V_{EB}=4.5\text{V}$		-		100	nA
BV_{CBO}	$I_C=100\mu\text{A}$	35		30		V
BV_{CEO}	$I_C=1.0\text{mA}$	30		25		V
BV_{EBO}	$I_E=100\mu\text{A}$	4.5		4.5		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.5		0.5	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.8		0.8	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=0.1\text{mA}$	300	900	400	1200	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	350		450		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	300		400		
f_T	$V_{CE}=5.0\text{V}, I_C=500\mu\text{A}, f=20\text{MHz}$	50		50		MHz
C_{ob}	$V_{CB}=5.0\text{V}, I_E=0, f=1.0\text{MHz}$		4.0		4.0	pF

SYMBOL	TEST CONDITIONS	CMPT5088		CMPT5089		UNITS
		MIN	MAX	MIN	MAX	
C_{ib}	$V_{BE}=0.5V, I_C=0, f=1.0MHz$		10		10	pF
h_{fe}	$V_{CE}=5.0V, I_C=1.0mA, f=1.0kHz$	350	1400	450	1800	
NF	$V_{CE}=5.0V, I_C=100\mu A, R_S=10k\Omega$ $f=10Hz$ to $15.7kHz$		3.0		2.0	dB

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)



CMPT5179

NPN SILICON RF TRANSISTOR



SOT-23 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT5179 type is an NPN silicon RF transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for low noise, high frequency amplifier and high output oscillator applications.

Marking code is C7H.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

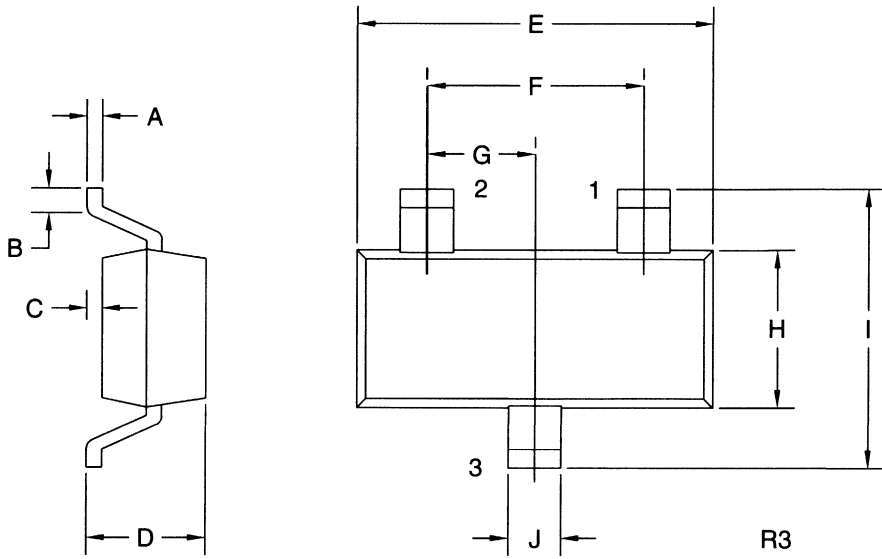
	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	20	V
Collector-Emitter Voltage	V_{CEO}	12	V
Emitter-Base Voltage	V_{EBO}	2.5	V
Collector Current	I_C	50	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	357	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=15\text{V}$			20	nA
BV_{CB0}	$I_C=10\mu\text{A}$	20			V
BV_{CEO}	$I_C=3.0\text{mA}$	12			V
BV_{EBO}	$I_E=10\mu\text{A}$	2.5			V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$			0.4	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$			1.0	V
h_{FE}	$V_{CE}=1.0\text{V}, I_C=3.0\text{mA}$	25			
f_T	$V_{CE}=6.0\text{V}, I_C=5.0\text{mA}, f=100\text{MHz}$	900	1450		MHz
C_{cb}	$V_{CB}=10\text{V}, I_E=0, f=0.1$ to 1.0MHz			1.0	pF
h_{fe}	$V_{CE}=6.0\text{V}, I_C=2.0, f=1.0\text{kHz}$	25			
G_{pe}	$V_{CE}=6.0\text{V}, I_C=5.0\text{mA}, f=200\text{MHz}$	15			dB
NF	$V_{CE}=6.0\text{V}, I_C=1.5\text{mA}, R_S=50\Omega, f=200\text{MHz}$			4.5	dB

All dimensions in inches (mm).

SOT-23 CASE - MECHANICAL OUTLINE



- LEAD CODE:
 1) BASE
 2) EMITTER
 3) COLLECTOR

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)



CMPT5401

PNP SILICON TRANSISTOR



SOT-23 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT5401 type is an PNP silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high voltage amplifier applications.

Marking Code is C2L.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	160	V
Collector-Emitter Voltage	V_{CEO}	150	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	500	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	357	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=100\text{V}$		50	nA
I_{CBO}	$V_{CB}=100\text{V}, T_A=150^\circ\text{C}$		50	μA
BV_{CBO}	$I_C=100\mu\text{A}$	160		V
BV_{CEO}	$I_C=1.0\text{mA}$	150		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.2	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.5	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		1.0	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		1.0	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	50		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	60	240	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=50\text{mA}$	50		
f_T	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100	300	MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		6.0	pF

SYMBOL

h_{fe}
NF

TEST CONDITIONS

$V_{CE}=10V$, $I_C=1.0mA$, $f=1.0kHz$
 $V_{CE}=5.0V$, $I_C=200\mu A$, $R_S=10\Omega$
 $f=10Hz$ to $15.7kHz$

MIN

40

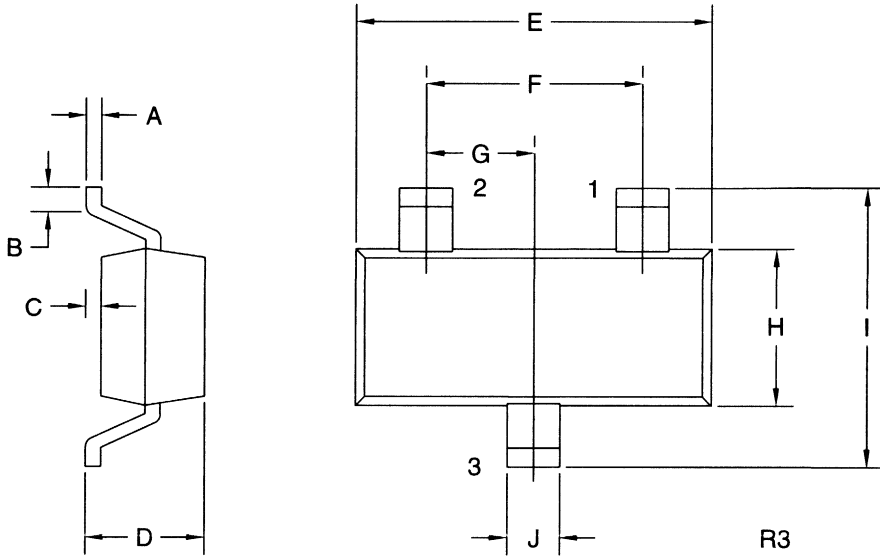
MAX

200

UNITS

8.0

dB

SOT-23 CASE - MECHANICAL OUTLINE**LEAD CODE:**

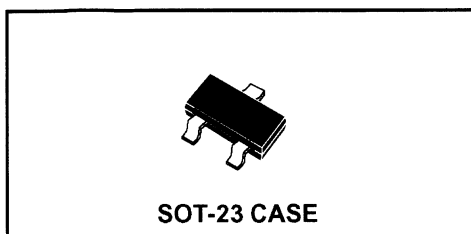
- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

CMPT5551

NPN SILICON TRANSISTOR



DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT5551 type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high voltage amplifier applications.

Marking Code is 1FF.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

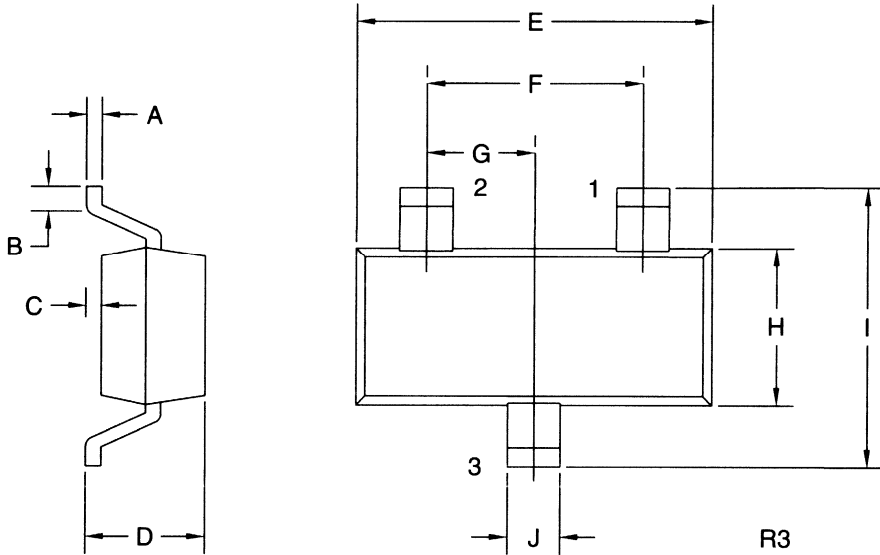
	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	180	V
Collector-Emitter Voltage	V_{CEO}	160	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	600	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	357	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=120\text{V}$		50	nA
I_{CBO}	$V_{CB}=120\text{V}, T_A=100^\circ\text{C}$		50	μA
BV_{CBO}	$I_C=100\mu\text{A}$	180		V
BV_{CEO}	$I_C=1.0\text{mA}$	160		V
BV_{EBO}	$I_E=10\mu\text{A}$	6.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.15	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.20	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		1.00	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		1.00	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	80		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	80	250	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=50\text{mA}$	30		
f_T	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100	300	MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		6.0	pF

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{fe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	50	200	
NF	$V_{CE}=5.0V, I_C=200\mu A, R_S=10\Omega$ $f=10Hz$ to $15.7kHz$		8.0	dB

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA SHEETS

CMPT6427
NPN SILICON
DARLINGTON TRANSISTOR



SOT-23 CASE

Central™

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT6427 type is a NPN Silicon Darlington Transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring extremely high gain.

Marking Code is C1V.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

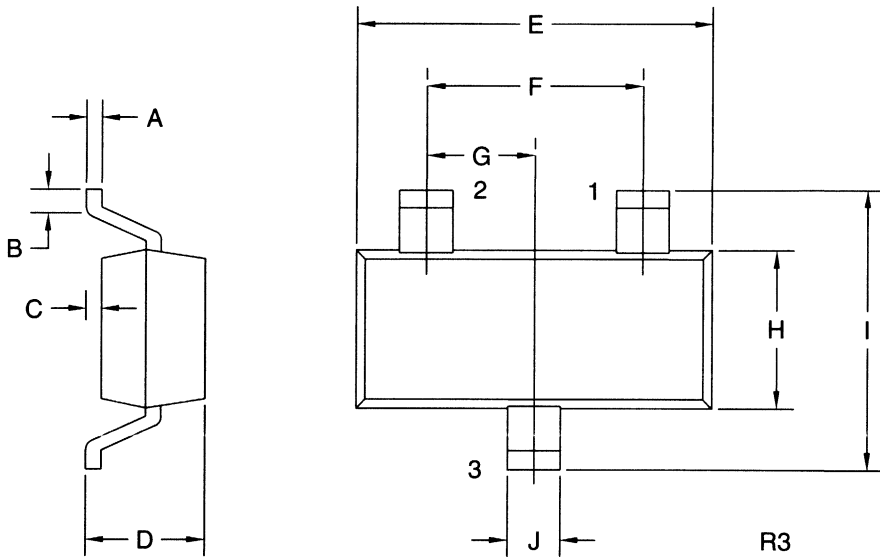
	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	12	V
Collector Current	I_C	500	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	357	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=30\text{V}$		50	nA
I_{CEO}	$V_{CE}=25\text{V}$		1.0	μA
I_{EBO}	$V_{BE}=10\text{V}$		50	nA
BV_{CBO}	$I_C=100\mu\text{A}$	40		V
BV_{CEO}	$I_C=10\text{mA}$	40		V
BV_{EBO}	$I_E=10\mu\text{A}$	12		V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=0.5\text{mA}$		1.20	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=0.5\text{mA}$		1.50	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=0.5\text{mA}$		2.00	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=50\text{mA}$		1.75	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	10K	100K	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$	20K	200K	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=500\text{mA}$	14K	140K	
f_T	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	130		MHz

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		7.0	pF
C_{ib}	$V_{BE}=0.5V, I_C=0, f=1.0MHz$		15	pF
NF	$V_{CE}=5.0V, I_C=1.0mA, R_S=100k\Omega$ $f=1.0kHz$ to $15.7kHz$		10	dB

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

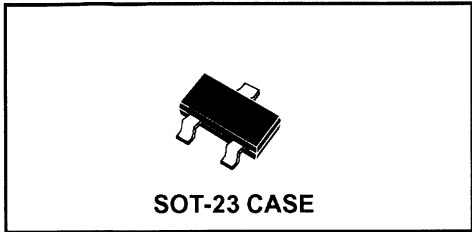
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)



**CMPT6428
CMPT6429**

NPN SILICON TRANSISTOR



Central™

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT6428, CMPT6429 types are NPN Silicon Transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high gain amplifier applications.

Marking Codes are C1K and C1L Respectively.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

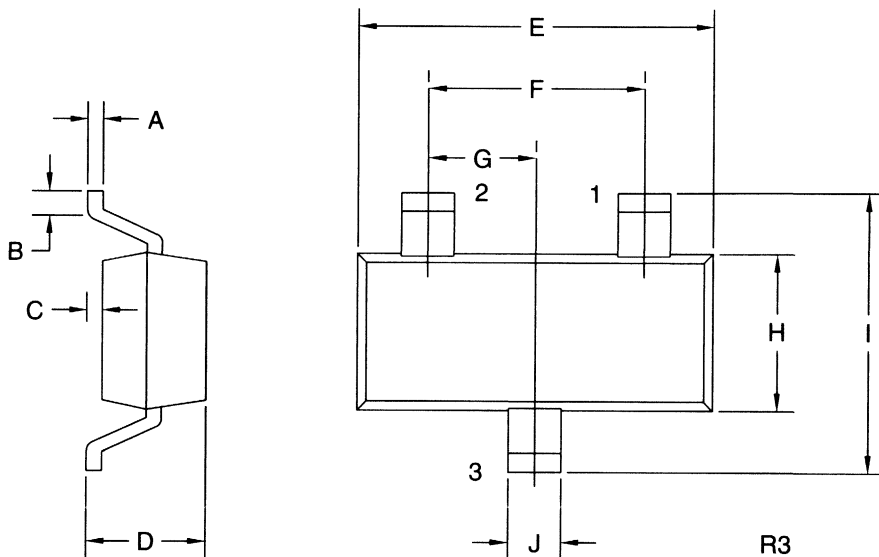
	SYMBOL	CMPT6428	CMPT6429	UNITS
Collector-Base Voltage	V_{CB0}	60	55	V
Collector-Emitter Voltage	V_{CEO}	50	45	V
Emitter-Base Voltage	V_{EBO}		6.0	V
Collector Current	I_C		200	mA
Power Dissipation	P_D		350	mW
Operating and Storage				
Junction Temperature	T_J, T_{stg}	-65 to +150		$^\circ\text{C}$
Thermal Resistance	θ_{JA}	357		$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	CMPT6428		CMPT6429		UNITS
		MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB}=30\text{V}$		10		10	nA
I_{CEO}	$V_{CE}=30\text{V}$		100		100	nA
I_{EBO}	$V_{BE}=5.0\text{V}$		10		10	nA
BV_{CB0}	$I_C=100\mu\text{A}$	60		55		V
BV_{CEO}	$I_C=1.0\text{mA}$	50		45		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$		0.20		0.20	V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=5.0\text{mA}$		0.60		0.60	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	0.56	0.66	0.56	0.66	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\mu\text{A}$	250		500		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\mu\text{A}$	250	650	500	1250	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	250		500		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	250		500		
f_T	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}, f=100\text{MHz}$	100	700	100	700	MHz

SYMBOL	TEST CONDITIONS	CMPT6428		CMPT6429		UNITS
		MIN	MAX	MIN	MAX	
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		3.0		3.0	pF
C_{ib}	$V_{BE}=0.5V, I_C=0, f=1.0MHz$		8.0		8.0	pF

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

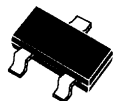
SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)



CMPT6517 NPN
CMPT6520 PNP

COMPLEMENTARY SILICON
HIGH VOLTAGE TRANSISTORS



SOT-23 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT6517, CMPT6520 types are complementary silicon transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high voltage driver and amplifier applications.

**Marking Codes are C1Z and C2Z
Respectively.**

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

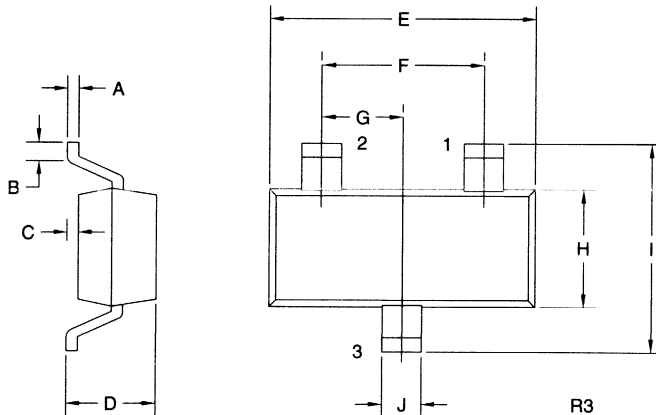
	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	350	V
Collector-Emitter Voltage	V_{CEO}	350	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	500	mA
Base Current	I_B	250	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	Θ_{JA}	357	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=250\text{V}$		50	nA
I_{EBO}	$V_{EB}=5.0\text{V}$ (CMPT6517)		50	nA
I_{EBO}	$V_{EB}=4.0\text{V}$ (CMPT6520)		50	nA
BV_{CBO}	$I_C=100\mu\text{A}$	350		V
BV_{CEO}	$I_C=1.0\text{mA}$	350		V
BV_{EBO}	$I_E=10\mu\text{A}$ (CMPT6517)	6.0		V
BV_{EBO}	$I_E=10\mu\text{A}$ (CMPT6520)	5.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.30	V
$V_{CE(SAT)}$	$I_C=20\text{mA}, I_B=2.0\text{mA}$		0.35	V
$V_{CE(SAT)}$	$I_C=30\text{mA}, I_B=3.0\text{mA}$		0.50	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		1.0	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.75	V
$V_{BE(SAT)}$	$I_C=20\text{mA}, I_B=2.0\text{mA}$		0.85	V

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
V_{BE} (SAT)	$I_C=30\text{mA}$, $I_B=3.0\text{mA}$		0.90	V
V_{BE} (ON)	$V_{CE}=10\text{V}$, $I_C=100\text{mA}$		2.0	V
h_{FE}	$V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$	20		
h_{FE}	$V_{CE}=10\text{V}$, $I_C=10\text{mA}$	30		
h_{FE}	$V_{CE}=10\text{V}$, $I_C=30\text{mA}$	30	200	
h_{FE}	$V_{CE}=10\text{V}$, $I_C=50\text{mA}$	20	200	
h_{FE}	$V_{CE}=10\text{V}$, $I_C=100\text{mA}$	15		
f_T	$V_{CE}=20\text{V}$, $I_C=10\text{mA}$, $f=20\text{MHz}$	40	200	MHz
C_{cb}	$V_{CB}=20\text{V}$, $I_C=0$, $f=1.0\text{MHz}$		6.0	pF
C_{eb}	$V_{EB}=0.5\text{V}$, $I_E=0$, $f=1.0\text{MHz}$ (CMPT6517)		80	pF
C_{eb}	$V_{EB}=0.5\text{V}$, $I_E=0$, $f=1.0\text{MHz}$ (CMPT6520)		100	pF

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

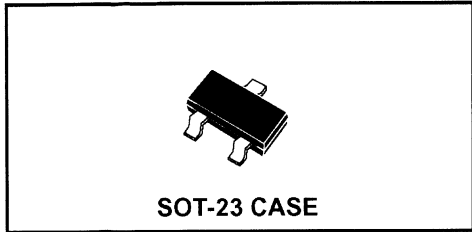
SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA
SHEETS

**CMPT8099 NPN
CMPT8599 PNP**

**COMPLEMENTARY
SILICON TRANSISTOR**



Central™

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT8099, CMPT8599 types are Complementary Silicon Transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for general purpose audio amplifier applications.

**Marking Codes are CKB and C2W
Respectively.**

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL	CMPT8099	CMPT8599	UNITS
Collector-Base Voltage	V_{CBO}	80	80	V
Collector-Emitter Voltage	V_{CEO}	80	80	V
Emitter-Base Voltage	V_{EBO}	6.0	5.0	V
Collector Current	I_C		500	mA
Power Dissipation	P_D		350	mW
Operating and Storage				
Junction Temperature	T_J, T_{stg}	-65 to +150		$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	357		$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	CMPT8099		CMPT8599		UNITS
		MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB}=80\text{V}$		0.1		0.1	μA
I_{EBO}	$V_{BE}=6.0\text{V}$		0.1		-	μA
I_{EBO}	$V_{BE}=4.0\text{V}$		-		0.1	μA
BV_{CBO}	$I_C=100\mu\text{A}$	80		80		V
BV_{CEO}	$I_C=10\text{mA}$	80		80		V
BV_{EBO}	$I_E=10\mu\text{A}$	6.0		5.0		V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=5.0\text{mA}$		0.4		0.4	V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		0.3		0.3	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	0.6	0.8	0.6	0.8	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	100	300	100	300	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	100		100		

SYMBOL

h_{FE}	$V_{CE}=5.0V, I_C=100mA$
f_T	$V_{CE}=5.0V, I_C=10mA, f=100MHz$
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$
C_{ib}	$V_{BE}=0.5V, I_C=0, f=1.0MHz$

CMPT8099

MIN MAX

75

150

6.0

25

CMPT8599

MIN MAX

75

150

4.5

30

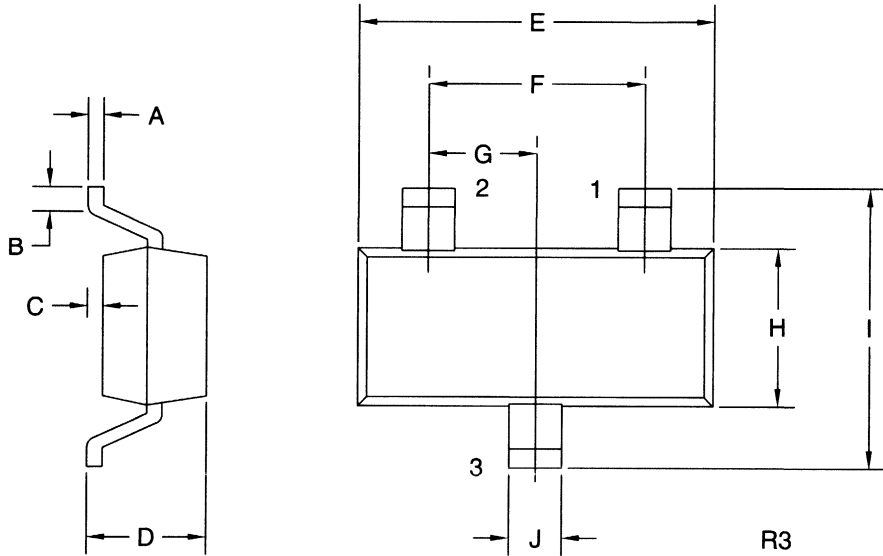
UNITS

MHz

pF

pF

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)



CMPTA06 NPN
CMPTA56 PNP

COMPLEMENTARY
SILICON TRANSISTORS



SOT-23 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPTA06, CMPTA56 types are complementary silicon transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for small signal general purpose and switching applications.

**Marking Codes are C1G, C2G
Respectively.**

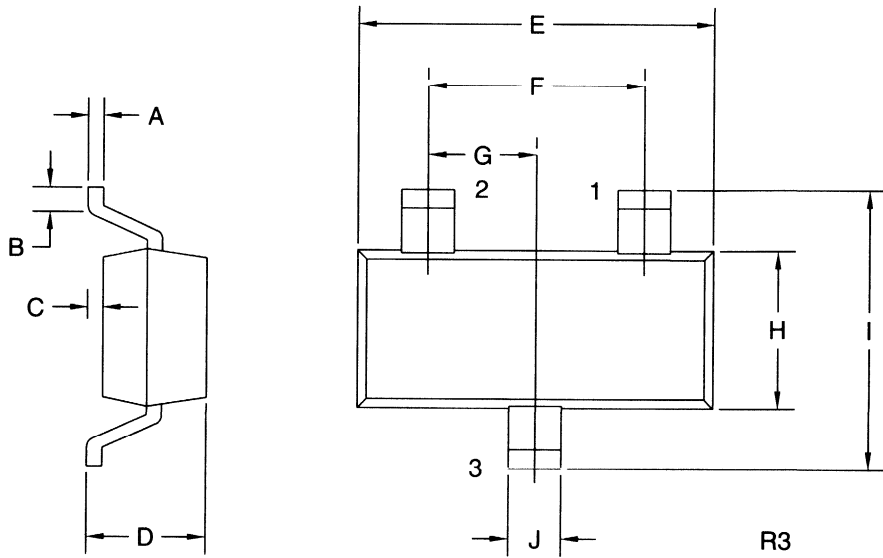
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	80	V
Collector-Emitter Voltage	V_{CE0}	80	V
Emitter-Base Voltage	V_{EB0}	4.0	V
Collector Current	I_C	500	mA
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	Θ_{JA}	357	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=80\text{V}$		100	nA
I_{CEO}	$V_{CE}=60\text{V}$		100	nA
BV_{CEO}	$I_C=1.0\text{mA}$	80		V
BV_{EBO}	$I_E=100\mu\text{A}$	4.0		V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		0.25	V
$V_{BE(ON)}$	$V_{CE}=1.0\text{V}, I_C=100\text{mA}$		1.20	V
h_{FE}	$V_{CE}=1.0\text{V}, I_C=10\text{mA}$	100		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=100\text{mA}$	100		
f_T	$V_{CE}=2.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$ (CMPTA06)	100		MHz
f_T	$V_{CE}=1.0\text{V}, I_C=100\text{mA}, f=100\text{MHz}$ (CMPTA56)	50		MHz

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA SHEETS

CMPTA13 CMPTA14 NPN
CMPTA63 CMPTA64 PNP

SILICON COMPLEMENTARY
DARLINGTON TRANSISTORS



SOT-23 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPTA13, CMPTA63 series types are complementary silicon Darlington transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring extremely high gain.

Marking Codes are C1M, C1N, C2U and C2V Respectively.

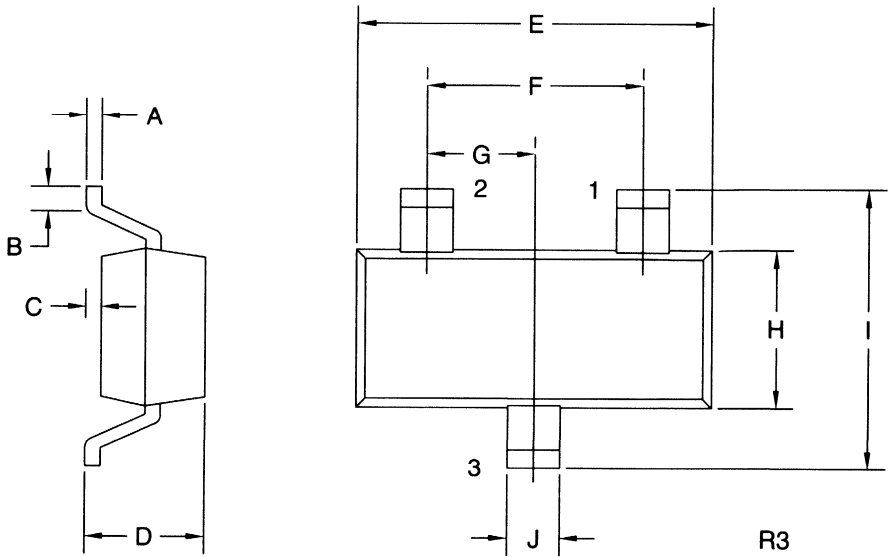
MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	30	V
Collector-Emitter Voltage	V_{CES}	30	V
Emitter-Base Voltage	V_{EBO}	10	V
Collector Current	I_C	500	mA
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	357	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CB0}	$V_{CB}=30\text{V}$		100	nA
I_{EBO}	$V_{BE}=10\text{V}$		100	nA
BV_{CES}	$I_C=100\mu\text{A}$	30		V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=0.1\text{mA}$		1.5	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$		2.0	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$ (CMPTA13, CMPTA63)	5,000		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$ (CMPTA14, CMPTA64)	10,000		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$ (CMPTA13, CMPTA63)	10,000		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$ (CMPTA14, CMPTA64)	20,000		
f_T	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	125		MHz

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA SHEETS

CMPTA27
NPN
SILICON DARLINGTON TRANSISTOR



SOT-23 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPTA27 type is a Silicon NPN Darlington Transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring extremely high gain.

Marking Code is FG.

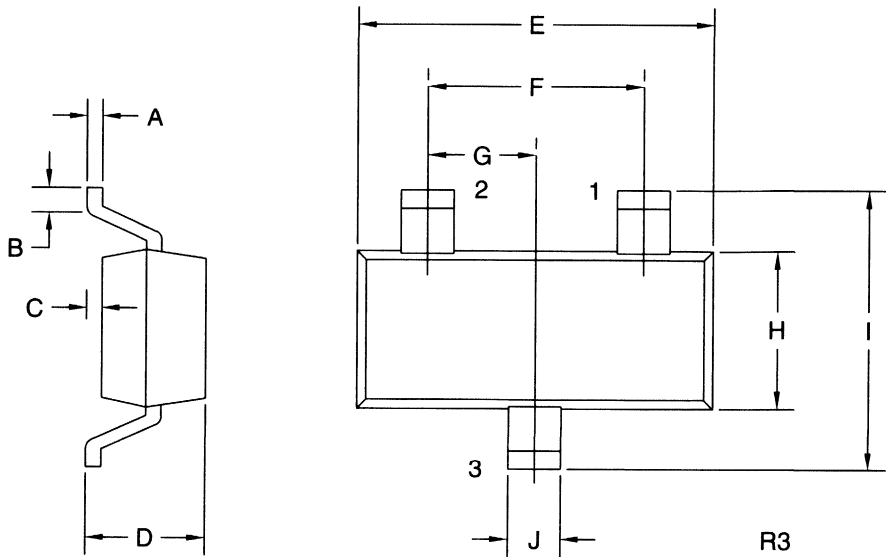
MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CES}	60	V
Emitter-Base Voltage	V_{EBO}	10	V
Collector Current	I_C	500	mA
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	Θ_{JA}	357	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CES}	$V_{CE}=50\text{V}$		500	nA
I_{CBO}	$V_{CB}=50\text{V}$		100	nA
I_{EBO}	$V_{BE}=10\text{V}$		100	nA
BV_{CES}	$I_C=100\mu\text{A}$	60		V
BV_{CBO}	$I_C=100\mu\text{A}$	60		V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=0.1\text{mA}$		1.5	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$		2.0	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	10,000		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$	10,000		
f_T	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	125		MHz

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

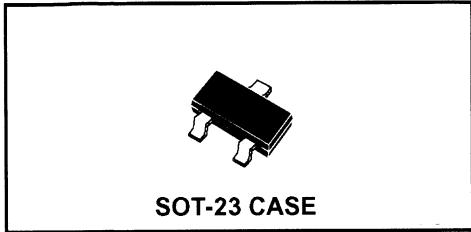
- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)



CMPTA29
HIGH VOLTAGE
NPN SILICON
DARLINGTON TRANSISTOR



CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPTA29 is a Silicon NPN Darlington Transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring extremely high voltage and high gain.

Marking Code is C29.

MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$)

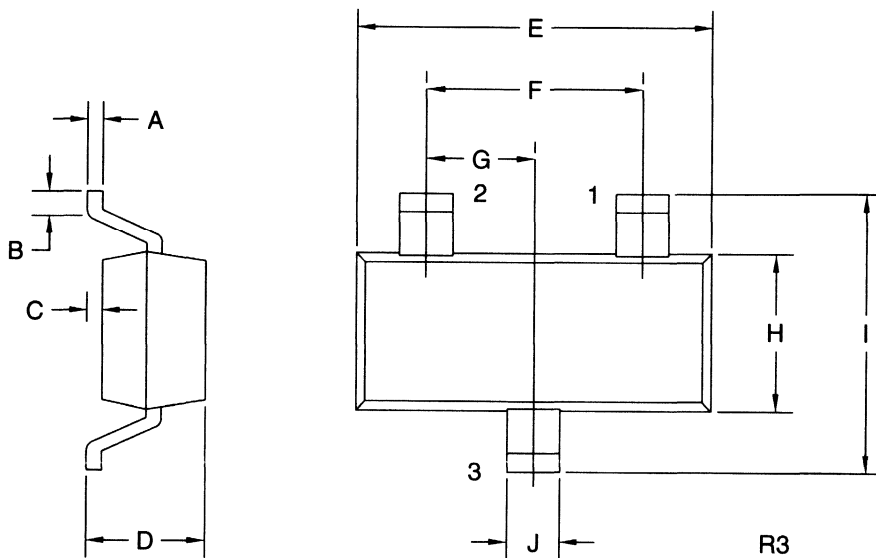
	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CES}	100	V
Emitter-Base Voltage	V_{EBO}	12	V
Collector Current	I_C	500	mA
Power Dissipation	P_D	350	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	357	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CES}	$V_{CE}=80\text{V}$		500	nA
I_{CBO}	$V_{CB}=80\text{V}$		100	nA
I_{EBO}	$V_{BE}=10\text{V}$		100	nA
BV_{CES}	$I_C=100\mu\text{A}$	100		V
BV_{CBO}	$I_C=100\mu\text{A}$	100		V
BV_{EBO}	$I_E=10\mu\text{A}$	12		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=10\mu\text{A}$		1.2	V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=100\text{mA}$		1.5	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$		2.0	V

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=5.0V, I_C=10mA$	10,000		
h_{FE}	$V_{CE}=5.0V, I_C=100mA$	10,000		
f_T	$V_{CE}=5.0V, I_C=10mA, f=100MHz$	125		MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		8.0	pF

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA SHEETS

CMPTA42 NPN
CMPTA92 PNP

SILICON COMPLEMENTARY
HIGH VOLTAGE TRANSISTOR



SOT-23 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPTA42, CMPTA92 types are complementary surface mount epoxy molded silicon planar epitaxial transistors designed for high voltage applications.

**Marking Codes are C1D, C2D
Respectively.**

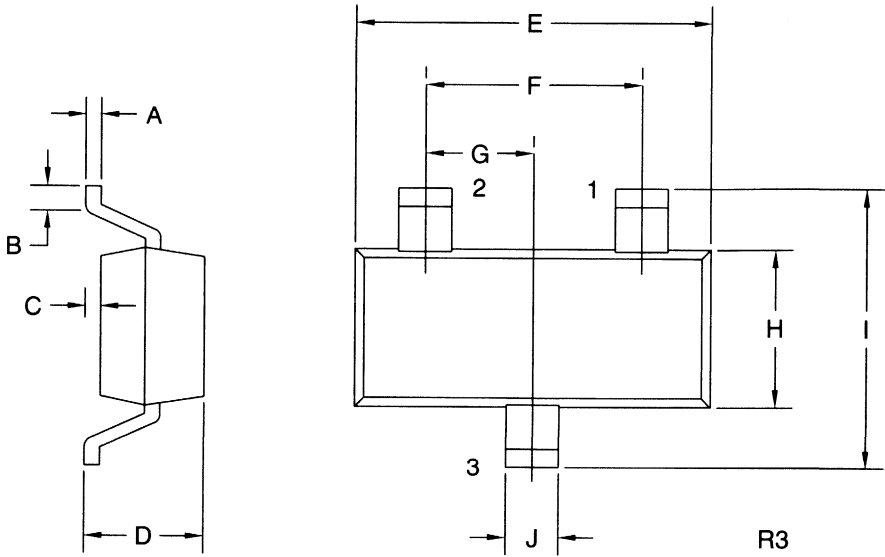
MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL	CMPTA42	CMPTA92	UNITS
Collector-Base Voltage	V_{CB0}	300	300	V
Collector-Emitter Voltage	V_{CEO}	300	300	V
Emitter-Base Voltage	V_{EBO}	6.0	5.0	V
Collector Current	I_C		500	mA
Power Dissipation	P_D		350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}		-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}		357	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	CMPTA42		CMPTA92		UNITS
		MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB}=200\text{V}$		100		250	nA
I_{EBO}	$V_{BE}=6.0\text{V}$		100		-	nA
I_{EBO}	$V_{BE}=3.0\text{V}$		-		100	nA
BV_{CBO}	$I_C=100\mu\text{A}$	300		300		V
BV_{CEO}	$I_C=1.0\text{mA}$	300		300		V
BV_{EBO}	$I_E=100\mu\text{A}$	6.0		5.0		V
$V_{CE(SAT)}$	$I_C=20\text{mA}, I_B=2.0\text{mA}$		0.5		0.5	V
$V_{BE(SAT)}$	$I_C=20\text{mA}, I_B=2.0\text{mA}$		0.9		0.9	V
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	25		25		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	40		40		
h_{FE}	$V_{CE}=10\text{V}, I_C=30\text{mA}$	40		25		
f_T	$V_{CE}=20\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	50		50		MHz
C_{ob}	$V_{CB}=20\text{V}, I_E=0, f=1.0\text{MHz}$		3.0		6.0	pF

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)



CMPTA44

**NPN SILICON EXTREMELY
HIGH VOLTAGE TRANSISTOR**



SOT-23 CASE

CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPTA44 type is a surface mount epoxy molded silicon planar epitaxial transistors designed for extremely high voltage applications.

Marking Code is C3Z.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

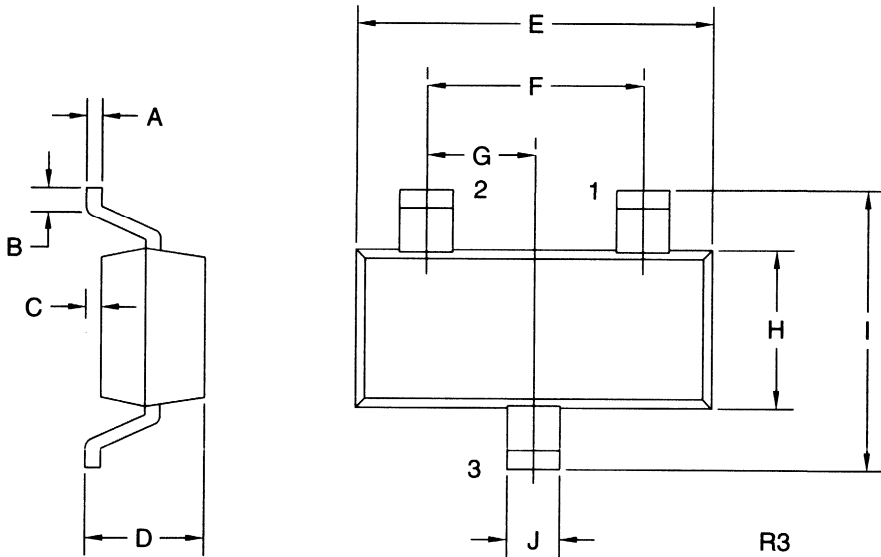
	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	450	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	300	mA
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	Θ_{JA}	357	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=400\text{V}$		100	nA
I_{CES}	$V_{CE}=400\text{V}$		500	nA
I_{EBO}	$V_{BE}=4.0\text{V}$		100	nA
BV_{CBO}	$I_C=100\mu\text{A}$	450		V
BV_{CES}	$I_C=100\mu\text{A}$	450		V
BV_{CEO}	$I_C=1.0\text{mA}$	400		V
BV_{EBO}	$I_E=10\mu\text{A}$	6.0		V
$V_{CE(SAT)}$	$I_C=1.0\text{mA}, I_B=0.1\text{mA}$		0.40	V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.50	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.75	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.75	V
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	40		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	50	200	

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=10V, I_C=50mA$	45		
h_{FE}	$V_{CE}=10V, I_C=100mA$	20		
f_T	$V_{CE}=10V, I_C=10mA, f=10MHz$	20		MHz
C_{ob}	$V_{CB}=20V, I_E=0, f=1.0MHz$		7.0	pF
C_{ib}	$V_{EB}=0.5V, I_C=0, f=1.0MHz$		130	pF

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

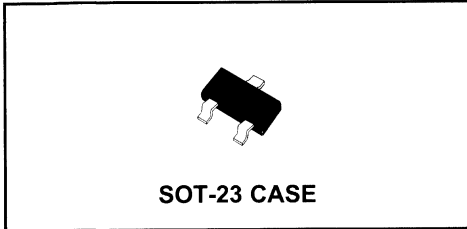
- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA
SHEETS

NEW CMPTA94
**SURFACE MOUNT
 PNP SILICON
 HIGH VOLTAGE TRANSISTOR**



CentralTM Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPTA94 type is a surface mount epoxy molded PNP silicon planar epitaxial transistors designed for extremely high voltage applications.

Marking Code is C94.

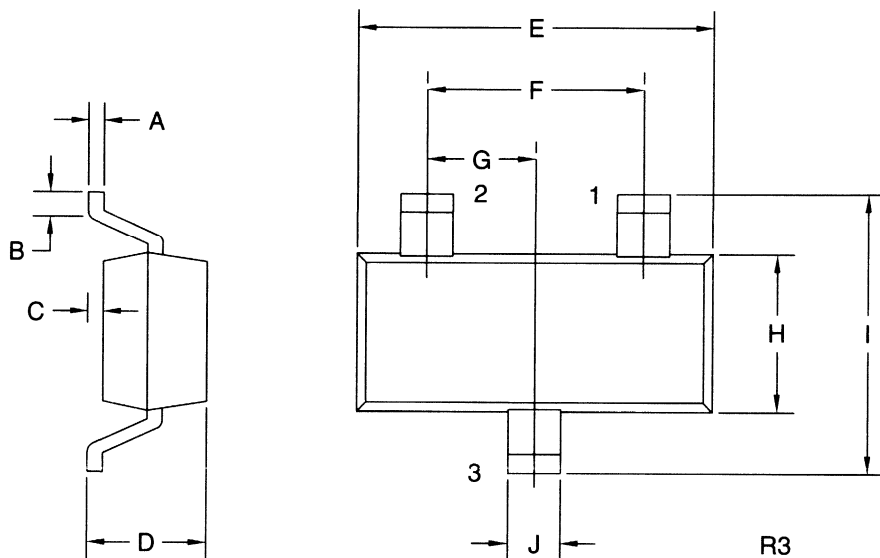
MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	400	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	300	mA
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	357	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=350\text{V}$		100	nA
I_{CES}	$V_{CE}=350\text{V}$		500	nA
I_{EBO}	$V_{BE}=4.0\text{V}$		100	nA
BV_{CBO}	$I_C=100\mu\text{A}$	400		V
BV_{CES}	$I_C=100\mu\text{A}$	400		V
BV_{CEO}	$I_C=1.0\text{mA}$	400		V
BV_{EBO}	$I_E=10\mu\text{A}$	6.0		V
$V_{CE(SAT)}$	$I_C=1.0\text{mA}, I_B=0.1\text{mA}$		0.40	V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.50	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.75	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.75	V
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	40		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	50	200	
h_{FE}	$V_{CE}=10\text{V}, I_C=50\text{mA}$	45		
h_{FE}	$V_{CE}=10\text{V}, I_C=100\text{mA}$	20		
f_T	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=10\text{MHz}$	20		MHz
C_{ob}	$V_{CB}=20\text{V}, I_E=0, f=1.0\text{MHz}$		7.0	pF
C_{ib}	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		130	pF

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

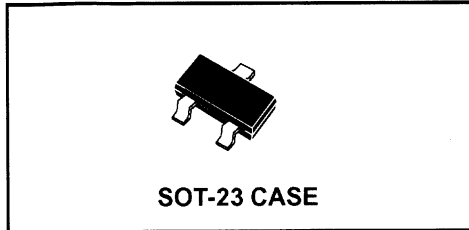
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)



CMPH10

NPN SILICON RF TRANSISTOR



CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPH10 type is an NPN silicon RF transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for low noise UHF/VHF amplifier and high output oscillator applications.

Marking code is C3E.

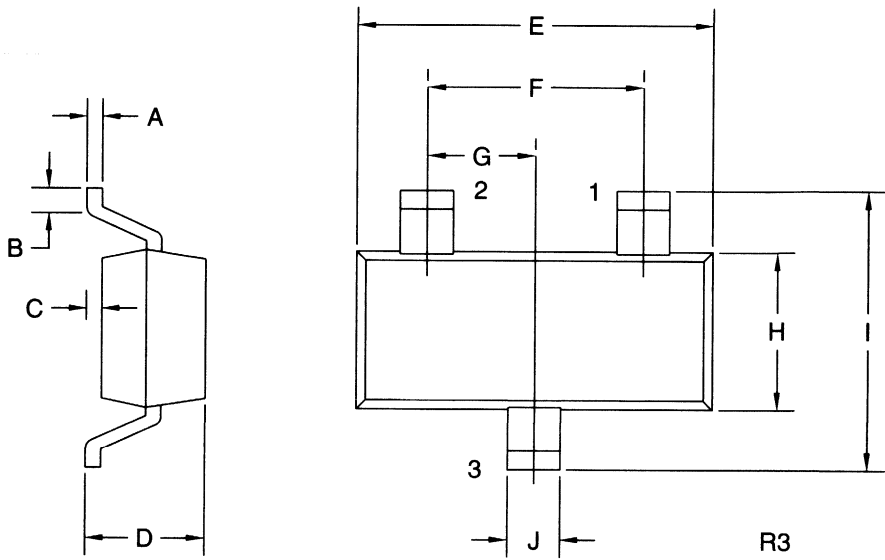
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	30	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	357	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=25\text{V}$		100	nA
I_{EBO}	$V_{EB}=2.0\text{V}$		100	nA
BV_{CBO}	$I_C=100\mu\text{A}$	30		V
BV_{CEO}	$I_C=1.0\text{mA}$	25		V
BV_{EBO}	$I_E=10\mu\text{A}$	3.0		V
$V_{CE(SAT)}$	$I_C=4.0\text{mA}, I_B=0.4\text{mA}$		0.50	V
$V_{BE(ON)}$	$V_{CE}=10\text{V}, I_B=4.0\text{mA}$		0.95	V
h_{FE}	$V_{CE}=10\text{V}, I_C=4.0\text{mA}$	60		
f_T	$V_{CE}=10\text{V}, I_C=4.0\text{mA}, f=100\text{MHz}$	650		MHz
C_{cb}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		0.70	pF
C_{rb}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		0.65	pF
$rb'C_C$	$V_{CB}=10\text{V}, I_C=4.0\text{mA}, f=31.8\text{MHz}$		9.0	ps

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA SHEETS

**CMPZ4099
THRU
CMPZ4124**

**LOW NOISE ZENER DIODE
6.8 VOLTS THRU 43 VOLTS
350mW, 5% TOLERANCE**



SOT-23 CASE

Central™
Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR CMPZ4099 Series types are high quality Silicon Zener Diodes designed for low leakage, low current and low noise applications.

NOTE: For lower voltage devices, see CMPZ4614 series.

MAXIMUM RATINGS

Power Dissipation (@ $T_A=25^{\circ}\text{C}$)
Operating and Storage Temperature

SYMBOL

P_D 350
 T_J, T_{stg} -65 to +150

UNIT

mW
 $^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$) $V_F=1.0\text{V MAX}$ @ $I_F=200\text{mA}$ FOR ALL TYPES

TYPE	ZENER VOLTAGE			TEST CURRENT	MAXIMUM ZENER IMPEDENCE	MAX REVERSE LEAKAGE CURRENT		MAXIMUM ZENER CURRENT	MAXIMUM NOISE DENSITY
	$V_Z@I_ZT$					I_ZT	$I_R@V_R$		
	MIN	NOM	MAX	$Z_{JT@I_ZT}$	μA		VOLTS	I_ZM	$N_D@I_ZT$
	VOLTS	VOLTS	VOLTS	μA	Ω	μA		mA	$\mu\text{V}/\text{Hz}$
CMPZ4099*	6.460	6.8	7.140	250	200	10	5.2	35.0	40
CMPZ4100*	7.125	7.5	7.865	250	200	10	5.7	31.8	40
CMPZ4101*	7.790	8.2	8.610	250	200	1.0	6.3	29.0	40
CMPZ4102*	8.265	8.7	9.135	250	200	1.0	6.7	27.4	40
CMPZ4103*	8.645	9.1	9.555	250	200	1.0	7.0	26.2	40
CMPZ4104*	9.500	10	10.50	250	200	1.0	7.6	24.8	40
CMPZ4105*	10.45	11	11.55	250	200	0.05	8.5	21.6	40
CMPZ4106*	11.40	12	12.60	250	200	0.05	9.2	20.4	40
CMPZ4107*	12.35	13	13.65	250	200	0.05	9.9	19.0	40
CMPZ4108*	13.30	14	14.70	250	200	0.05	10.7	17.5	40
CMPZ4109*	14.25	15	15.75	250	100	0.05	11.4	16.3	40
CMPZ4110*	15.20	16	16.80	250	100	0.05	12.2	15.4	40
CMPZ4111*	16.15	17	17.85	250	100	0.05	13.0	14.5	40
CMPZ4112*	17.10	18	18.90	250	100	0.05	13.7	13.2	40
CMPZ4113*	18.05	19	19.95	250	150	0.05	14.5	12.5	40
CMPZ4114*	19.00	20	21.00	250	150	0.01	15.2	11.9	40
CMPZ4115*	20.90	22	23.10	250	150	0.01	16.8	10.8	40
CMPZ4116*	22.80	24	25.20	250	150	0.01	18.3	9.9	40

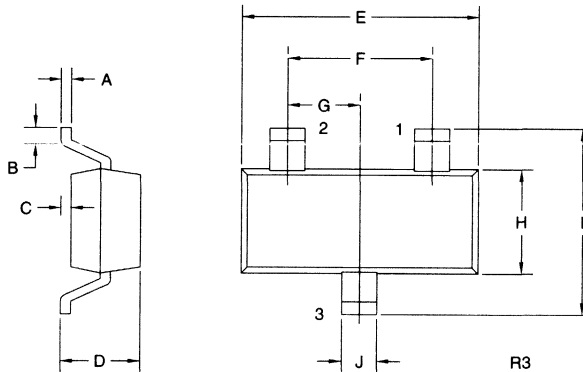
* Available on special order only, please consult factory.

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$), $V_F=1.0\text{V MAX @ } I_F = 200\text{mA}$ FOR ALL TYPES.

TYPE	ZENER VOLTAGE			TEST CURRENT	MAXIMUM ZENER IMPEDENCE	MAX REVERSE LEAKAGE CURRENT		MAXIMUM ZENER CURRENT	MAXIMUM NOISE DENSITY
	$V_Z@I_{ZT}$			I_{ZT}	$Z_{ZT}@I_{ZT}$	$I_R@V_R$		I_{ZM}	$N_D@I_{ZT}$
	MIN	NOM	MAX						
	VOLTS	VOLTS	VOLTS	μA	Ω	μA	VOLTS	mA	$\mu\text{V}/\sqrt{\text{Hz}}$
CMPZ4117*	23.75	25	26.25	250	150	0.01	19.0	9.5	40
CMPZ4118*	25.65	27	28.35	250	150	0.01	20.5	8.8	40
CMPZ4119*	26.60	28	29.40	250	200	0.01	21.3	8.5	40
CMPZ4120*	28.50	30	31.50	250	200	0.01	22.8	7.9	40
CMPZ4121*	31.35	33	34.65	250	200	0.01	25.1	7.2	40
CMPZ4122*	34.20	36	37.80	250	200	0.01	27.4	6.6	40
CMPZ4123*	37.05	39	40.95	250	200	0.01	29.7	6.1	40
CMPZ4124*	40.85	43	45.15	250	250	0.01	32.7	5.5	40

* Available on special order only, please consult factory.

SOT-23 CASE - MECHANICAL OUTLINE



DATA SHEETS

LEAD CODE:

- 1) ANODE
- 2) NO CONNECTION
- 3) CATHODE

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

CMPZ4614
THRU
CMPZ4627

350mW LOW NOISE ZENER DIODE
5% TOLERANCE



SOT-23 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPZ4614 Series Silicon Zener Diode is high quality voltage regulator designed for low leakage, low current and low noise applications.

MAXIMUM RATINGS

Power Dissipation (@ $T_A=25^\circ\text{C}$)
Operating and Storage Temperature

SYMBOL

P_D 350
 T_J, T_{stg} -65 to +150

UNIT

mW
 $^\circ\text{C}$

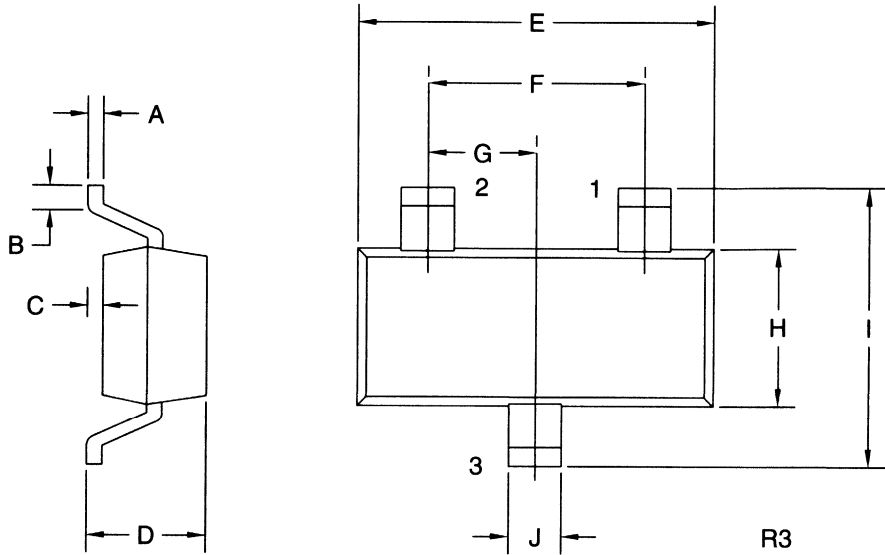
ELECTRICAL CHARACTERISTICS

($T_A=25^\circ\text{C}$) $V_F=1.0$ MAX @ $I_F=200\text{mA}$ FOR ALL TYPES.

TYPE NO.	ZENER VOLTAGE	TEST CURRENT	MAXIMUM ZENER IMPEDANCE	MAXIMUM REVERSE LEAKAGE CURRENT		MAXIMUM ZENER CURRENT	MAXIMUM NOISE DENSITY
	$V_Z @ I_{ZT}$	I_{ZT}	$Z_{ZT} @ I_{ZT}$	$I_R @ V_R$		I_{ZM}	$N_D @ I_{ZT}=250\mu\text{A}$
	VOLTS	μA	Ω	μA	VOLTS	mA	$\mu\text{V}/\sqrt{\text{Hz}}$
CMPZ4614*	1.8	250	1200	7.5	1.0	120	1.0
CMPZ4615*	2.0	250	1250	5.0	1.0	110	1.0
CMPZ4616*	2.2	250	1300	4.0	1.0	100	1.0
CMPZ4617*	2.4	250	1400	2.0	1.0	95	1.0
CMPZ4618*	2.7	250	1500	1.0	1.0	90	1.0
CMPZ4619*	3.0	250	1600	0.8	1.0	85	1.0
CMPZ4620*	3.3	250	1650	7.5	1.5	80	1.0
CMPZ4621*	3.6	250	1700	7.5	2.0	75	1.0
CMPZ4622*	3.9	250	1650	5.0	2.0	70	1.0
CMPZ4623*	4.3	250	1600	4.0	2.0	65	1.0
CMPZ4624*	4.7	250	1550	10	3.0	60	1.0
CMPZ4625*	5.1	250	1500	10	3.0	55	2.0
CMPZ4626*	5.6	250	1400	10	4.0	50	4.0
CMPZ4627*	6.2	250	1200	10	5.0	45	5.0

* Available on special order only, please consult factory.

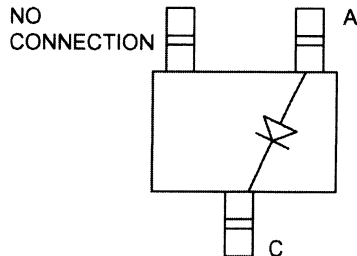
SOT-23 CASE - MECHANICAL OUTLINE



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

DATA
SHEETS



**CMPZ4678
THRU
CMPZ4717**

**350mW LOW LEVEL ZENER DIODE
5% TOLERANCE**



SOT-23 Case

**Central™
Semiconductor Corp.**

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPZ4678 Series Silicon Zener Diode is a high quality voltage regulator designed for applications requiring an extremely low operating current and low leakage.

MAXIMUM RATINGS

Power Dissipation (@ $T_A=25^{\circ}\text{C}$)
Operating and Storage Temperature

SYMBOL

P_D
 T_J, T_{stg}

350
-65 to +150

UNIT

mW
 $^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

($T_A=25^{\circ}\text{C}$) $V_F=1.5\text{V MAX @ } I_F=100\text{mA}$ FOR ALL TYPES.

Type No.	Nominal Zener Voltage $V_Z @ I_{ZT}$ Volts	Test Current I_{ZT} μA	MAXIMUM REVERSE LEAKAGE CURRENT		Maximum Voltage Change** ΔV_Z Volts	Maximum Zener Current I_{ZM} mA
			$I_R @ V_R$			
			μA	Volts		
CMPZ4678*	1.8	50	7.5	1.0	0.70	120.0
CMPZ4679*	2.0	50	5.0	1.0	0.70	110.0
CMPZ4680*	2.2	50	4.0	1.0	0.75	100.0
CMPZ4681*	2.4	50	2.0	1.0	0.80	95.0
CMPZ4682*	2.7	50	1.0	1.0	0.85	90.0
CMPZ4683*	3.0	50	0.8	1.0	0.90	85.0
CMPZ4684*	3.3	50	7.5	1.5	0.95	80.0
CMPZ4685*	3.6	50	7.5	2.0	0.95	75.0
CMPZ4686*	3.9	50	5.0	2.0	0.97	70.0
CMPZ4687*	4.3	50	4.0	2.0	0.99	65.0
CMPZ4688*	4.7	50	10	3.0	0.99	60.0
CMPZ4689*	5.1	50	10	3.0	0.97	55.0
CMPZ4690*	5.6	50	10	4.0	0.96	50.0
CMPZ4691*	6.2	50	10	5.0	0.95	45.0
CMPZ4692*	6.8	50	10	5.1	0.90	35.0
CMPZ4693*	7.5	50	10	5.7	0.75	31.8
CMPZ4694*	8.2	50	1.0	6.2	0.50	29.0
CMPZ4695*	8.7	50	1.0	6.6	0.10	27.4
CMPZ4696*	9.1	50	1.0	6.9	0.08	26.2
CMPZ4697*	10	50	1.0	7.6	0.10	24.8
CMPZ4698*	11	50	0.05	8.4	0.11	21.6
CMPZ4699*	12	50	0.05	9.1	0.12	20.4

* Available on special order only, please consult factory.

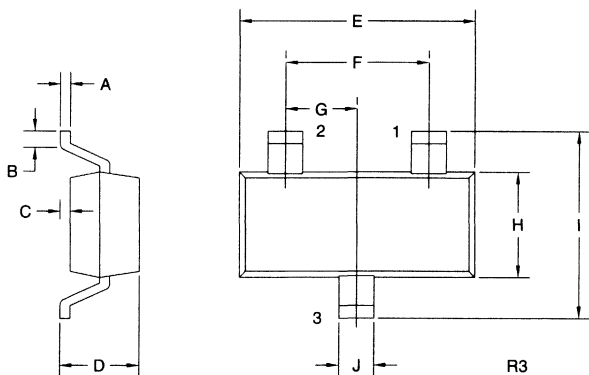
** $\Delta V_Z = V_Z @ 100\mu\text{A}$ MINUS $V_Z @ 10\mu\text{A}$.

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$), $V_F=1.5\text{V MAX @ } I_F = 100\text{mA}$ FOR ALL TYPES.

Type No.	Nominal Zener Voltage $V_Z @ I_{ZT}$ Volts	Test Current I_{ZT} μA	MAXIMUM REVERSE LEAKAGE CURRENT		Maximum Voltage Change** ΔV_Z Volts	Maximum Zener Current I_{ZM} mA
			$I_R @ V_R$ μA	Volts		
CMPZ4700*	13	50	0.05	9.8	0.13	19.0
CMPZ4701*	14	50	0.05	10.6	0.14	17.5
CMPZ4702*	15	50	0.05	11.4	0.15	16.3
CMPZ4703*	16	50	0.05	12.1	0.16	15.4
CMPZ4704*	17	50	0.05	12.9	0.17	14.5
CMPZ4705*	18	50	0.05	13.6	0.18	13.2
CMPZ4706*	19	50	0.05	14.4	0.19	12.5
CMPZ4707*	20	50	0.01	15.2	0.20	11.9
CMPZ4708*	22	50	0.01	16.7	0.22	10.8
CMPZ4709*	24	50	0.01	18.2	0.24	9.9
CMPZ4710*	25	50	0.01	19.0	0.25	9.5
CMPZ4711*	27	50	0.01	20.4	0.27	8.8
CMPZ4712*	28	50	0.01	21.2	0.28	8.5
CMPZ4713*	30	50	0.01	22.8	0.30	7.9
CMPZ4714*	33	50	0.01	25.0	0.33	7.2
CMPZ4715*	36	50	0.01	27.3	0.36	6.6
CMPZ4716*	39	50	0.01	29.6	0.39	6.1
CMPZ4717*	43	50	0.01	32.6	0.43	5.5

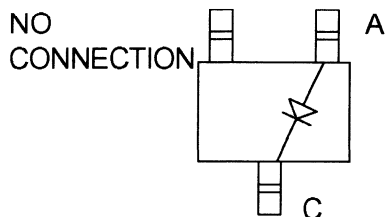
* Available on special order only, please consult factory.

** $\Delta V_Z = V_Z @ 100\mu\text{A}$ MINUS $V_Z @ 10\mu\text{A}$.



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)



**CMPZ5221B
THRU
CMPZ5262B**

**350 mW ZENER DIODE
5% TOLERANCE**



SOT-23 CASE

**Central™
Semiconductor Corp.**

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPZ5221B Series Silicon Zener Diode is a high quality voltage regulator for use in industrial, commercial, entertainment and computer applications. Higher voltage devices are available on special order.

ABSOLUTE MAXIMUM RATINGS

Power Dissipation (@ $T_A=25^\circ\text{C}$)
Operating and Storage Temperature

SYMBOL

P_D 350
 T_J, T_{stg} -65 to + 175

UNITS

mW
 $^\circ\text{C}$

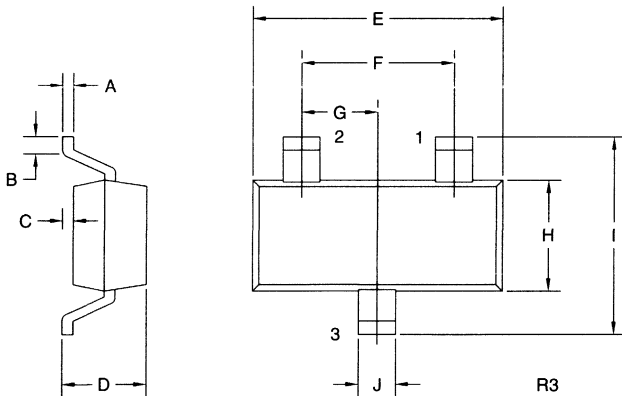
ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$), $V_F=0.9\text{V MAX @ } I_F = 10\text{mA}$ FOR ALL TYPES.

TYPE	ZENER VOLTAGE			TEST CURRENT	MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE CURRENT		MAX. TEMP. COEFF.	MARKING CODE
	$V_Z @ I_ZT$				I_ZT	$Z_{ZT} @ I_ZT$	$Z_{ZK} @ I_{ZK}$	$I_R @ V_R$			
	MIN VOLTS	NOM VOLTS	MAX VOLTS	mA				Ω	Ω	mA		$\mu\text{A}$	VOLTS	$\% / ^\circ\text{C}$
CMPZ5221B	2.280	2.4	2.520	20	30	1200	0.25	100	1.0	-0.085	18A
CMPZ5222B	2.375	2.5	2.625	20	30	1250	0.25	100	1.0	-0.085	18B
CMPZ5223B	2.565	2.7	2.835	20	30	1300	0.25	75	1.0	-0.080	18C
CMPZ5224B	2.660	2.8	2.940	20	30	1400	0.25	75	1.0	-0.080	18D
CMPZ5225B	2.850	3.0	3.150	20	29	1600	0.25	50	1.0	-0.075	18E
CMPZ5226B	3.135	3.3	3.465	20	28	1600	0.25	25	1.0	-0.070	C8A
CMPZ5227B	3.420	3.6	3.780	20	24	1700	0.25	15	1.0	-0.065	C8B
CMPZ5228B	3.705	3.9	4.095	20	23	1900	0.25	10	1.0	-0.060	C8C
CMPZ5229B	4.085	4.3	4.515	20	22	2000	0.25	5.0	1.0	± 0.055	C8D
CMPZ5230B	4.465	4.7	4.935	20	19	1900	0.25	5.0	2.0	± 0.030	C8E
CMPZ5231B	4.845	5.1	5.355	20	17	1600	0.25	5.0	2.0	± 0.030	C8F
CMPZ5232B	5.320	5.6	5.880	20	11	1600	0.25	5.0	3.0	+0.038	C8G
CMPZ5233B	5.700	6.0	6.300	20	7.0	1600	0.25	5.0	3.5	+0.038	C8H
CMPZ5234B	5.890	6.2	6.510	20	7.0	1000	0.25	5.0	4.0	+0.045	C8J
CMPZ5235B	6.460	6.8	7.140	20	5.0	750	0.25	3.0	5.0	+0.050	C8K
CMPZ5236B	7.125	7.5	7.875	20	6.0	500	0.25	3.0	6.0	+0.058	C8L
CMPZ5237B	7.790	8.2	8.610	20	8.0	500	0.25	3.0	6.5	+0.062	C8M
CMPZ5238B	8.265	8.7	9.135	20	8.0	600	0.25	3.0	6.5	+0.065	C8N
CMPZ5239B	8.645	9.1	9.555	20	10	600	0.25	3.0	7.0	+0.068	C8P
CMPZ5240B	9.500	10	10.50	20	17	600	0.25	3.0	8.0	+0.075	C8Q
CMPZ5241B	10.45	11	11.55	20	22	600	0.25	2.0	8.4	+0.076	C8R
CMPZ5242B	11.40	12	12.60	20	30	600	0.25	1.0	9.1	+0.077	C8S
CMPZ5243B	12.35	13	13.65	9.5	13	600	0.25	0.5	9.9	+0.079	C8T
CMPZ5244B	13.30	14	14.70	9.0	15	600	0.25	0.1	10	+0.082	C8U

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$), $V_F=0.9\text{V MAX @ } I_F = 10\text{mA}$ FOR ALL TYPES.

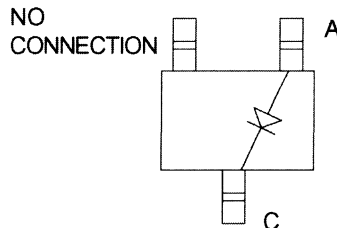
TYPE	ZENER VOLTAGE			TEST CURRENT	MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE CURRENT		MAX. TEMP. COEFF.	MARKING CODE
	$V_Z @ I_{ZT}$				I_{ZT}	$Z_{ZT} @ I_{ZT}$		$I_R @ V_R$			
	MIN VOLTS	NOM VOLTS	MAX VOLTS	mA		Ω	Ω	μA	VOLTS	$\frac{\partial V_Z}{\%^\circ\text{C}}$	
CMPZ5245B	14.25	15	15.75	8.5	16	600	0.25	0.1	11	+0.082	C8V
CMPZ5246B	15.20	16	16.80	7.8	17	600	0.25	0.1	12	+0.083	C8W
CMPZ5247B	16.15	17	17.85	7.4	19	600	0.25	0.1	13	+0.084	C8X
CMPZ5248B	17.10	18	18.90	7.0	21	600	0.25	0.1	14	+0.085	C8Y
CMPZ5249B	18.05	19	19.95	6.6	23	600	0.25	0.1	14	+0.086	C8Z
CMPZ5250B	19.00	20	21.00	6.2	25	600	0.25	0.1	15	+0.086	81A
CMPZ5251B	20.90	22	23.10	5.6	29	600	0.25	0.1	17	+0.087	81B
CMPZ5252B	22.80	24	25.20	5.2	33	600	0.25	0.1	18	+0.088	81C
CMPZ5253B	23.75	25	26.25	5.0	35	600	0.25	0.1	19	+0.089	81D
CMPZ5254B	25.65	27	28.35	4.6	41	600	0.25	0.1	21	+0.090	81E
CMPZ5255B	26.60	28	29.40	4.5	44	600	0.25	0.1	21	+0.091	81F
CMPZ5256B	28.50	30	31.50	4.2	49	600	0.25	0.1	23	+0.091	81G
CMPZ5257B	31.35	33	34.65	3.8	58	700	0.25	0.1	25	+0.092	81H
CMPZ5258B	34.20	36	37.80	3.4	70	700	0.25	0.1	27	+0.093	81J
CMPZ5259B	37.05	39	40.95	3.2	80	800	0.25	0.1	30	+0.094	81K
CMPZ5260B	40.85	43	45.15	3.0	93	900	0.25	0.1	33	+0.095	81L
CMPZ5261B	44.65	47	49.35	2.7	105	1000	0.25	0.1	36	+0.095	81M
CMPZ5262B	48.45	51	53.55	2.5	125	1100	0.25	0.1	39	+0.096	81N

SOT-23 CASE - MECHANICAL OUTLINE



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)



CMPZDA3V6 THRU CMPZDA33V

**DUAL ZENER DIODE
3.6 VOLTS THRU 33 VOLTS
350mW, 5% TOLERANCE**



SOT-23 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPZDA3V6 Series Silicon Dual Zener Diode is a high quality voltage regulator, connected in a common anode configuration, for use in industrial, commercial, entertainment and computer applications.

ABSOLUTE MAXIMUM RATINGS

Power Dissipation (@ $T_A=25^{\circ}\text{C}$)
Operating and Storage Temperature
Thermal Resistance

SYMBOL

P_D 350
 T_J, T_{stg} -65 to +150
 Θ_{JA} 357

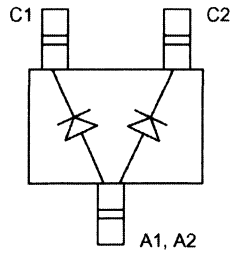
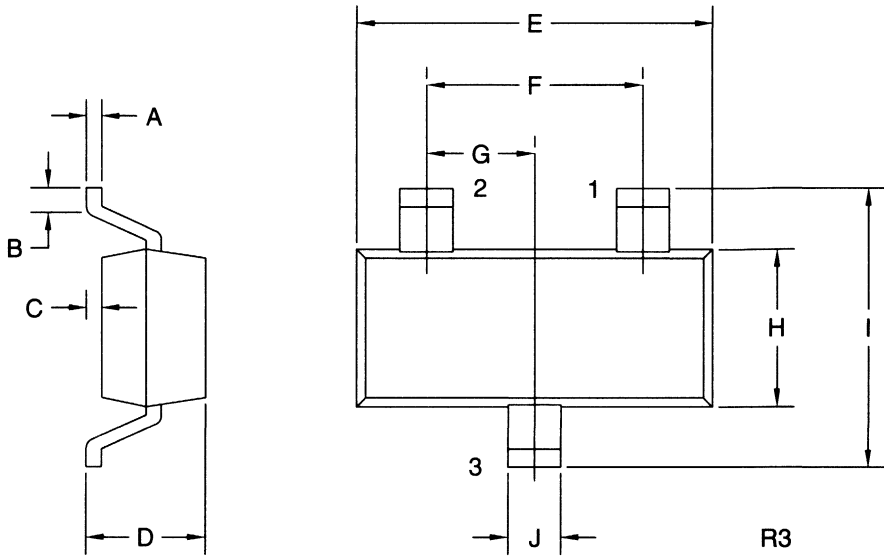
UNIT

mW
 $^{\circ}\text{C}$
 $^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$), $V_F=0.9\text{V MAX @ } I_F=10\text{mA}$ FOR ALL TYPES.

TYPE NO.	ZENER VOLTAGE $V_Z @ I_ZT$		TEST CURRENT I_ZT	MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE CURRENT		MAXIMUM ZENER CURRENT I_{ZM}	MAXIMUM ZENER VOLTAGE TEMPERATURE COEFFICIENT ΘV_Z	MARKING CODE
	MIN	MAX		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_R @ V_R$					
	VOLTS	VOLTS				Ω	Ω	μA}				VOLTS
CMPZDA3V6	3.4	3.8	5.0	95	600	1.0	2.0	1.0	45	-0.06	WW7
CMPZDA3V9	3.7	4.1	5.0	90	600	1.0	2.0	1.0	43	-0.06	WW8
CMPZDA4V3	4.0	4.6	5.0	90	600	1.0	1.0	1.0	40	-0.05	WW9
CMPZDA4V7	4.4	5.0	5.0	80	500	1.0	3.0	2.0	38	-0.03	ZZ1
CMPZDA5V1	4.8	5.4	5.0	60	480	1.0	2.0	2.0	35	0.02	ZZ2
CMPZDA5V6	5.2	6.0	5.0	40	400	1.0	1.0	2.0	32	0.03	ZZ3
CMPZDA6V2	5.8	6.6	5.0	10	150	1.0	3.0	4.0	28	0.04	ZZ4
CMPZDA6V8	6.4	7.2	5.0	15	80	1.0	2.0	4.0	25	0.05	ZZ5
CMPZDA7V5	7.0	7.9	5.0	15	80	1.0	1.0	5.0	23	0.05	ZZ6
CMPZDA8V2	7.7	8.7	5.0	15	80	1.0	0.7	5.0	21	0.06	ZZ7
CMPZDA9V1	8.5	9.6	5.0	15	100	1.0	0.5	6.0	18	0.06	ZZ8
CMPZDA10V	9.4	10.6	5.0	20	150	1.0	0.2	7.0	16	0.07	ZZ9
CMPZDA11V	10.4	11.6	5.0	20	150	1.0	0.1	8.0	15	0.07	YY1
CMPZDA12V	11.4	12.7	5.0	25	150	1.0	0.1	8.0	13	0.07	YY2
CMPZDA13V	12.4	14.1	5.0	30	170	1.0	0.1	8.0	12	0.08	YY3
CMPZDA15V	13.8	15.6	5.0	30	200	1.0	0.05	10.5	11	0.08	YY4
CMPZDA16V	15.3	17.1	5.0	40	200	1.0	0.05	11.2	10	0.08	YY5
CMPZDA18V	16.8	19.1	5.0	45	225	1.0	0.05	12.6	9.2	0.08	YY6
CMPZDA20V	18.8	21.2	5.0	55	225	1.0	0.05	14.0	8.3	0.08	YY7
CMPZDA22V	20.8	23.3	5.0	55	250	1.0	0.05	15.4	7.6	0.09	YY8
CMPZDA24V	22.8	25.6	5.0	70	250	1.0	0.05	16.8	7.0	0.09	YY9
CMPZDA27V	25.1	28.9	2.0	80	300	0.5	0.05	18.9	6.2	0.09	W10
CMPZDA30V	28.0	32.0	2.0	80	300	0.5	0.05	21.0	5.6	0.09	W11
CMPZDA33V	31.0	35.0	2.0	80	325	0.5	0.05	23.1	5.0	0.09	W12

SOT-23 CASE - MECHANICAL OUTLINE



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

**DATA
SHEETS**

CMR1-02
 CMR1-04
 CMR1-06
 CMR1-10

GENERAL PURPOSE RECTIFIER
 1.0 AMP, 200 THRU 1,000 VOLTS



SMB CASE

CentralTM Semiconductor Corp.

FEATURES:

- LOW COST
- HIGH RELIABILITY
- SPECIAL SELECTIONS AVAILABLE
- GLASS PASSIVATED CHIP
- SUPERIOR LOT TO LOT CONSISTENCY
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD

DESCRIPTION: The CENTRAL SEMICONDUCTOR 1.0 Amp Surface Mount Silicon Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications. To order devices on 12mm Tape and Reel (3000/13" Reel), add TR13 suffix to part number.

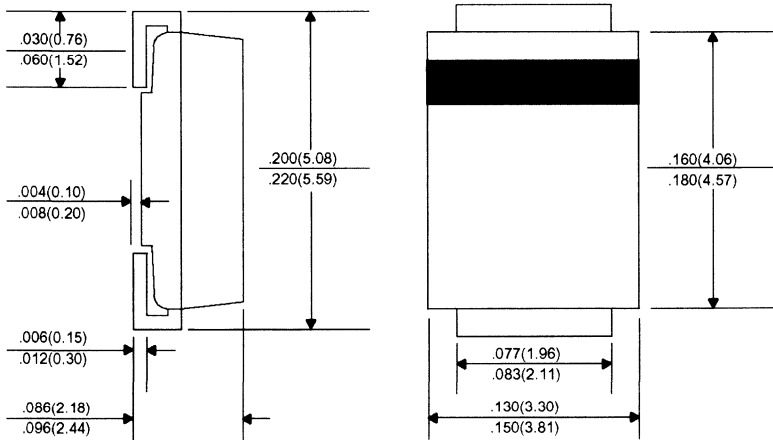
MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

	SYMBOL	CMR1-02	CMR1-04	CMR1-06	CMR1-10	UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	200	400	600	1000	V
DC Blocking Voltage	V_R	200	400	600	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	140	280	420	700	V
Average Forward Current ($T_A=75^{\circ}\text{C}$)	I_O			1.0		A
Peak Forward Surge Current (8.3ms)	I_{FSM}			30		A
Operating and Storage						
Junction Temperature	T_J, T_{stg}		-65 to +175			$^{\circ}\text{C}$
Thermal Resistance	θ_{JL}		20			$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
V_F	$I_F=1.0\text{A}$		1.1	V
I_R	$V_R=\text{Rated } V_{RRM}$		10	μA
I_R	$V_R=\text{Rated } V_{RRM}, T_A=125^{\circ}\text{C}$		50	μA

All dimensions in inches (mm).



Marking Codes:

DEVICE	MARKING CODE
CMR1-02	C02
CMR1-04	C04
CMR1-06	C06
CMR1-10	C10



CMR1-02M
 CMR1-04M
 CMR1-06M
 CMR1-10M

GENERAL PURPOSE RECTIFIER
 1.0 AMP, 200 THRU 1,000 VOLTS

SUPER
 mini



SMA CASE

CentralTM
 Semiconductor Corp.

FEATURES:

- SUPER MINIATURE CASE
- SPECIAL SELECTIONS AVAILABLE
- LOW COST
- SUPERIOR LOT TO LOT CONSISTENCY
- HIGH RELIABILITY
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD
- GLASS PASSIVATED CHIP

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 1.0 Amp Surface Mount Silicon Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications where small size is required. The SMA case occupies 30% less board space than the SMB case. To order devices on 12mm Tape and Reel (5000/13" Reel), add TR13 suffix to part number.

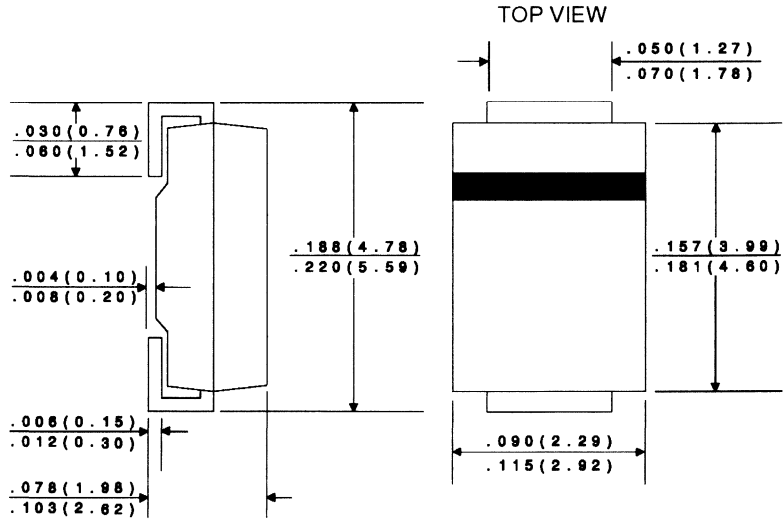
MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

	SYMBOL	CMR1-02M	CMR1-04M	CMR1-06M	CMR1-10M	UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	200	400	600	1000	V
DC Blocking Voltage	V_R	200	400	600	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	140	280	420	700	V
Average Forward Current ($T_L=100^{\circ}\text{C}$)	I_O			1.0		A
Peak Forward Surge Current (8.3ms)	I_{FSM}			30		A
Operating and Storage						
Junction Temperature	T_J, T_{stg}		-65 to +150			$^{\circ}\text{C}$
Thermal Resistance	θ_{JL}		30			$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
V_F	$I_F=1.0\text{A}$			1.1	V
I_R	$V_R=\text{Rated } V_{RRM}$			5.0	μA
I_R	$V_R=\text{Rated } V_{RRM}, T_A=125^{\circ}\text{C}$			50	μA
C_J	$V_R=4.0\text{V}, f=1.0\text{MHz}$		8.0		pF

All dimensions in inches (mm).



DEVICE	MARKING CODE
CMR1-02M	C02M
CMR1-04M	C04M
CMR1-06M	C06M
CMR1-10M	C10M

**DATA
SHEETS**

R1

CMR1F-02M
 CMR1F-04M
 CMR1F-06M
 CMR1F-10M

FAST RECOVERY RECTIFIER
1.0 AMP, 200 THRU 1,000 VOLTS

SUPER[™]
mini



SMA CASE

Central[™]

Semiconductor Corp.

FEATURES:

- SUPER MINIATURE CASE
- SPECIAL SELECTIONS AVAILABLE
- LOW COST
- SUPERIOR LOT TO LOT CONSISTENCY
- HIGH RELIABILITY
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD
- GLASS PASSIVATED CHIP

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 1.0 Amp Surface Mount Fast Recovery Silicon Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications where small size is required. The SMA case occupies 30% less board space than the SMB case. To order devices on 12mm Tape and Reel (5000/13" Reel), add TR13 suffix to part number.

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

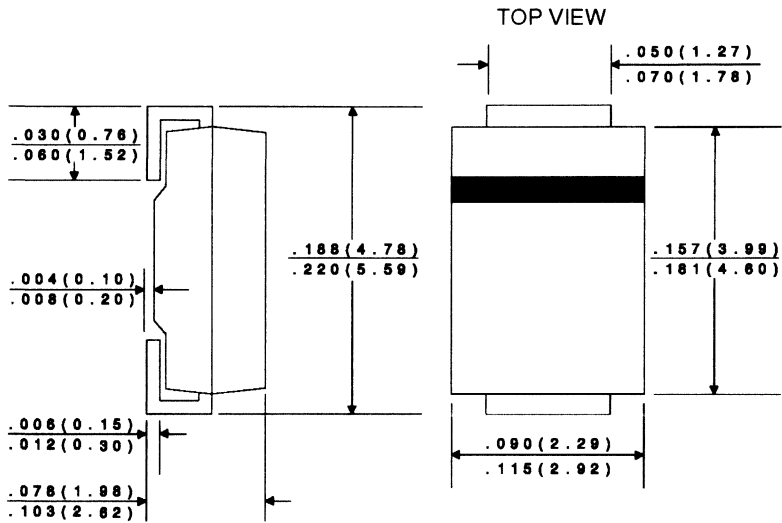
	SYMBOL	CMR1F -02M	CMR1F -04M	CMR1F -06M	CMR1F -10M	UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	200	400	600	1000	V
DC Blocking Voltage	V_R	200	400	600	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	140	280	420	700	V
Average Forward Current ($T_L=120^\circ\text{C}$)	I_O			1.0		A
Peak Forward Surge Current (8.3ms)	I_{FSM}			30		A
Operating and Storage						
Junction Temperature	T_J, T_{stg}		-65 to +150			$^\circ\text{C}$
Thermal Resistance	θ_{JL}		30			$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_R	$V_R=Rated$ V_{RRM}			5.0	μA
I_R	$V_R=Rated$ $V_{RRM}, T_A=125^\circ\text{C}$			200	μA
V_F	$I_F=1.0\text{A}$			1.3	V
C_J	$V_R=4.0\text{V}, f=1.0\text{MHz}$		15		pF

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
t_{rr}	$I_F=0.5A, I_R=1.0A$, Recover to 0.25A (CMR1F-02M, -04M)			150	ns
t_{rr}	$I_F=0.5A, I_R=1.0A$, Recover to 0.25A (CMR1F-06M)			250	ns
t_{rr}	$I_F=0.5A, I_R=1.0A$, Recover to 0.25A (CMR1F-10M)			500	ns

All dimensions in inches (mm).

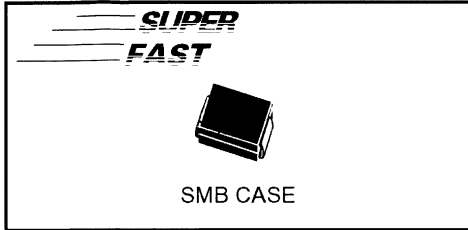


DEVICE	MARKING CODE
CMR1F-02M	CF02M
CMR1F-04M	CF04M
CMR1F-06M	CF06M
CMR1F-10M	CF10M

**DATA
SHEETS**

CMR1S-01
CMR1S-02

SUPER FAST RECOVERY RECTIFIER
1.0 AMP, 100 AND 200 VOLTS



FEATURES:

- FASTER SWITCHING SPEED (35ns Max)
- LOWER V_F (.95V)
- RUNS COOLER THAN ULTRA FAST RECTIFIER
- LOW COST - HIGH RELIABILITY
- GLASS PASSIVATED CHIP
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD

DESCRIPTION:

The Central Semiconductor 1.0 Amp Surface Mount Silicon Super Fast Recovery Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications. To order devices on 12mm Tape and Reel (3000/13" Reel), add TR13 suffix to part number.

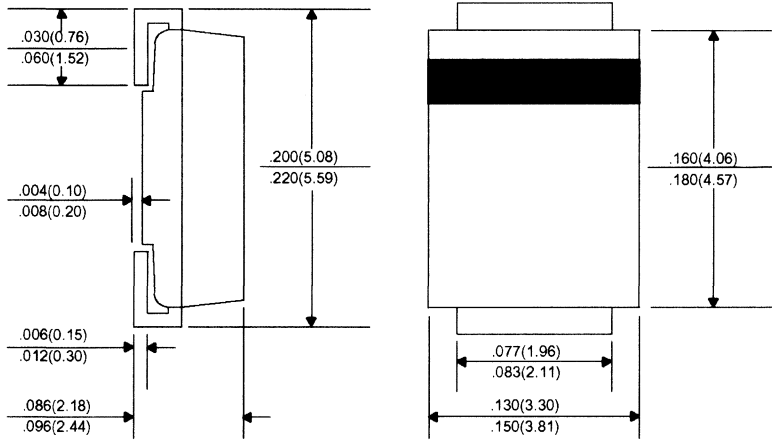
MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

	SYMBOL	CMR1S	CMR1S	UNITS
		-01	-02	
Peak Repetitive Reverse Voltage	V_{RRM}	100	200	V
DC Blocking Voltage	V_R	100	200	V
RMS Reverse Voltage	$V_{R(RMS)}$	70	140	V
Average Forward Current	I_O		1.0	A
Peak Forward Surge Current (8.3ms)	I_{FSM}		30	A
Operating and Storage				
Junction Temperature	T_J, T_{stg}	-65 to +150		$^\circ\text{C}$
Thermal Resistance	θ_{JL}	20		$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_R	$V_R = \text{Rated } V_{RRM}$			5.0	μA
I_R	$V_R = \text{Rated } V_{RRM}, T_A = 100^\circ\text{C}$			500	μA
V_F	$I_F = 1.0\text{A}$			0.95	V
t_{rr}	$I_F = 0.5\text{A}, I_R = 1.0\text{A}, \text{Recover to } 0.25\text{A}$			35	ns
C_J	$V_R = 4.0\text{V}, f = 1.0\text{MHz}$		10		pF

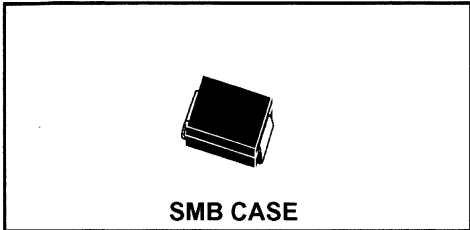
All dimensions in inches (mm).



DEVICE	MARKING CODE
CMR1S-01	CSF01
CMR1S-02	CSF02



CMR1U-01
CMR1U-02
CMR1U-04
CMR1U-06
CMR1U-10
ULTRA FAST RECOVERY RECTIFIER
1.0 AMP, 100 THRU 1000 VOLTS



CentralTM Semiconductor Corp.

FEATURES:

- LOW COST
- SPECIAL SELECTIONS AVAILABLE
- HIGH RELIABILITY
- SUPERIOR LOT TO LOT CONSISTENCY
- GLASS PASSIVATED CHIP
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 1.0 Amp Surface Mount Silicon Ultra Fast Recovery Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications. To order devices on 12mm Tape and Reel (3000/13" Reel), add TR13 suffix to part number.

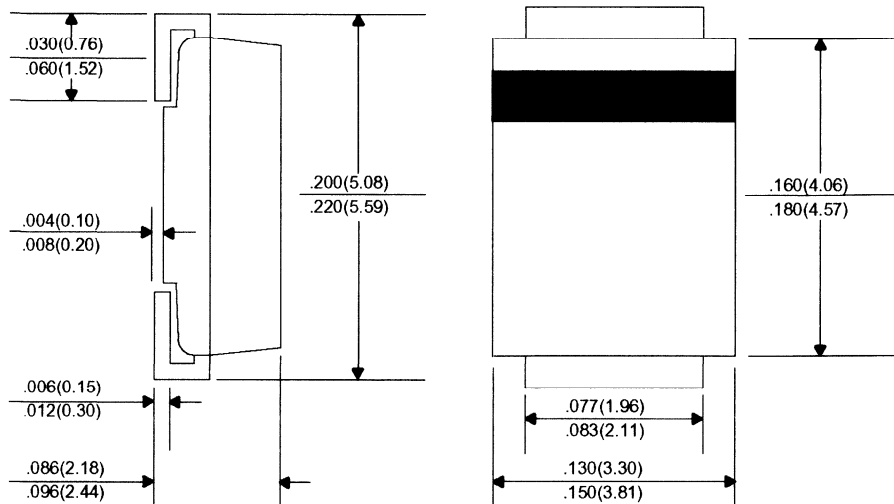
MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

	SYMBOL	CMR1U-01	CMR1U-02	CMR1U-04	CMR1U-06	CMR1U-10	UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	100	200	400	600	1000	V
DC Blocking Voltage	V_R	100	200	400	600	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	70	140	280	420	700	V
Average Forward Current ($T_A=75^{\circ}\text{C}$)	I_O			1.0			A
Peak Forward Surge Current (8.3ms)	I_{FSM}			30			A
Operating and Storage							
Junction Temperature	T_J, T_{stg}		-65 to +175				$^{\circ}\text{C}$
Thermal Resistance	Θ_{JL}		20				$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_R	$V_R = \text{Rated } V_{RRM}$		5.0	μA
I_R	$V_R = \text{Rated } V_{RRM}, T_A = 125^{\circ}\text{C}$		100	μA
V_F	$I_F = 1.0\text{A}, (\text{CMR1U-01}, \text{CMR1U-02})$		1.00	V
V_F	$I_F = 1.0\text{A}, (\text{CMR1U-04})$		1.25	V
V_F	$I_F = 1.0\text{A}, (\text{CMR1U-06})$		1.40	V
V_F	$I_F = 1.0\text{A}, (\text{CMR1U-10})$		1.70	V
t_{rr}	$I_F = 0.5\text{A}, I_R = 1.0\text{A}, \text{Recover to } 0.25\text{A} (\text{CMR1U-01}, -02, -04)$		50	ns
t_{rr}	$I_F = 0.5\text{A}, I_R = 1.0\text{A}, \text{Recover to } 0.25\text{A} (\text{CMR1U-06}, -10)$		100	ns

All dimensions in inches (mm).

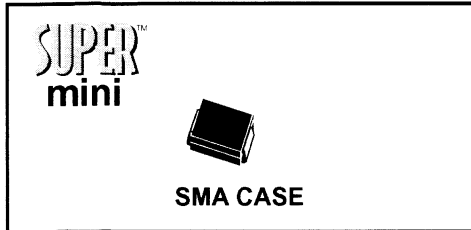


Marking Codes:

DEVICE	MARKING CODE
CMR1U-01	CU01
CMR1U-02	CU02
CMR1U-04	CU04
CMR1U-06	CU06
CMR1U-10	CU10



CMR1U-01M
CMR1U-02M
CMR1U-04M
CMR1U-06M
CMR1U-10M
ULTRA FAST RECOVERY RECTIFIER
1.0 AMP, 100 THRU 1000 VOLTS



CentralTM Semiconductor Corp.

FEATURES:

- SUPER MINIATURE CASE
- SPECIAL SELECTIONS AVAILABLE
- LOW COST
- SUPERIOR LOT TO LOT CONSISTENCY
- HIGH RELIABILITY
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD
- GLASS PASSIVATED CHIP

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 1.0 Amp Surface Mount Ultra Fast Recovery Silicon Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications where small size is required. The SMA case occupies 30% less board space than the SMB case. To order devices on 12mm Tape and Reel (5000/13" Reel), add TR13 suffix to part number.

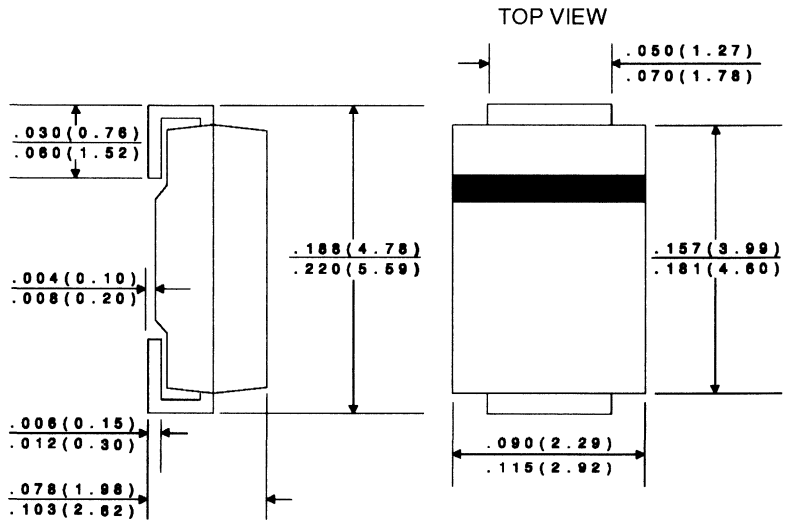
MAXIMUM RATINGS: (T_A=25°C unless otherwise noted)

	SYMBOL	CMR1U -01M	CMR1U -02M	CMR1U -04M	CMR1U -06M	CMR1U -10M	UNITS
Peak Repetitive Reverse Voltage	V _{RRM}	100	200	400	600	1000	V
DC Blocking Voltage	V _R	100	200	400	600	1000	V
RMS Reverse Voltage	V _{R(RMS)}	70	140	280	420	1000	V
Average Forward Current (T _A =75°C)	I _O			1.0			A
Peak Forward Surge Current (8.3ms)	I _{FSM}			30			A
Operating and Storage							
Junction Temperature	T _J , T _{stg}			-65 to +175			°C
Thermal Resistance	θ _{JL}			30			°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _R	V _R =Rated V _{RRM}		5.0	μA
V _F	I _F =1.0A, (CMR1U-01M, CMR1U-02M)		1.00	V
V _F	I _F =1.0A, (CMR1U-04M)		1.25	V
V _F	I _F =1.0A, (CMR1U-06M)		1.40	V
V _F	I _F =1.0A, (CMR1U-10M)		1.70	V
t _{rr}	I _F =0.5A, I _R =1.0A, Recover to 0.25A (CMR1U-01M, -02M)		35	ns
t _{rr}	I _F =0.5A, I _R =1.0A, Recover to 0.25A (CMR1U-04M)		50	ns
t _{rr}	I _F =0.5A, I _R =1.0A, Recover to 0.25A (CMR1U-06M)		75	ns
t _{rr}	I _F =0.5A, I _R =1.0A, Recover to 0.25A (CMR1U-10M)		100	ns

All dimensions in inches (mm).



Marking Codes:

DEVICE	MARKING CODE
CMR1U-01M	CU01M
CMR1U-02M	CU02M
CMR1U-04M	CU04M
CMR1U-06M	CU06M
CMR1U-10M	CU10M

**DATA
SHEETS**

CMR2-02
 CMR2-04
 CMR2-06
 CMR2-10

GENERAL PURPOSE RECTIFIER
 2.0 AMP, 200 THRU 1,000 VOLTS



SMB CASE

CentralTM
 Semiconductor Corp.

FEATURES:

- LOW COST
- SPECIAL SELECTIONS AVAILABLE
- HIGH RELIABILITY
- SUPERIOR LOT TO LOT CONSISTENCY
- GLASS PASSIVATED CHIP
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2.0 Amp Surface Mount Silicon Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications. To order devices on 12mm Tape and Reel (3000/13" Reel), add TR13 suffix to part number.

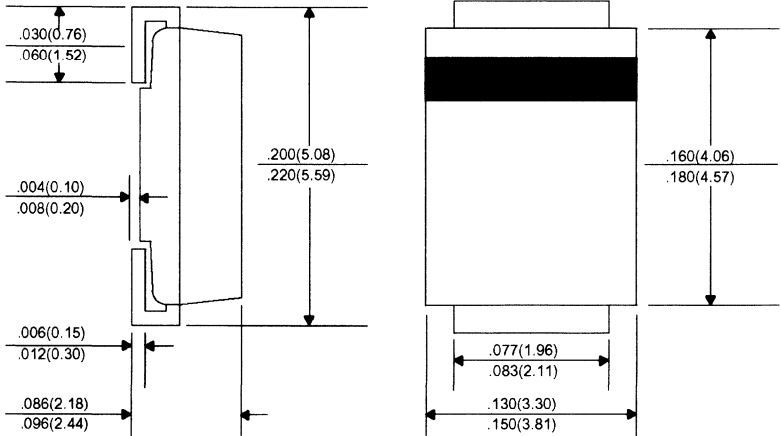
MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

	SYMBOL	CMR2-02	CMR2-04	CMR2-06	CMR2-10	UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	200	400	600	1000	V
DC Blocking Voltage	V_R	200	400	600	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	140	280	420	700	V
Average Forward Current ($T_A=50^\circ\text{C}$)	I_O		2.0			A
Peak Forward Surge Current (8.3ms)	I_{FSM}		60			A
Operating and Storage						
Junction Temperature	T_J, T_{stg}		-65 to +150			$^\circ\text{C}$
Thermal Resistance	θ_{JL}		20			$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
V_F	$I_F=2.0\text{A}$			1.1	V
I_R	$V_R=\text{Rated } V_{RRM}$			5	μA
I_R	$V_R=\text{Rated } V_{RRM}, T_A=125^\circ\text{C}$			125	μA
t_{rr}	$I_F=0.5\text{A}, I_R=1.0\text{A}, \text{Recover to } 0.25\text{A}$			2.5	μs
C_J	$V_R=4.0\text{V}, f=1.0\text{MHz}$		30		pF

All dimensions in inches (mm).



Marking Codes:

DEVICE	MARKING CODE
CMR2-02	C202
CMR2-04	C204
CMR2-06	C206
CMR2-10	C210



CMR2U-01
 CMR2U-02
 CMR2U-04
 CMR2U-06

**ULTRA FAST RECOVERY RECTIFIER
 2.0 AMP, 100 THRU 600 VOLTS**



SMB CASE

Central[™]
Semiconductor Corp.

FEATURES:

- LOW COST
- SPECIAL SELECTIONS AVAILABLE
- HIGH RELIABILITY
- SUPERIOR LOT TO LOT CONSISTENCY
- GLASS PASSIVATED CHIP
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2.0 Amp Surface Mount Silicon Ultra Fast Recovery Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications. To order devices on 12mm Tape and Reel (3000/13" Reel), add TR13 suffix to part number.

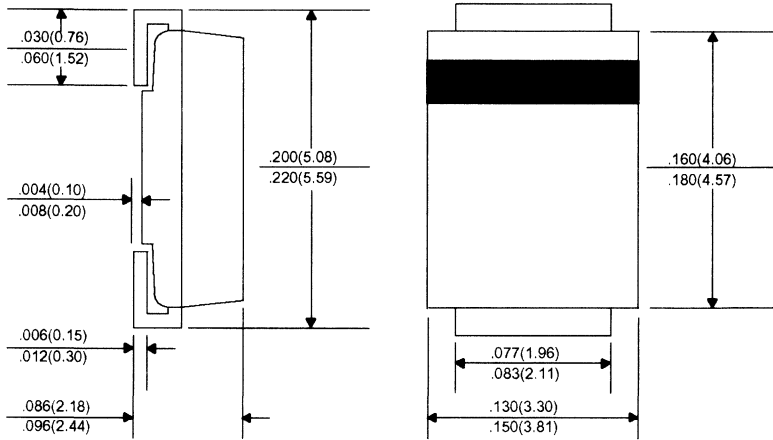
MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

	SYMBOL	CMR2U -01	CMR2U -02	CMR2U -04	CMR2U -06	UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	100	200	400	600	V
DC Blocking Voltage	V_R	100	200	400	600	V
RMS Reverse Voltage	$V_{R(RMS)}$	70	140	280	420	V
Average Forward Current ($T_A=50^\circ\text{C}$)	I_O			2.0		A
Peak Forward Surge Current (8.3ms)	I_{FSM}			50		A
Operating and Storage						
Junction Temperature	T_J, T_{stg}			-65 to +150		$^\circ\text{C}$
Thermal Resistance	θ_{JL}			20		$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_R	$V_R=$ Rated V_{RRM}			10	μA
I_R	$V_R=$ Rated $V_{RRM}, T_A=100^\circ\text{C}$			50	μA
V_F	$I_F=2.0\text{A}, (\text{CMR2U-01}, \text{CMR2U-02})$			1.00	V
V_F	$I_F=2.0\text{A}, (\text{CMR2U-04})$			1.25	V
V_F	$I_F=2.0\text{A}, (\text{CMR2U-06})$			1.40	V
t_{rr}	$I_F=0.5\text{A}, I_R=1.0\text{A}, \text{Recover to } 0.25\text{A}$			50	ns
C_J	$V_R=4.0\text{V}, f=1.0\text{MHz}$		50		pF

All dimensions in inches (mm).



Marking Codes:

DEVICE	MARKING CODE
CMR2U-01	CU201
CMR2U-02	CU202
CMR2U-04	CU204
CMR2U-06	CU206



CMR3-02
 CMR3-04
 CMR3-06
 CMR3-10

GENERAL PURPOSE RECTIFIER
 3.0 AMP, 200 THRU 1,000 VOLTS



SMC CASE

CentralTM Semiconductor Corp.

FEATURES:

- LOW COST
- SPECIAL SELECTIONS AVAILABLE
- HIGH RELIABILITY
- SUPERIOR LOT TO LOT CONSISTENCY
- GLASS PASSIVATED CHIP
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 3.0 Amp Surface Mount Silicon Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications. To order devices on 16mm Tape and Reel (3000/13" Reel), add TR13 suffix to part number.

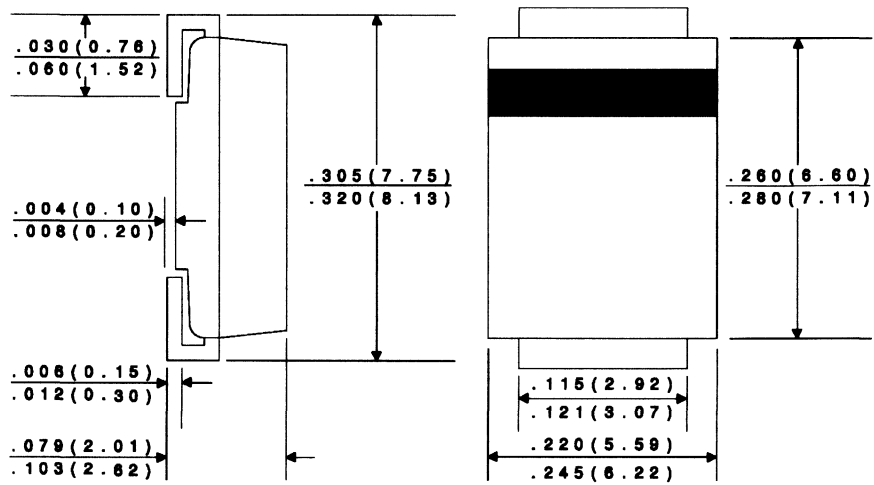
MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

	SYMBOL	CMR3-02	CMR3-04	CMR3-06	CMR3-10	UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	200	400	600	1000	V
DC Blocking Voltage	V_R	200	400	600	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	140	280	420	700	V
Average Forward Current ($T_A=75^{\circ}\text{C}$)	I_O			3.0		A
Peak Forward Surge Current (8.3ms)	I_{FSM}			200		A
Operating and Storage						
Junction Temperature	T_J, T_{stg}		-65 to +175			$^{\circ}\text{C}$
Thermal Resistance	θ_{JL}		10			$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
V_F	$I_F=3.0\text{A}$		1.2	V
I_R	$V_R=\text{Rated } V_{RRM}$		5.0	μA
I_R	$V_R=\text{Rated } V_{RRM}, T_A=125^{\circ}\text{C}$		250	μA

All dimensions in inches (mm).



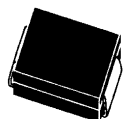
Marking Codes:

DEVICE	MARKING CODE
CMR3-02	C302
CMR3-04	C304
CMR3-06	C306
CMR3-10	C310

DATA SHEETS

CMR3U-01
 CMR3U-02
 CMR3U-04
 CMR3U-06
 CMR3U-10

ULTRA FAST RECOVERY RECTIFIER
 3.0 AMP, 100 THRU 1000 VOLTS



SMC CASE

Central[™]
Semiconductor Corp.

FEATURES:

- LOW COST
- SPECIAL SELECTIONS AVAILABLE
- HIGH RELIABILITY
- SUPERIOR LOT TO LOT CONSISTENCY
- GLASS PASSIVATED CHIP
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 3.0 Amp Surface Mount Silicon Ultra Fast Recovery Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications. To order devices on 16mm Tape and Reel (3000/13" Reel), add TR13 suffix to part number.

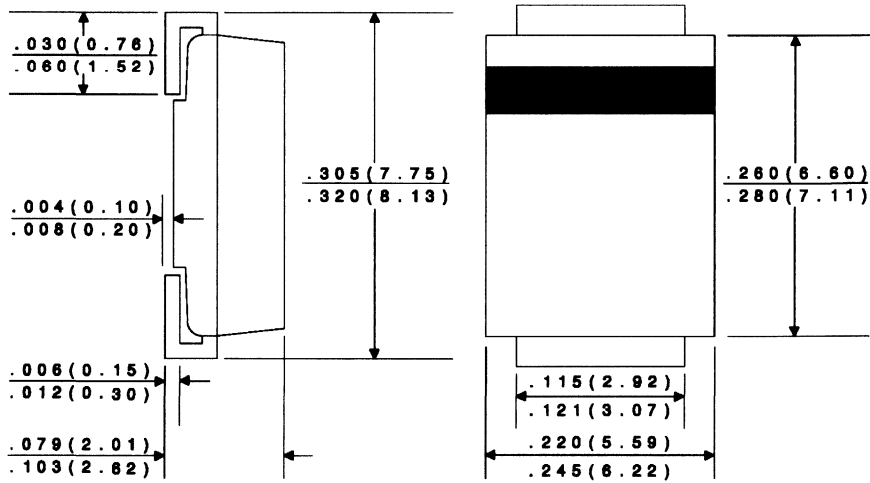
MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

	SYMBOL	CMR3U-01	CMR3U-02	CMR3U-04	CMR3U-06	CMR3U-10	UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	100	200	400	600	1000	V
DC Blocking Voltage	V_R	100	200	400	600	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	70	140	280	420	700	V
Average Forward Current ($T_A=75^{\circ}\text{C}$)	I_O			3.0			A
Peak Forward Surge Current (8.3ms)	I_{FSM}			150			A
Operating and Storage							
Junction Temperature	T_J, T_{stg}			-65 to +175			$^{\circ}\text{C}$
Thermal Resistance	θ_{JL}			10			$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_R	$V_R = \text{Rated } V_{RRM}$		5.0	μA
I_R	$V_R = \text{Rated } V_{RRM}, T_A=100^{\circ}\text{C}$		500	μA
V_F	$I_F=3.0\text{A}, (\text{CMR3U-01, CMR3U-02})$		1.00	V
V_F	$I_F=3.0\text{A}, (\text{CMR3U-04})$		1.25	V
V_F	$I_F=3.0\text{A}, (\text{CMR3U-06})$		1.40	V
V_F	$I_F=3.0\text{A}, (\text{CMR3U-10})$		1.70	V
t_{rr}	$I_F=500\text{mA}, I_R=1.0\text{A}, I_{rr}=250\text{mA} (\text{CMR3U-01, -02, -04})$		50	ns
t_{rr}	$I_F=500\text{mA}, I_R=1.0\text{A}, I_{rr}=250\text{mA} (\text{CMR3U-06, -10})$		100	ns

All dimensions in inches (mm).

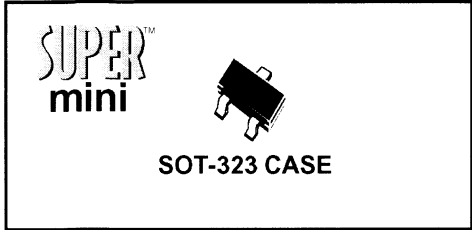


Marking Codes:

DEVICE	MARKING CODE
CMR3U-01	CU301
CMR3U-02	CU302
CMR3U-04	CU304
CMR3U-06	CU306
CMR3U-10	CU310



CMSD2004S
HIGH VOLTAGE SWITCHING DIODE



Central™

Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR CMSD2004S type is a silicon switching diode manufactured by the epitaxial planar process, designed for applications requiring high voltage capability.

The following configurations are available:

CMSD2004S DUAL, IN SERIES

MARKING CODE: B6D

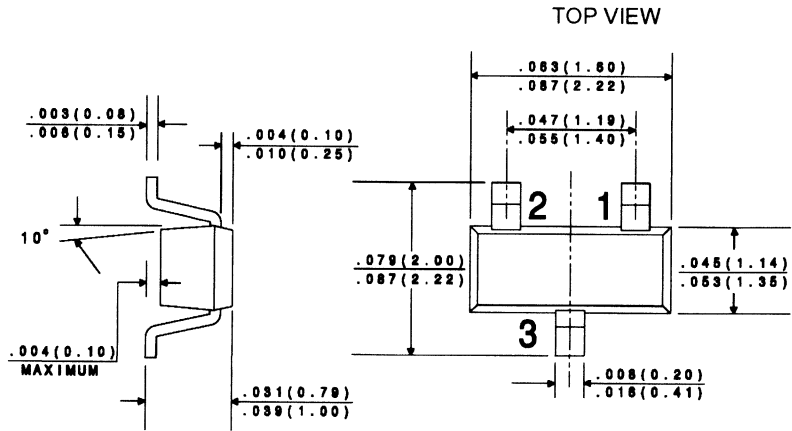
MAXIMUM RATINGS (T_A=25°C)

	SYMBOL		UNITS
Continuous Reverse Voltage	V _R	240	V
Peak Repetitive Reverse Voltage	V _{RRM}	300	V
Peak Repetitive Reverse Current	I _O	200	mA
Continuous Forward Current	I _F	225	mA
Peak Repetitive Forward Current	I _{FRM}	625	mA
Forward Surge Current, tp=1 μs	I _{FSM}	4000	mA
Forward Surge Current, tp=1 s	I _{FSM}	1000	mA
Power Dissipation	P _D	250	mW
Operating and Storage			
Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	θ _{JA}	500	°C/W

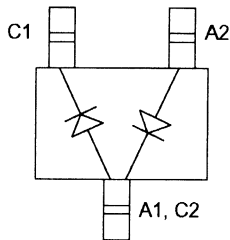
ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
BV _R	I _R =100μA	300		V
I _R	V _R =240V		100	nA
I _R	V _R =240V, T _A =150°C		100	μA
V _F	I _F =100mA		1.0	V
C _T	V _R =0, f=1 MHz		5.0	pF
t _{rr}	I _F =I _R =30mA, RECOV. TO 3.0mA, R _L =100Ω		50	ns

All dimensions in inches (mm).



LEAD CODE



DATA SHEETS

CMSD2836
CMSD2838

SUPER-MINI
DUAL SILICON
SWITCHING DIODE

SUPER[™]
mini



SOT-323 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR CMSD2836, CMSD2838 types are ultra-high speed silicon switching diodes manufactured by the epitaxial planar process, in an epoxy molded super-mini surface mount package, designed for high speed switching applications.

The following configurations are available:

CMSD2836
CMSD2838

DUAL, COMMON ANODE
DUAL, COMMON CATHODE

MARKING CODE: A2C
MARKING CODE: A6C

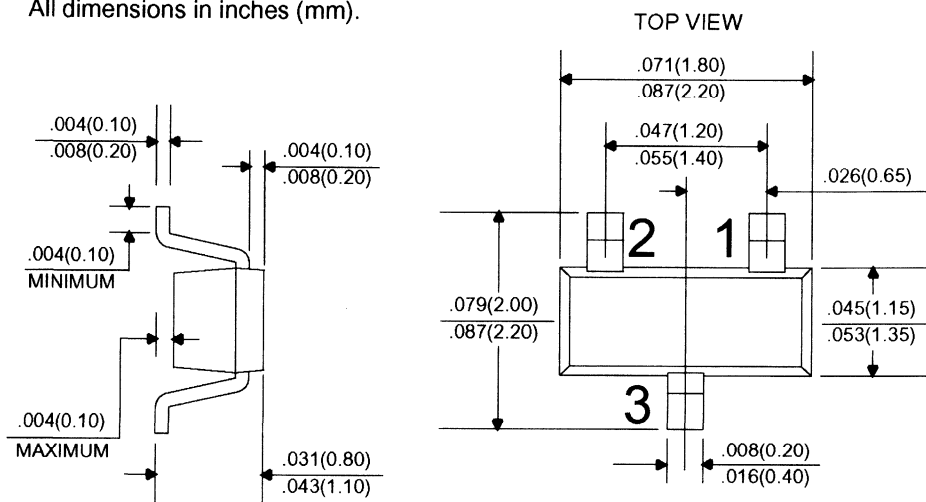
MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	75	V
Average Forward Current	I_O	200	mA
Peak Forward Current	I_{FM}	300	mA
Power Dissipation Operating and Storage	P_D	250	mW
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	Θ_{JA}	500	$^\circ\text{C/W}$

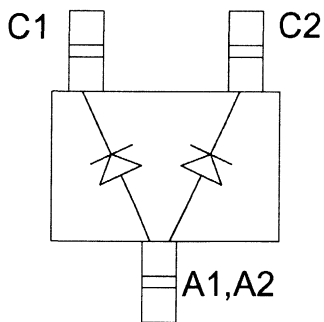
ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
BV_R	$I_R=100\mu\text{A}$	75			V
I_R	$V_R=50\text{V}$			100	nA
V_F	$I_F=10\text{mA}$			1.0	V
V_F	$I_F=50\text{mA}$			1.0	V
V_F	$I_F=100\text{mA}$			1.2	V
C_T	$V_R=0, f=1\text{ MHz}$		1.5	6.0	pF
t_{rr}	$I_R=I_F=10\text{mA}, R_L=100\Omega, \text{Rec. to } 1.0\text{mA}$			4.0	ns

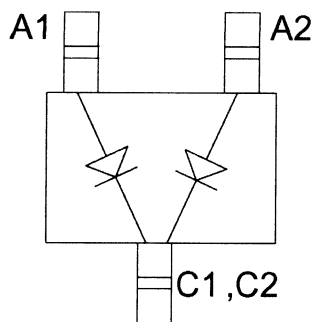
All dimensions in inches (mm).



Lead Code



CMSD2836



CMSD2838



CMSD4448

SUPER-MINI
HIGH SPEED
SWITCHING DIODE

SUPERTM
mini



SOT-323 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMSD4448 type is a ultra-high speed silicon switching diode manufactured by the epitaxial planar process, in an epoxy molded super-mini surface mount package, designed for high speed switching applications.

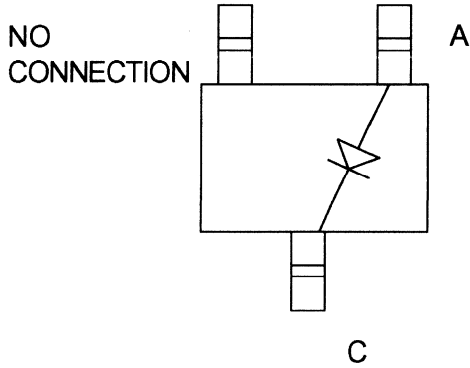
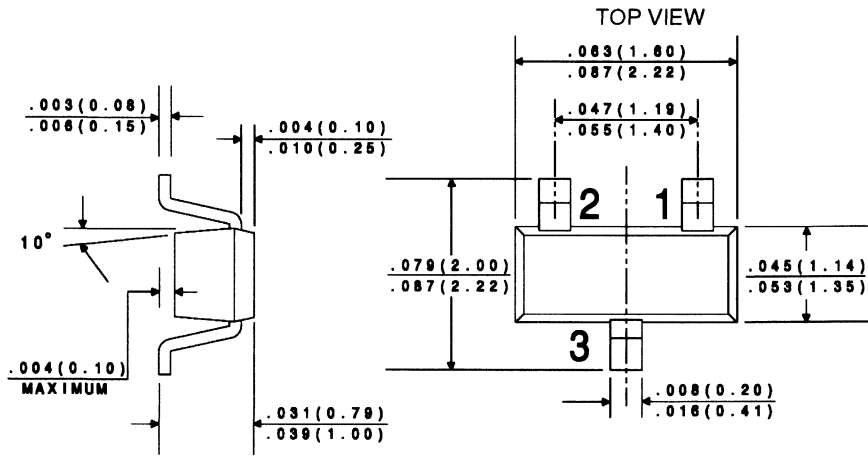
MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Continuous Reverse Voltage	V_R	75	V
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
Continuous Forward Current	I_F	250	mA
Peak Repetitive Forward Current	I_{FRM}	250	mA
Forward Surge Current, $t_p=1\ \mu\text{sec.}$	I_{FSM}	4000	mA
Forward Surge Current, $t_p=1\ \text{sec.}$	I_{FSM}	1000	mA
Power Dissipation	P_D	250	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	Θ_{JA}	500	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
V_{BR}	$I_R=5.0\ \mu\text{A}$	75		V
V_{BR}	$I_R=100\ \mu\text{A}$	100		V
I_R	$V_R=20\text{V}$		25	nA
V_F	$I_F=5.0\text{mA}$	0.62	0.72	V
V_F	$I_F=100\text{mA}$		1.0	V
C_T	$V_R=0, f=1\ \text{MHz}$		4.0	pF
t_{rr}	$I_R=I_F=10\text{mA}, R_L=100\ \Omega, \text{Rec. to } 1.0\text{mA}$		4.0	ns

All dimensions in inches (mm).



DATA SHEETS

CMSD7000

SUPER-MINI
DUAL SILICON SWITCHING DIODE
SERIES CONNECTION

SUPER[™]
mini



SOT-323 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR CMSD7000 type is a ultra-high speed silicon switching diodes manufactured by the epitaxial planar process, in an epoxy molded super-mini surface mount package, connected in a series configuration, designed for high speed switching applications.

Marking Code is 5CC.

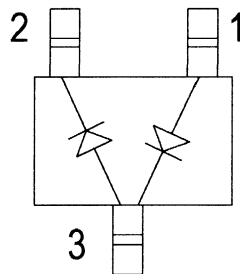
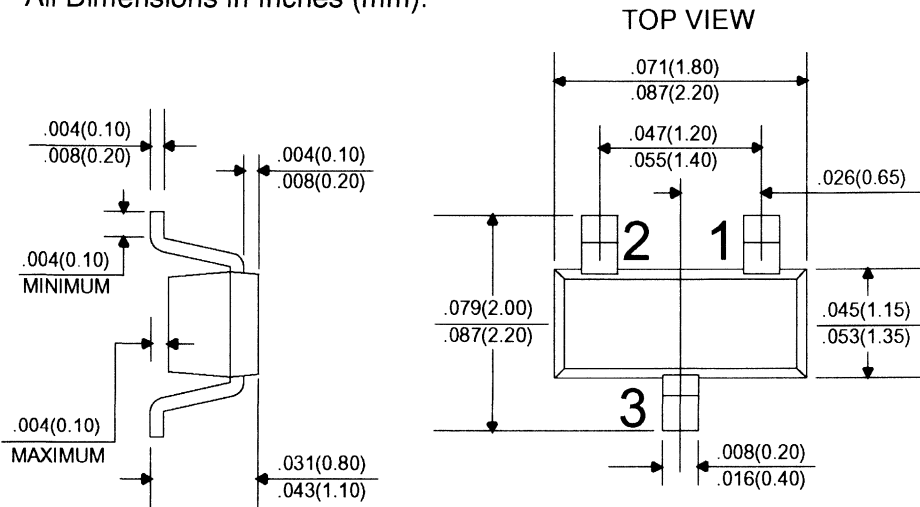
MAXIMUM RATINGS (T_A=25°C)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V _R RM	100	V
Average Forward Current	I _O	200	mA
Peak Forward Current	I _{FM}	500	mA
Power Dissipation	P _D	250	mW
Operating and Storage			
Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	θ _{JA}	500	°C/W

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
BV _R	I _R =100μA	100			V
I _R	V _R =50V			300	nA
I _R	V _R =50V, T _A =125°C			100	μA
I _R	V _R =100V			500	nA
V _F	I _F =1.0mA	0.55		0.70	V
V _F	I _F =10mA	0.67		0.82	V
V _F	I _F =100mA	0.75		1.10	V
C _T	V _R =0, f=1 MHz			1.5	pF
t _{rr}	I _R =I _F =10mA, R _L =100Ω, Rec. to 1.0mA		2.0	4.0	ns

All Dimensions in Inches (mm).



DATA SHEETS

Lead Code:

- 1) Anode 2
- 2) Cathode 1
- 3) Anode 1, Cathode 2

CMSH1-20
 CMSH1-40
 CMSH1-60
 CMSH1-100

SCHOTTKY BARRIER RECTIFIER
 1.0 AMP, 20 THRU 100 VOLTS



SMB CASE

CentralTM
 Semiconductor Corp.

FEATURES:

- LOW COST
- SUPERIOR LOT TO LOT CONSISTENCY
- HIGH RELIABILITY
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD
- SPECIAL SELECTIONS AVAILABLE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 1.0 Amp Surface Mount Silicon Schottky Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications. To order devices on 12mm Tape and Reel (3000/13" Reel), add TR13 suffix to part number.

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

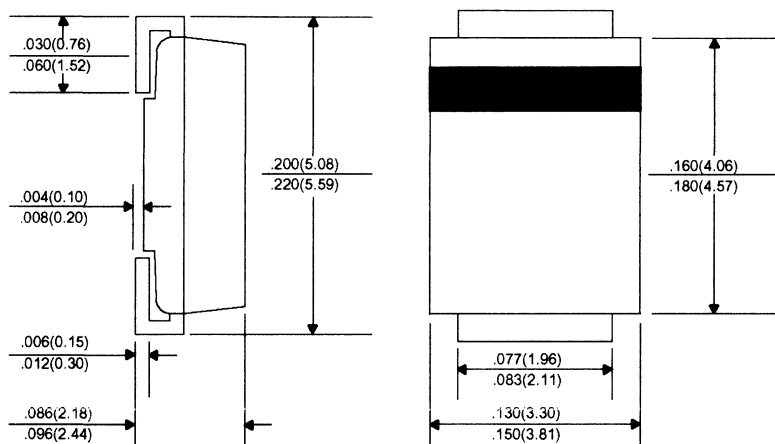
		CMSH1 -20	CMSH1 -40	CMSH1 -60	CMSH1 -100	UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	20	40	60	100	V
DC Blocking Voltage	V_R	20	40	60	100	V
RMS Reverse Voltage	$V_R(\text{RMS})$	14	28	42	70	V
Average Forward Current ($T_A=75^\circ\text{C}$)	I_O			1.0		A
Peak Forward Surge Current (8.3ms)	I_{FSM}			30		A
Operating and Storage						
Junction Temperature	T_J, T_{stg}		-65 to +150			$^\circ\text{C}$
Thermal Resistance	θ_{JL}		20			$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
V_F	$I_F=1.0\text{A}$ (CMSH1-20 AND CMSH1-40)			0.55	V
V_F	$I_F=1.0\text{A}$ (CMSH1-60)			0.70	V
V_F	$I_F=1.0\text{A}$ (CMSH1-100)			0.85	V
I_R	$V_R=\text{Rated } V_{RRM}$			0.50	mA
I_R	$V_R=\text{Rated } V_{RRM}, T_A=125^\circ\text{C}$			20	mA

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
C _J	V _R =4.0V, f=1.0MHz, (CMSH1-20 AND CMSH1-40)		110		pF
C _J	V _R =4.0V, f=1.0MHz, (CMSH1-60)		80		pF
C _J	V _R =4.0V, f=1.0MHz, (CMSH1-100)		50		pF

All dimensions in inches (mm).



Marking Codes:

DEVICE	MARKING CODE
CMSH1-20	CS20
CMSH1-40	CS40
CMSH1-60	CS60
CMSH1-100	CS100

DATA SHEETS

CMSH1-20M
 CMSH1-40M
 CMSH1-60M
 CMSH1-100M

SCHOTTKY BARRIER RECTIFIER
 1.0 AMP, 20 THRU 100 VOLTS

**SUPER
 mini**



SMA CASE

Central[™]
 Semiconductor Corp.

FEATURES:

- SUPER MINIATURE CASE
- SUPERIOR LOT TO LOT CONSISTENCY
- LOW COST
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD
- HIGH RELIABILITY
- SPECIAL SELECTIONS AVAILABLE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 1.0 Amp Surface Mount Silicon Schottky Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications where small size is required. The SMA case occupies 30% less board space than the SMB case. To order devices on 12mm Tape and Reel (5000/13" Reel), add TR13 suffix to part number.

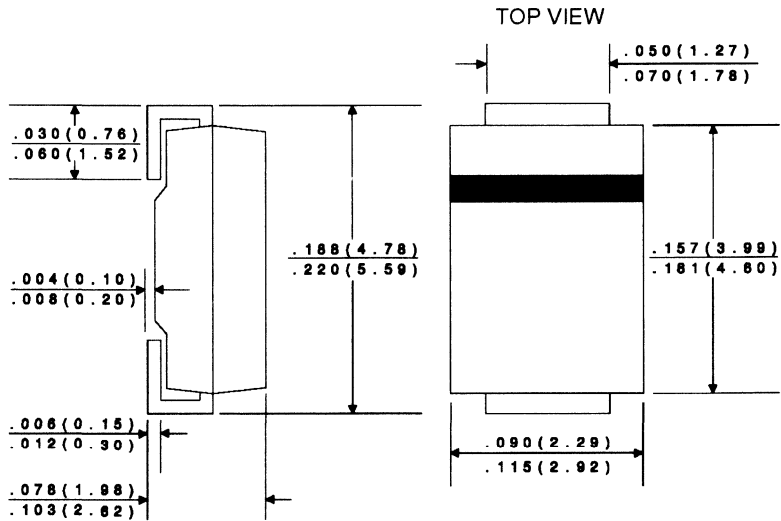
MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

	SYMBOL	CMSH1 -20M	CMSH1 -40M	CMSH1 -60M	CMSH1 -100M	UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	20	40	60	100	V
DC Blocking Voltage	V_R	20	40	60	100	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	28	42	70	V
Average Forward Current($T_L=75^{\circ}\text{C}$)	I_O	1.0	1.0			A
Average Forward Current($T_L=100^{\circ}\text{C}$)	I_O			1.0	1.0	A
Peak Forward Surge Current (8.3ms)	I_{FSM}	30	30	30	30	A
Operating and Storage						
Junction Temperature	T_J, T_{stg}		-65 to +150			$^{\circ}\text{C}$
Thermal Resistance	θ_{JL}	30	30	30	30	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
V_F	$I_F=1.0\text{A}$ (CMSH1-20M AND CMSH1-40M)			0.50	V
V_F	$I_F=1.0\text{A}$ (CMSH1-60M)			0.70	V
V_F	$I_F=1.0\text{A}$ (CMSH1-100M)			0.85	V
I_R	$V_R=\text{Rated } V_{RRM}$			0.50	mA
I_R	$V_R=\text{Rated } V_{RRM}, T_A=100^{\circ}\text{C}$			10	mA
C_J	$V_R=4.0\text{V}, f=1.0\text{MHz}$, (CMSH1-20M AND CMSH1-40M)		100		pF
C_J	$V_R=4.0\text{V}, f=1.0\text{MHz}$, (CMSH1-60M)		80		pF
C_J	$V_R=4.0\text{V}, f=1.0\text{MHz}$, (CMSH1-100M)		50		pF

All dimensions in inches (mm).



Marking Codes:


DEVICE	MARKING CODE
CMSH1-20M	CS20M
CMSH1-40M	CS40M
CMSH1-60M	CS60M
CMSH1-100M	CS100M



**CMSH1-20ML
CMSH1-40ML**

**SCHOTTKY BARRIER RECTIFIER
1.0 AMP, 20 & 40 VOLTS**

**LOW
V_F**



SMA CASE

FEATURES:

- EXTREMELY LOW FORWARD VOLTAGE DROP
- SUPERIOR LOT TO LOT CONSISTENCY
- HIGH RELIABILITY
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD
- LOW COST

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMSH1-20ML Series are Surface Mount Silicon Schottky Rectifiers designed for applications where extremely low forward voltage drop is required. To order devices on 12mm Tape and Reel (3000/13" Reel), add TR13 suffix to part number.

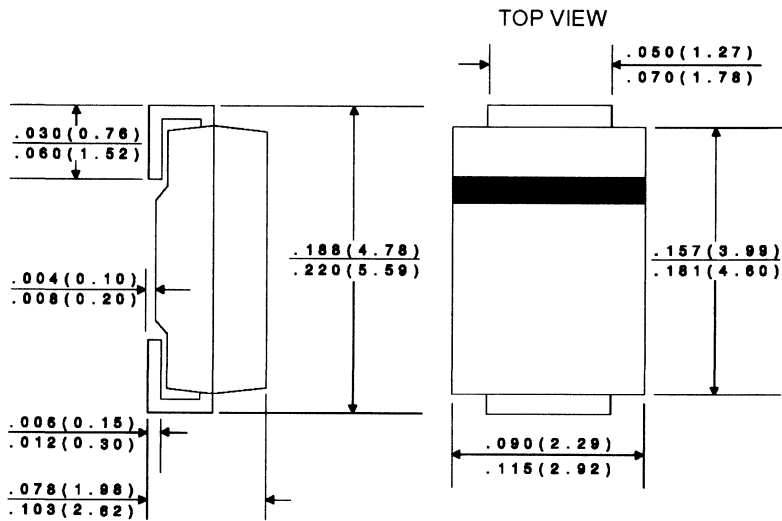
MAXIMUM RATINGS: (T_A=25°C unless otherwise noted)

	SYMBOL	CMSH1-20ML	CMSH1-40ML	UNITS
Peak Repetitive Reverse Voltage	V _{RRM}	20	40	V
DC Blocking Voltage	V _R	20	40	V
RMS Reverse Voltage	V _{R(RMS)}	14	28	V
Average Forward Current	I _O		1.0	A
Peak Forward Surge Current (8.3ms)	I _{FSM}		30	A
Operating and Storage				
Junction Temperature	T _J , T _{stg}	-65 to +150		°C
Thermal Resistance	θ _{JL}	28		°C/W
Thermal Resistance	θ _{JA}	88		°C/W

ELECTRICAL CHARACTERISTICS: (T_C=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I _R	V _R =Rated V _{RRM}			0.5	mA
I _R	V _R = Rated V _{RRM} , T _C =100°C			20	mA
V _F	I _F =1.0A (CMSH1-20ML)			0.38	V
V _F	I _F =1.0A (CMSH1-40ML)			0.40	V

All Dimensions in Inches (mm).



DEVICE	MARKING CODE
CMSH1-20ML	CS20ML
CMSH1-40ML	CS40ML

**DATA
SHEETS**

CMSH2-20
CMSH2-40
CMSH2-60
CMSH2-100

SCHOTTKY BARRIER RECTIFIER
2.0 AMP, 20 THRU 100 VOLTS



SMB CASE

FEATURES:

- LOW COST
- SUPERIOR LOT TO LOT CONSISTENCY
- HIGH RELIABILITY
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD
- SPECIAL SELECTIONS AVAILABLE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2.0 Amp Surface Mount Silicon Schottky Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications. To order devices on 12mm Tape and Reel (3000/13" Reel), add TR13 suffix to part number.

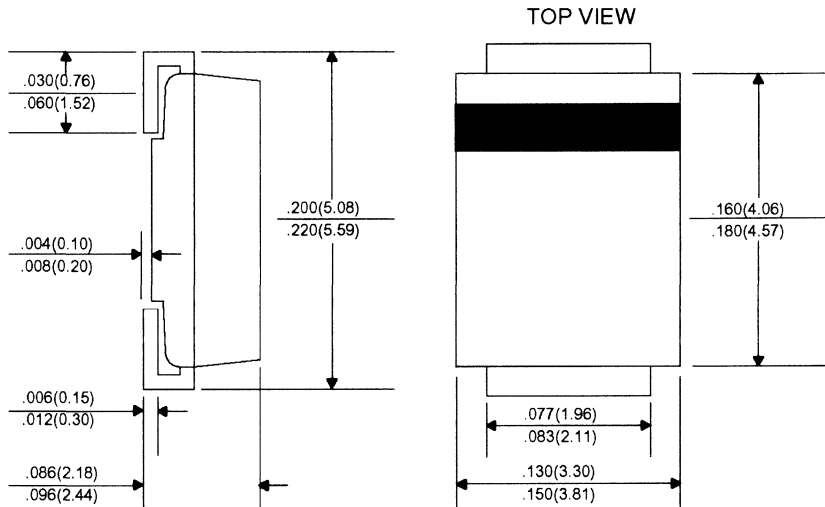
MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

		CMSH2 <u>-20</u>	CMSH2 <u>-40</u>	CMSH2 <u>-60</u>	CMSH2 <u>-100</u>	UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	20	40	60	100	V
DC Blocking Voltage	V_R	20	40	60	100	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	28	42	71	V
Average Forward Current ($T_A=55^\circ\text{C}$)	I_O		2.0			A
Peak Forward Surge Current (8.3ms)	I_{FSM}		50			A
Operating and Storage						
Junction Temperature	T_J, T_{stg}		-65 to +150			$^\circ\text{C}$
Thermal Resistance	θ_{JL}		20			$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_R	V_R =Rated V_{RRM}			0.50	mA
I_R	V_R =Rated V_{RRM} , $T_A=100^\circ\text{C}$			20	mA
V_F	$I_F=2.0\text{A}$ (CMSH2-20 AND CMSH2-40)			0.50	V
V_F	$I_F=2.0\text{A}$ (CMSH2-60)			0.70	V
V_F	$I_F=2.0\text{A}$ (CMSH2-100)			0.85	V
C_J	$V_R=4.0\text{V}$, $f=1.0\text{MHz}$, (CMSH2-20 AND CMSH2-40)		150		pF
C_J	$V_R=4.0\text{V}$, $f=1.0\text{MHz}$, (CMSH2-60 AND CMSH2-100)		120		pF

All dimensions in inches (mm).



Marking Codes:

DEVICE	MARKING CODE
CMSH2-20	CS220
CMSH2-40	CS240
CMSH2-60	CS260
CMSH2-100	CS2100



CMSH2-20L
CMSH2-40L

LOW FORWARD VOLTAGE
SCHOTTKY BARRIER RECTIFIER
2.0 AMP, 20 AND 40 VOLTS

LOW
V_F



SMB CASE

CentralTM
Semiconductor Corp.

FEATURES:

- LOW FORWARD VOLTAGE DROP
- FLAMMABILITY CLASSIFICATION UL94V-0
- HIGH CURRENT CAPABILITY
- SUPERIOR LOT TO LOT CONSISTENCY
- LOW COST
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD
- HIGH RELIABILITY

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2.0 Amp Surface Mount Low V_F Schottky Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications where high efficiency is required. To order devices on 12mm Tape and Reel (3000/13" Reel), add TR13 suffix to part number.

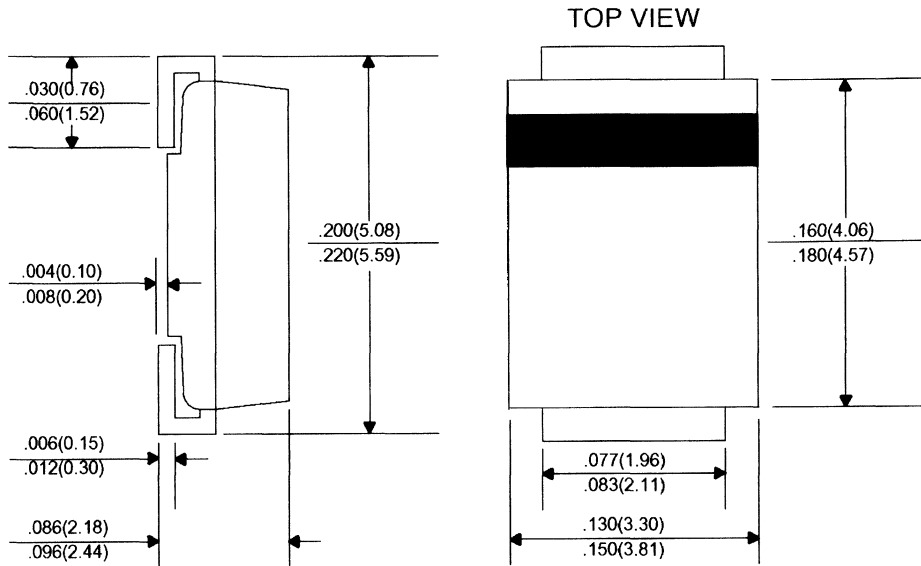
MAXIMUM RATINGS: (T_A=25°C unless otherwise noted)

	<u>SYMBOL</u>	<u>CMSH2-20L</u>	<u>CMSH2-40L</u>	<u>UNITS</u>
Peak Repetitive Reverse Voltage	V _{RRM}	20	40	V
DC Blocking Voltage	V _R	20	40	V
RMS Reverse Voltage	V _{R(RMS)}	14	28	V
Average Forward Current (T _L =105°C)	I _O		2.0	A
Peak Forward Surge Current (8.3ms)	I _{FSM}		50	A
Operating and Storage				
Junction Temperature	T _J , T _{stg}		-65 to +150	°C
Thermal Resistance	θ _{JL}		20	°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>TYP</u>	<u>MAX</u>	<u>UNITS</u>
I _R	V _R =Rated V _{RRM}			0.50	mA
I _R	V _R =Rated V _{RRM} , T _A =100°C			20	mA
V _F	I _F =2.0A (CMSH2-20L)			0.38	V
V _F	I _F =2.0A (CMSH2-40L)			0.40	V
C _J	V _R =4.0V, f=1.0MHz		150		pF

All Dimensions in Inches (mm).

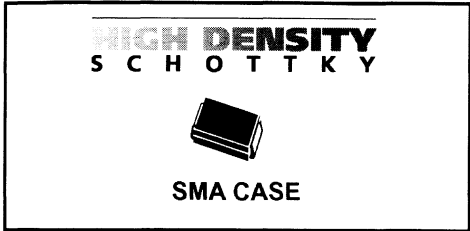


Marking Codes:

DEVICE	MARKING CODE
CMSH2-20L	CS220L
CMSH2-40L	CS240L



CMSH2-20M
CMSH2-40M
CMSH2-60M
CMSH2-100M
HIGH DENSITY
SCHOTTKY BARRIER RECTIFIER
2.0 AMP, 20 THRU 100 VOLTS



Central™

Semiconductor Corp.

FEATURES:

- HIGH CURRENT CAPABILITY
- FLAMMABILITY CLASSIFICATION UL94V-0
- HIGH DENSITY, SUPER MINI DEVICE
- SUPERIOR LOT TO LOT CONSISTENCY
- LOW COST
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD
- HIGH RELIABILITY

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2.0 Amp Surface Mount Silicon Schottky Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications. To order devices on 12mm Tape and Reel (5000/13" Reel), add TR13 suffix to part number.

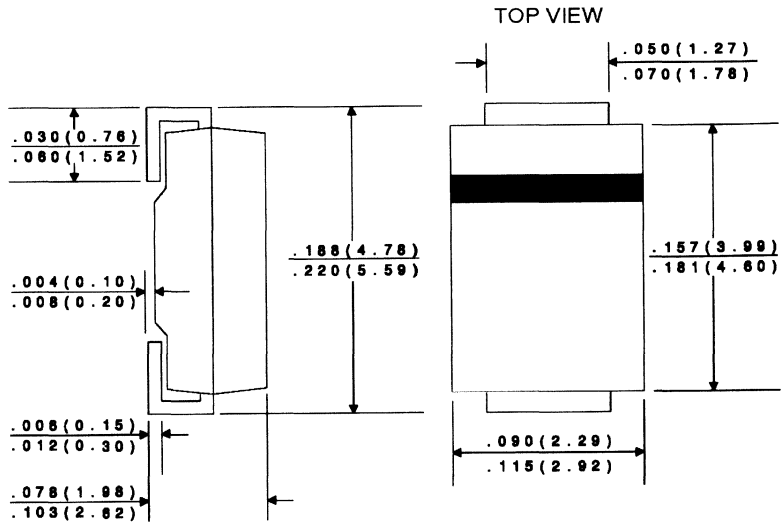
MAXIMUM RATINGS: (T_A=25°C unless otherwise noted)

	SYMBOL	CMSH2	CMSH2	CMSH2	CMSH2	UNITS
		-20M	-40M	-60M	-100M	
Peak Repetitive Reverse Voltage	V _{RRM}	20	40	60	100	V
DC Blocking Voltage	V _R	20	40	60	100	V
RMS Reverse Voltage	V _{R(RMS)}	14	28	42	71	V
Average Forward Current (T _L =75° C)	I _O			2.0		A
Peak Forward Surge Current (8.3ms)	I _{FSM}			50		A
Operating and Storage						
Junction Temperature	T _J , T _{stg}		-65 to +150			°C
Thermal Resistance	θ _{JL}		30			°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I _R	V _R =Rated V _{RRM}			0.50	mA
I _R	V _R =Rated V _{RRM} , T _A =100°C			20	mA
V _F	I _F =2.0A (CMSH2-20M AND CMSH2-40M)			0.55	V
V _F	I _F =2.0A (CMSH2-60M)			0.70	V
V _F	I _F =2.0A (CMSH2-100M)			0.85	V
C _J	V _R =4.0V, f=1.0MHz, (CMSH2-20M AND CMSH2-40M)		150		pF
C _J	V _R =4.0V, f=1.0MHz, (CMSH2-60M AND CMSH2-100M)		120		pF

All Dimensions in Inches (mm).



Marking Codes:

DEVICE	MARKING CODE
CMSH2-20M	CS220M
CMSH2-40M	CS240M
CMSH2-60M	CS260M
CMSH2-100M	CS2100M

**DATA
SHEETS**

CMSH3-20
 CMSH3-40
 CMSH3-60
 CMSH3-100

SCHOTTKY BARRIER RECTIFIER
 3.0 AMP, 20 THRU 100 VOLTS



SMC CASE

CentralTM
 Semiconductor Corp.

FEATURES:

- LOW COST
- SUPERIOR LOT TO LOT CONSISTENCY
- HIGH RELIABILITY
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD
- SPECIAL SELECTIONS AVAILABLE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 3.0 Amp Surface Mount Silicon Schottky Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications. To order devices on 16mm Tape and Reel (3000/13" Reel), add TR13 suffix to part number.

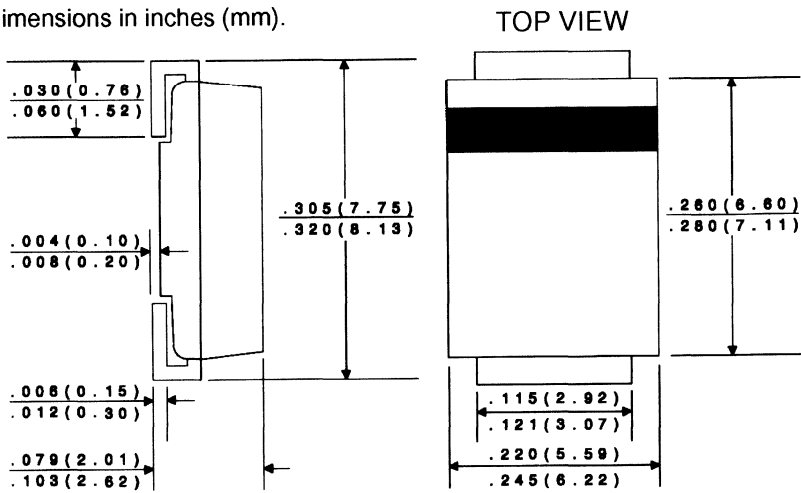
MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

	SYMBOL	CMSH3	CMSH3	CMSH3	CMSH3	UNITS
		-20	-40	-60	-100	
Peak Repetitive Reverse Voltage	V_{RRM}	20	40	60	100	V
DC Blocking Voltage	V_R	20	40	60	100	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	28	42	71	V
Average Forward Current ($T_A=75^{\circ}\text{C}$)	I_O			3.0		A
Peak Forward Surge Current (8.3ms)	I_{FSM}			150		A
Operating and Storage						
Junction Temperature	T_J, T_{stg}		-65 to +150			$^{\circ}\text{C}$
Thermal Resistance	θ_{JL}		10			$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_R	V_R =Rated V_{RRM}			500	μA
I_R	V_R =Rated V_{RRM} , $T_A=100^{\circ}\text{C}$			20	mA
V_F	$I_F=3.0\text{A}$ (CMSH3-20 AND CMSH3-40)			0.50	V
V_F	$I_F=3.0\text{A}$ (CMSH3-60)			0.70	V
V_F	$I_F=3.0\text{A}$ (CMSH3-100)			0.80	V

All dimensions in inches (mm).



Marking Codes:

DEVICE	MARKING CODE
CMSH3-20	CS320
CMSH3-40	CS340
CMSH3-60	CS360
CMSH3-100	CS3100



CMSH3-20L
CMSH3-40L

LOW FORWARD VOLTAGE
SCHOTTKY BARRIER RECTIFIER
3.0 AMP, 20 AND 40 VOLTS

LOW
V_F



SMC CASE

Central[™]
Semiconductor Corp.

FEATURES:

- LOW FORWARD VOLTAGE DROP
- FLAMMABILITY CLASSIFICATION UL94V-0
- HIGH CURRENT CAPABILITY
- SUPERIOR LOT TO LOT CONSISTENCY
- LOW COST
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD
- HIGH RELIABILITY

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 3.0 Amp Surface Mount Low V_F Schottky Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications where high efficiency is required. To order devices on 12mm Tape and Reel (3000/13" Reel), add TR13 suffix to part number.

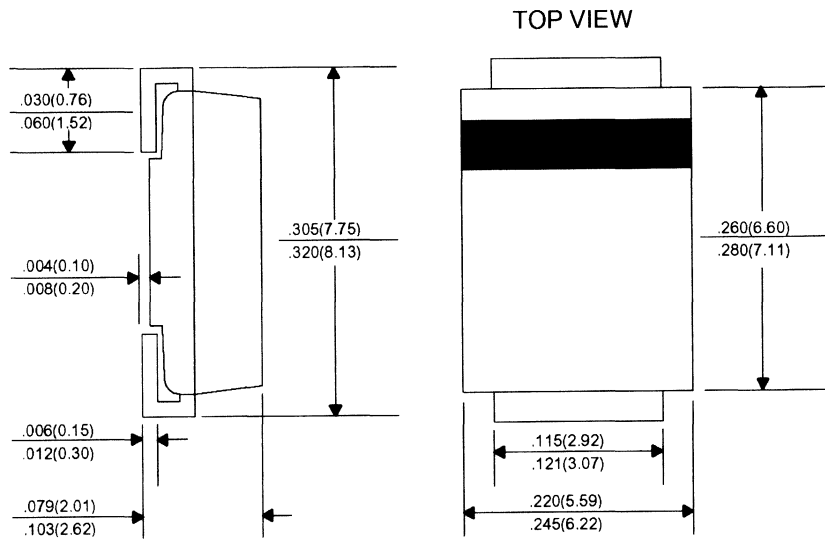
MAXIMUM RATINGS: (T_A=25°C unless otherwise noted)

	SYMBOL	CMSH3-20L	CMSH3-40L	UNITS
Peak Repetitive Reverse Voltage	V _{RRM}	20	40	V
DC Blocking Voltage	V _R	20	40	V
RMS Reverse Voltage	V _{R(RMS)}	14	28	V
Average Forward Current(T _L =75°C)	I _O		3.0	A
Peak Forward Surge Current (8.3ms)	I _{FSM}		100	A
Operating and Storage				
Junction Temperature	T _J , T _{stg}	-65 to +150		°C
Thermal Resistance	θ _{JL}	10		°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I _R	V _R =Rated V _{RRM}			0.50	mA
I _R	V _R =Rated V _{RRM} , T _A =100°C			20	mA
V _F	I _F =3.0A (CMSH3-20L)			0.38	V
V _F	I _F =3.0A (CMSH3-40L)			0.40	V
C _J	V _R =4.0V, f=1.0MHz		260		pF

All Dimensions in Inches (mm)

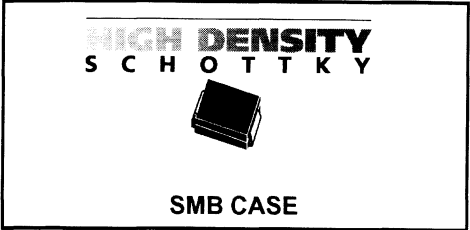


DATA SHEETS

Marking Codes:

DEVICE	MARKING CODE
CMSH3-20L	CS320L
CMSH3-40L	CS340L

CMSH3-20M
CMSH3-40M
CMSH3-60M
CMSH3-100M
HIGH DENSITY
SCHOTTKY BARRIER RECTIFIER
3.0 AMP, 20 THRU 100 VOLTS



Central™

Semiconductor Corp.

FEATURES:

- HIGH CURRENT CAPABILITY
- FLAMMABILITY CLASSIFICATION UL94V-0
- HIGH DENSITY, SUPER MINI DEVICE
- SUPERIOR LOT TO LOT CONSISTENCY
- LOW COST
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD
- HIGH RELIABILITY

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 3.0 Amp Surface Mount Silicon Schottky Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications. To order devices on 12mm Tape and Reel (3000/13" Reel), add TR13 suffix to part number.

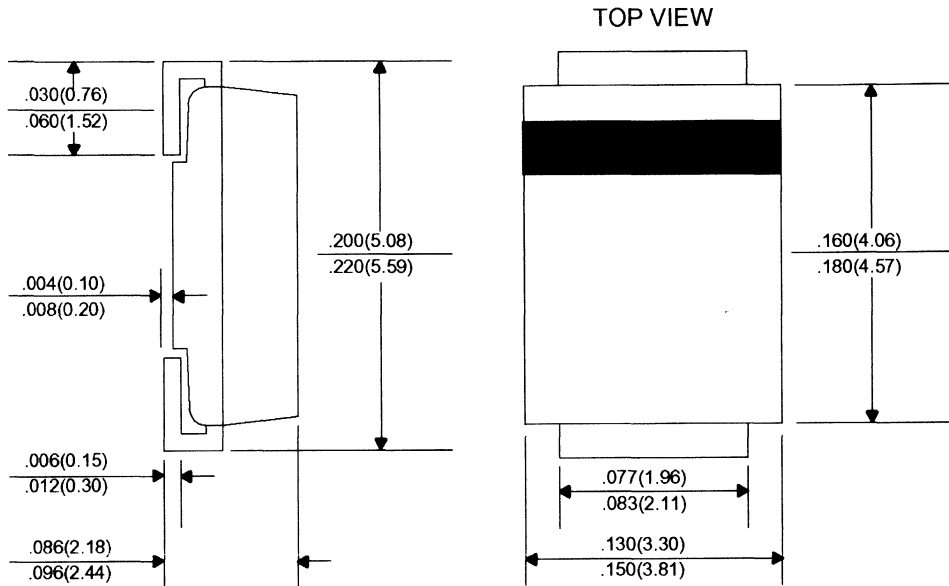
MAXIMUM RATINGS: (T_A=25°C unless otherwise noted)

	SYMBOL	CMSH3 <u>-20M</u>	CMSH3 <u>-40M</u>	CMSH3 <u>-60M</u>	CMSH3 <u>-100M</u>	UNITS
Peak Repetitive Reverse Voltage	V _{RRM}	20	40	60	100	V
DC Blocking Voltage	V _R	20	40	60	100	V
RMS Reverse Voltage	V _{R(RMS)}	14	28	42	71	V
Average Forward Current (T _L =75°C)	I _O			3.0		A
Peak Forward Surge Current (8.3ms)	I _{FSM}			80		A
Operating and Storage						
Junction Temperature	T _J , T _{stg}		-65 to +150			°C
Thermal Resistance	θ _{JL}		20			°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I _R	V _R =Rated V _{RRM}			500	µA
I _R	V _R =Rated V _{RRM} , T _A =100°C			20	mA
V _F	I _F =3.0A (CMSH3-20M AND CMSH3-40M)			0.55	V
V _F	I _F =3.0A (CMSH3-60M)			0.75	V
V _F	I _F =3.0A (CMSH3-100M)			0.85	V
C _J	V _R =4.0V, f=1.0MHz		280		pF

All Dimensions in Inches (mm).



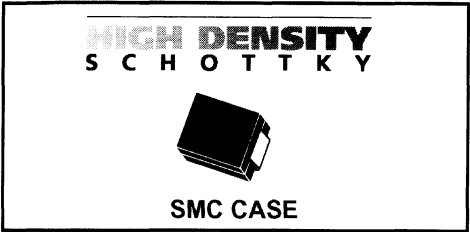
Marking Codes:

DEVICE	MARKING CODE
CMSH3-20M	CS320M
CMSH3-40M	CS340M
CMSH3-60M	CS360M
CMSH3-100M	CS3100M

**DATA
SHEETS**

CMSH5-20
CMSH5-40
CMSH5-60
CMSH5-100

HIGH DENSITY
SCHOTTKY BARRIER RECTIFIER
5.0 AMP, 20 THRU 100 VOLTS



FEATURES:

- LOW COST
- SUPERIOR LOT TO LOT CONSISTENCY
- HIGH RELIABILITY
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD
- SPECIAL SELECTIONS AVAILABLE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 5.0 Amp Surface Mount Silicon Schottky Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications. To order devices on 16mm Tape and Reel (3000/13" Reel), add TR13 suffix to part number.

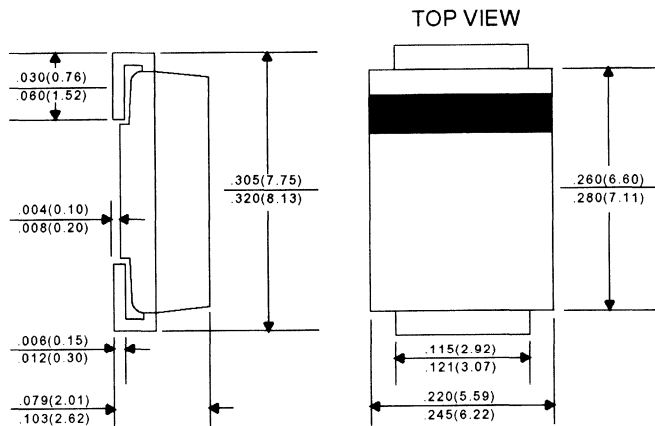
MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

	SYMBOL	CMSH5 <u>-20</u>	CMSH5 <u>-40</u>	CMSH5 <u>-60</u>	CMSH5 <u>-100</u>	UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	20	40	60	100	V
DC Blocking Voltage	V_R	20	40	60	100	V
RMS Reverse Voltage	$V_R(\text{RMS})$	14	28	42	71	V
Average Forward Current ($T_A=75^{\circ}\text{C}$)	I_O			5.0		A
Peak Forward Surge Current (8.3ms)	I_{FSM}			125		A
Operating and Storage Junction Temperature	T_J, T_{stg}			-65 to +150		$^{\circ}\text{C}$
Thermal Resistance	θ_{JL}			10		$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_R	$V_R=\text{Rated } V_{RRM}$			3.0	mA
I_R	$V_R=\text{Rated } V_{RRM}, T_A=100^{\circ}\text{C}$			20	mA
V_F	$I_F=5.0\text{A (CMSH5-20 AND CMSH5-40)}$			0.55	V
V_F	$I_F=5.0\text{A (CMSH5-60)}$			0.75	V
V_F	$I_F=5.0\text{A (CMSH5-100)}$			0.85	V

All Dimensions in Inches (mm).



Marking Codes:

DEVICE	MARKING CODE
CMSH5-20	CS520
CMSH5-40	CS540
CMSH5-60	CS560
CMSH5-100	CS5100



CMSSH-3
 CMSSH-3A
 CMSSH-3C
 CMSSH-3S

SUPER-MINI
 SCHOTTKY DIODES

SUPER™
mini



SOT-323 CASE

Central™
Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR CMSSH-3 Series types are Silicon Schottky diodes, epoxy molded in a super-mini surface mount package, designed for fast switching applications requiring a low forward voltage drop.

The following configurations are available:

CMSSH-3	SINGLE
CMSSH-3A	DUAL, COMMON ANODE
CMSSH-3C	DUAL, COMMON CATHODE
CMSSH-3S	DUAL, IN SERIES

MARKING CODE: 95D
MARKING CODE: B1D
MARKING CODE: B2D
MARKING CODE: A5D

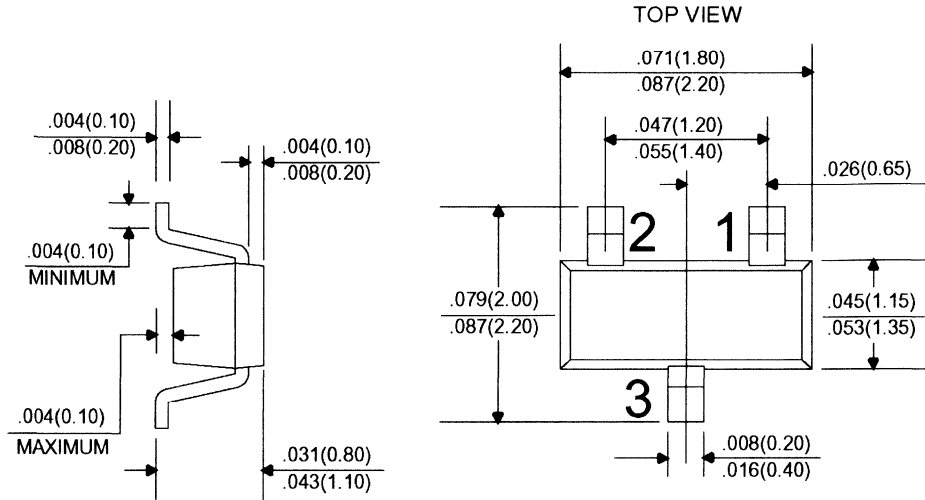
MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	30	V
Continuous Forward Current	I_F	100	mA
Peak Repetitive Forward Current	I_{FRM}	350	mA
Forward Surge Current, $t_p=10\text{ms}$	I_{FSM}	750	mA
Power Dissipation	P_D	250	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	Θ_{JA}	500	$^\circ\text{C/W}$

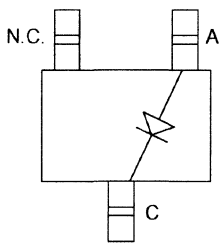
ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
B_{VR}	$I_R=100\mu\text{A}$	30			V
V_F	$I_F=2.0\text{mA}$		0.29	0.33	V
V_F	$I_F=15\text{mA}$		0.40	0.45	V
V_F	$I_F=100\text{mA}$		0.74	1.00	V
I_R	$V_R=25\text{V}$		90	500	nA
I_R	$V_R=25\text{V}, T_A=100^\circ\text{C}$		25	100	μA
C_T	$V_R=1.0\text{V}, f=1\text{MHz}$		7.0		pF
t_{rr}	$I_F=I_R=10\text{mA}, I_{rr}=1.0\text{mA}, R_L=100\Omega$			5.0	ns

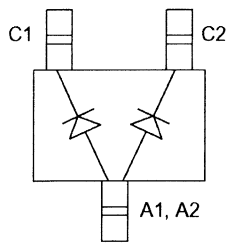
All Dimensions in Inches (mm).



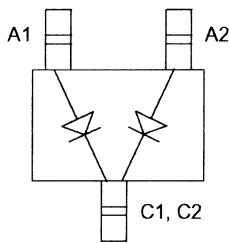
Lead Code



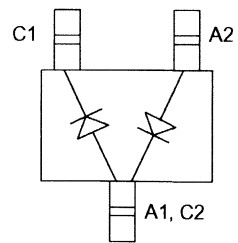
CMSSH-3



CMSSH-3A



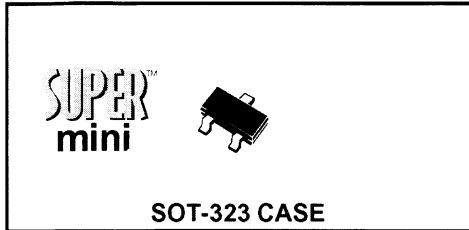
CMSSH-3C



CMSSH-3S



CMST2222A
SUPER-MINI
NPN SILICON TRANSISTOR



DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMST2222A type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a super-mini surface mount package, designed for small signal general purpose and switching applications.

MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$)

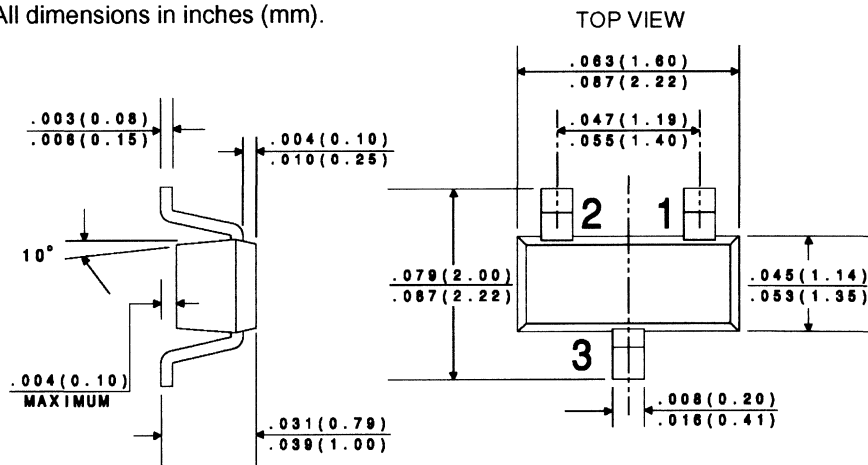
	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	75	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	600	mA
Power Dissipation	P_D	250	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	500	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=60\text{V}$		10	nA
I_{CBO}	$V_{CB}=60\text{V}, T_A=125^{\circ}\text{C}$		10	μA
I_{EBO}	$V_{EB}=3.0\text{V}$		10	nA
I_{CEV}	$V_{CE}=60\text{V}, V_{EB}=3.0\text{V}$		10	nA
BV_{CB0}	$I_C=10\mu\text{A}$	75		V
BV_{CEO}	$I_C=10\text{mA}$	40		V
BV_{EBO}	$I_E=10\mu\text{A}$	6.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.3	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.0	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$	0.6	1.2	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		2.0	V
h_{FE}	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	35		
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	50		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	75		

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=10V, I_C=150mA$	100	300	
h_{FE}	$V_{CE}=1.0V, I_C=150mA$	50		
h_{FE}	$V_{CE}=10V, I_C=500mA$	40		
f_T	$V_{CE}=20V, I_C=20mA, f=100MHz$	300		MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		8.0	pF
C_{ib}	$V_{EB}=0.5V, I_C=0, f=1.0MHz$		25	pF
h_{ie}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	2.0	8.0	$k\Omega$
h_{ie}	$V_{CE}=10V, I_C=10mA, f=1.0kHz$	0.25	1.25	$k\Omega$
h_{re}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$		8.0	$\times 10^{-4}$
h_{re}	$V_{CE}=10V, I_C=10mA, f=1.0kHz$		4.0	$\times 10^{-4}$
h_{fe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	50	300	
h_{fe}	$V_{CE}=10V, I_C=10mA, f=1.0kHz$	75	375	
h_{oe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	5.0	35	$\mu mhos$
h_{oe}	$V_{CE}=10V, I_C=10mA, f=1.0kHz$	25	200	$\mu mhos$
$rb'C_C$	$V_{CB}=10V, I_E=20mA, f=31.8MHz$		150	ps
NF	$V_{CE}=10V, I_C=100mA, R_S=1.0k\Omega, f=1.0kHz$		4.0	dB
t_d	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		10	ns
t_r	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		25	ns
t_s	$V_{CC}=30V, I_C=150mA, I_{B1}=I_{B2}=15mA$		225	ns
t_f	$V_{CC}=30V, I_C=150mA, I_{B1}=I_{B2}=15mA$		60	ns

All dimensions in inches (mm).



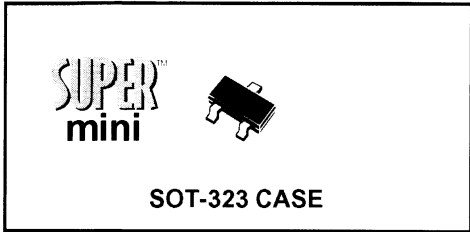
DATA SHEETS

LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

R1

CMST2907A
SUPER-MINI
PNP SILICON TRANSISTOR



CentralTM Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMST2907A type is an PNP silicon transistor manufactured by the epitaxial planar process, epoxy molded in a super-mini surface mount package, designed for small signal general purpose and switching applications.

MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$)

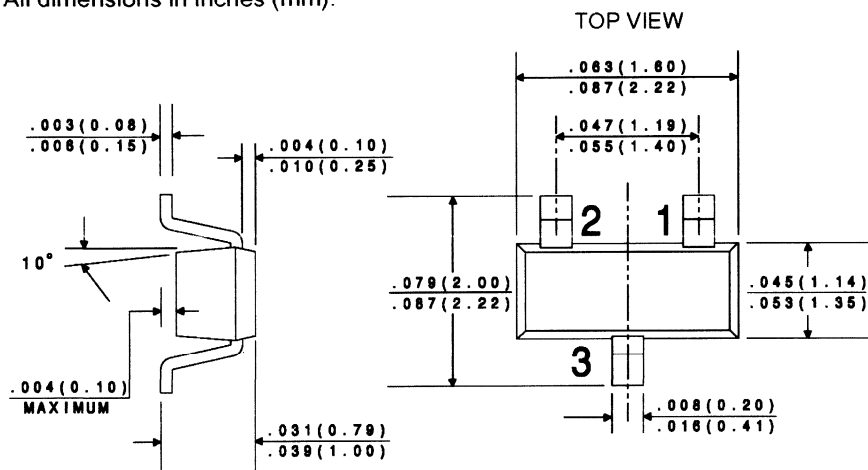
	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	60	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	600	mA
Power Dissipation	P_D	250	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	500	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=50\text{V}$		10	nA
I_{CBO}	$V_{CB}=50\text{V}, T_A=125^{\circ}\text{C}$		10	μA
I_{CEV}	$V_{CE}=30\text{V}, V_{BE}=0.5\text{V}$		50	nA
BV_{CBO}	$I_C=10\mu\text{A}$	60		V
BV_{CEO}	$I_C=10\text{mA}$	60		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.4	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.6	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		1.3	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		2.6	V
h_{FE}	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	75		
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	100		

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=10V, I_C=10mA$	100		
h_{FE}	$V_{CE}=10V, I_C=150mA$	100	300	
h_{FE}	$V_{CE}=10V, I_C=500mA$	50		
f_T	$V_{CE}=20V, I_C=50mA, f=100MHz$	200		MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		8.0	pF
C_{ib}	$V_{BE}=2.0V, I_C=0, f=1.0MHz$		30	pF
t_{on}	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		45	ns
t_d	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		10	ns
t_r	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		40	ns
t_{off}	$V_{CC}=6.0V, I_C=150mA, I_{B1}=I_{B2}=15mA$		100	ns
t_s	$V_{CC}=6.0V, I_C=150mA, I_{B1}=I_{B2}=15mA$		80	ns
t_f	$V_{CC}=6.0V, I_C=150mA, I_{B1}=I_{B2}=15mA$		30	ns

All dimensions in inches (mm).



DATA SHEETS

LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

R1

CMST3904 NPN
CMST3906 PNP

SUPER-MINI
COMPLEMENTARY
SILICON TRANSISTORS

SUPERTM
mini



SOT-323 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMST3904, CMST3906 types are complementary silicon transistors manufactured by the epitaxial planar process, epoxy molded in a super-mini surface mount package, designed for small signal general purpose amplifier and switching applications.

MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$)

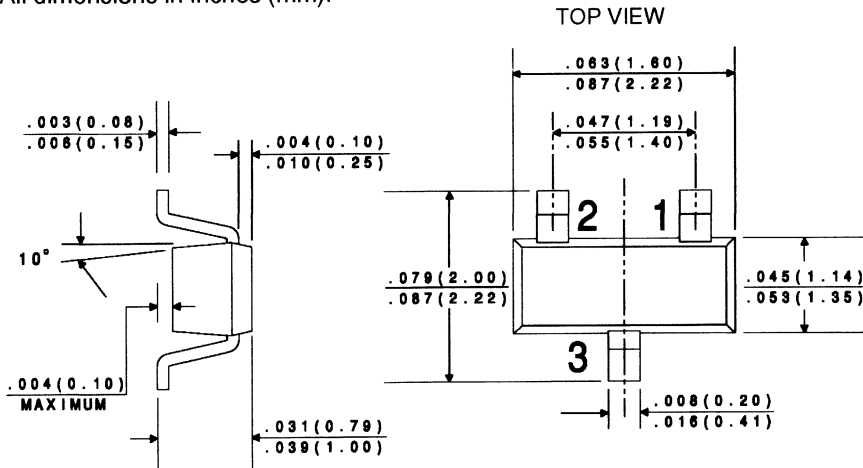
	SYMBOL	CMST3904	CMST3906	UNITS
Collector-Base Voltage	V_{CB0}	60	40	V
Collector-Emitter Voltage	V_{CE0}	40	40	V
Emitter-Base Voltage	V_{EB0}	6.0	5.0	V
Collector Current	I_C	200		mA
Power Dissipation	P_D	250		mW
Operating and Storage				
Junction Temperature	T_J, T_{stg}	-65 to +150		$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	500		$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	CMST3904		CMST3906		UNITS
		MIN	MAX	MIN	MAX	
I_{CEV}	$V_{CE}=30\text{V}, V_{EB}=3.0\text{V}$		50		50	nA
BV_{CB0}	$I_C=10\mu\text{A}$		60		40	V
BV_{CE0}	$I_C=1.0\text{mA}$		40		40	V
BV_{EB0}	$I_E=10\mu\text{A}$		6.0		5.0	V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.20		0.25	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.30		0.40	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	0.65	0.85	0.65	0.85	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.95		0.95	V
h_{FE}	$V_{CE}=1.0\text{V}, I_C=0.1\text{mA}$	40		60		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=1.0\text{mA}$	70		80		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=10\text{mA}$	100	300	100	300	

SYMBOL	TEST CONDITIONS	CMST3904		CMST3906		UNITS
		MIN	MAX	MIN	MAX	
h_{FE}	$V_{CE}=1.0V, I_C=50mA$	60		60		
h_{FE}	$V_{CE}=1.0V, I_C=100mA$	30		30		
f_T	$V_{CE}=20V, I_C=10mA, f=100MHz$	300		250		MHz
C_{ob}	$V_{CB}=5.0V, I_E=0, f=1.0MHz$		4.0		4.5	pF
C_{ib}	$V_{BE}=0.5V, I_C=0, f=1.0MHz$		8.0		10	pF
h_{ie}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	1.0	10	2.0	12	$k\Omega$
h_{re}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	0.5	8.0	0.1	10	$\times 10^{-4}$
h_{fe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	100	400	100	400	
h_{oe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	1.0	40	3.0	60	$\mu mhos$
NF	$V_{CE}=5.0V, I_C=100mA, R_S=1.0k\Omega$ $f=10Hz$ to $15.7kHz$		5.0		4.0	dB
t_d	$V_{CC}=3.0V, V_{BE}=0.5V, I_C=10mA, I_{B1}=1.0mA$		35		35	ns
t_r	$V_{CC}=3.0V, V_{BE}=0.5V, I_C=10mA, I_{B1}=1.0mA$		35		35	ns
t_s	$V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=1.0mA$		200		225	ns
t_f	$V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=1.0mA$		50		75	ns

All dimensions in inches (mm).



DATA SHEETS

LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

R1

**CMSZ5221B
THRU
CMSZ5261B**

**250 mW ZENER DIODE
5% TOLERANCE**

**SUPER™
mini**



SOT-323 CASE

**Central™
Semiconductor Corp.**

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMSZ5221B Series Silicon Zener Diode is a high quality voltage regulator for use in industrial, commercial, entertainment and computer applications. Higher voltage devices are available on special order.

ABSOLUTE MAXIMUM RATINGS

Power Dissipation (@ $T_A=25^\circ\text{C}$)
Operating and Storage Temperature
Thermal Resistance

SYMBOL

P_D	250	mW
T_J, T_{stg}	-65 to +175	$^\circ\text{C}$
Θ_{JA}	500	$^\circ\text{C/W}$

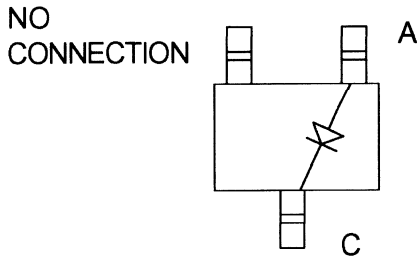
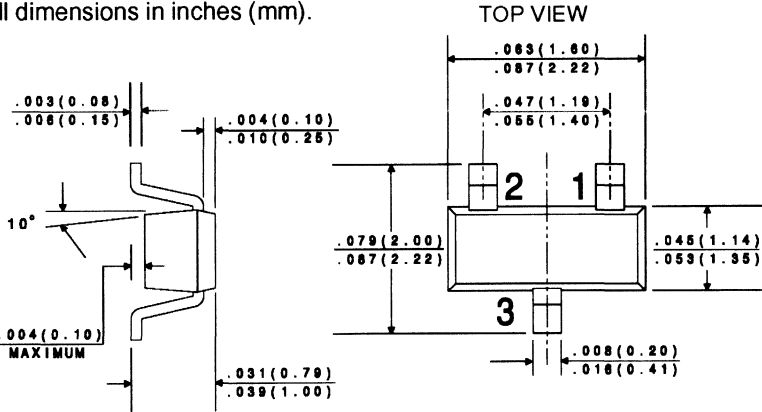
UNITS

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$), $V_F=0.9\text{V MAX @ } I_F=10\text{mA}$ FOR ALL TYPES.

TYPE	ZENER VOLTAGE			TEST CURRENT	MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE CURRENT		MAX. TEMP. COEFF.	MARKING CODE
	$V_Z @ I_ZT$				I_ZT	$Z_{ZT} @ I_ZT$	$Z_{ZK} @ I_ZK$	$I_R @ V_R$			
	MIN	NOM	MAX	μA				VOLTS	$\% / ^\circ\text{C}$		
	VOLTS	VOLTS	VOLTS	mA	Ω	Ω	mA	μA	VOLTS	$\% / ^\circ\text{C}$	
CMSZ5221B	2.280	2.4	2.520	20	30	1200	0.25	100	1.0	-0.085	8A1
CMSZ5222B	2.375	2.5	2.625	20	30	1250	0.25	100	1.0	-0.085	8B1
CMSZ5223B	2.565	2.7	2.835	20	30	1300	0.25	75	1.0	-0.080	8C1
CMSZ5224B	2.660	2.8	2.940	20	30	1400	0.25	75	1.0	-0.080	8D1
CMSZ5225B	2.850	3.0	3.150	20	29	1600	0.25	50	1.0	-0.075	8E1
CMSZ5226B	3.135	3.3	3.465	20	28	1600	0.25	25	1.0	-0.070	8AC
CMSZ5227B	3.420	3.6	3.780	20	24	1700	0.25	15	1.0	-0.065	8BC
CMSZ5228B	3.705	3.9	4.095	20	23	1900	0.25	10	1.0	-0.060	8CC
CMSZ5229B	4.085	4.3	4.515	20	22	2000	0.25	5.0	1.0	± 0.055	8DC
CMSZ5230B	4.465	4.7	4.935	20	19	1900	0.25	5.0	2.0	± 0.030	8EC
CMSZ5231B	4.845	5.1	5.355	20	17	1600	0.25	5.0	2.0	± 0.030	8FC
CMSZ5232B	5.320	5.6	5.880	20	11	1600	0.25	5.0	3.0	+0.038	8GC
CMSZ5233B	5.700	6.0	6.300	20	7.0	1600	0.25	5.0	3.5	+0.038	8HC
CMSZ5234B	5.890	6.2	6.510	20	7.0	1000	0.25	5.0	4.0	+0.045	8JC
CMSZ5235B	6.460	6.8	7.140	20	5.0	750	0.25	3.0	5.0	+0.050	8KC
CMSZ5236B	7.125	7.5	7.875	20	6.0	500	0.25	3.0	6.0	+0.058	8LC
CMSZ5237B	7.790	8.2	8.610	20	8.0	500	0.25	3.0	6.5	+0.062	8MC
CMSZ5238B	8.265	8.7	9.135	20	8.0	600	0.25	3.0	6.5	+0.065	8NC
CMSZ5239B	8.645	9.1	9.555	20	10	600	0.25	3.0	7.0	+0.068	8PC
CMSZ5240B	9.500	10	10.50	20	17	600	0.25	3.0	8.0	+0.075	8QC
CMSZ5241B	10.45	11	11.55	20	22	600	0.25	2.0	8.4	+0.076	8RC
CMSZ5242B	11.40	12	12.60	20	30	600	0.25	1.0	9.1	+0.077	8SC
CMSZ5243B	12.35	13	13.65	9.5	13	600	0.25	0.5	9.9	+0.079	8TC
CMSZ5244B	13.30	14	14.70	9.0	15	600	0.25	0.1	10	+0.082	8UC

TYPE	ZENER VOLTAGE			TEST CURRENT	MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE CURRENT		MAX. TEMP. COEFF.	MARKING CODE
	$V_Z @ I_{ZT}$				I_{ZT}	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_R @ V_R$			
	MIN	NOM	MAX	μA				VOLTS	$\% / ^\circ C$		
	VOLTS	VOLTS	VOLTS	mA	Ω	Ω	mA	μA	VOLTS	$\% / ^\circ C$	
CMSZ5245B	14.25	15	15.75	8.5	16	600	0.25	0.1	11	+0.082	8VC
CMSZ5246B	15.20	16	16.80	7.8	17	600	0.25	0.1	12	+0.083	8WC
CMSZ5247B	16.15	17	17.85	7.4	19	600	0.25	0.1	13	+0.084	8XC
CMSZ5248B	17.10	18	18.90	7.0	21	600	0.25	0.1	14	+0.085	8YC
CMSZ5249B	18.05	19	19.95	6.6	23	600	0.25	0.1	14	+0.086	8ZC
CMSZ5250B	19.00	20	21.00	6.2	25	600	0.25	0.1	15	+0.086	1A8
CMSZ5251B	20.90	22	23.10	5.6	29	600	0.25	0.1	17	+0.087	1B8
CMSZ5252B	22.80	24	25.20	5.2	33	600	0.25	0.1	18	+0.088	1C8
CMSZ5253B	23.75	25	26.25	5.0	35	600	0.25	0.1	19	+0.089	1D8
CMSZ5254B	25.65	27	28.35	4.6	41	600	0.25	0.1	21	+0.090	1E8
CMSZ5255B	26.60	28	29.40	4.5	44	600	0.25	0.1	21	+0.091	1F8
CMSZ5256B	28.50	30	31.50	4.2	49	600	0.25	0.1	23	+0.091	1G8
CMSZ5257B	31.35	33	34.65	3.8	58	700	0.25	0.1	25	+0.092	1H8
CMSZ5258B	34.20	36	37.80	3.4	70	700	0.25	0.1	27	+0.093	1J8
CMSZ5259B	37.05	39	40.95	3.2	80	800	0.25	0.1	30	+0.094	1K8
CMSZ5260B	40.85	43	45.15	3.0	93	900	0.25	0.1	33	+0.095	1L8
CMSZ5261B	44.65	47	49.35	2.7	105	1000	0.25	0.1	36	+0.095	1M8

All dimensions in inches (mm).



DATA SHEETS

**CMSZDA3V6
THRU
CMSZDA33V**

**DUAL ZENER DIODE
3.6 VOLTS THRU 33 VOLTS
250mW, 5% TOLERANCE**

**SUPER
mini**



SOT-323 CASE

**Central™
Semiconductor Corp.**

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMSZDA3V6 Series Silicon Dual Zener Diode is a high quality voltage regulator, connected in a common anode configuration, for use in industrial, commercial, entertainment and computer applications.

ABSOLUTE MAXIMUM RATINGS

Power Dissipation (@ $T_A=25^{\circ}C$)
Operating and Storage Temperature
Thermal Resistance

SYMBOL

P_D 250
 T_J, T_{stg} -65 to +150
 Θ_{JA} 500

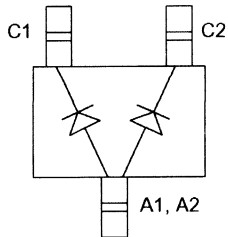
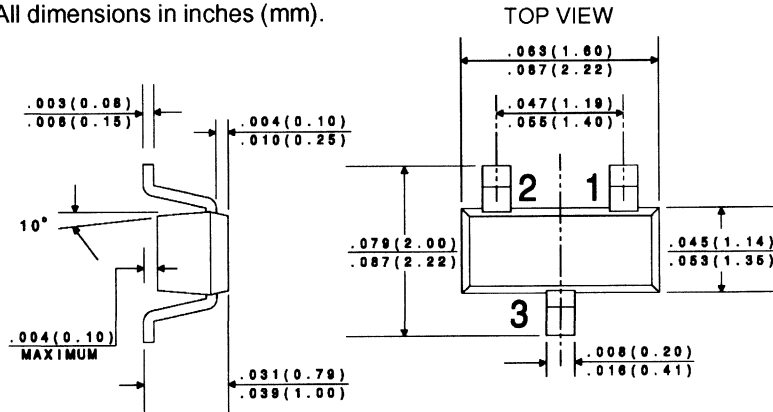
UNIT

mW
 $^{\circ}C$
 $^{\circ}C/W$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}C$), $V_F=0.9V$ MAX @ $I_F=10mA$ FOR ALL TYPES.

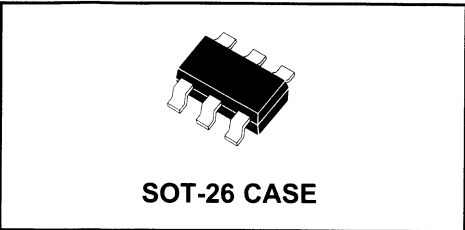
TYPE NO.	ZENER VOLTAGE $V_Z @ I_{ZT}$		TEST CURRENT I_{ZT}	MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE CURRENT		MAXIMUM ZENER CURRENT I_{ZM}	MAXIMUM ZENER VOLTAGE TEMPERATURE COEFFICIENT ΘV_Z	MARKING CODE
	MIN	MAX		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$				
	VOLTS	VOLTS			Ω	Ω	mA	μA				VOLTS
CMSZDA3V6	3.4	3.8	5.0	95	600	1.0	2.0	1.0	45	-0.06	W7W
CMSZDA3V9	3.7	4.1	5.0	90	600	1.0	2.0	1.0	43	-0.06	W8W
CMSZDA4V3	4.0	4.6	5.0	90	600	1.0	1.0	1.0	40	-0.05	W9W
CMSZDA4V7	4.4	5.0	5.0	80	500	1.0	3.0	2.0	38	-0.03	Z1Z
CMSZDA5V1	4.8	5.4	5.0	60	480	1.0	2.0	2.0	35	0.02	Z2Z
CMSZDA5V6	5.2	6.0	5.0	40	400	1.0	1.0	2.0	32	0.03	Z3Z
CMSZDA6V2	5.8	6.6	5.0	10	150	1.0	3.0	4.0	28	0.04	Z4Z
CMSZDA6V8	6.4	7.2	5.0	15	80	1.0	2.0	4.0	25	0.05	Z5Z
CMSZDA7V5	7.0	7.9	5.0	15	80	1.0	1.0	5.0	23	0.05	Z6Z
CMSZDA8V2	7.7	8.7	5.0	15	80	1.0	0.7	5.0	21	0.06	Z7Z
CMSZDA9V1	8.5	9.6	5.0	15	100	1.0	0.5	6.0	18	0.06	Z8Z
CMSZDA10V	9.4	10.6	5.0	20	150	1.0	0.2	7.0	16	0.07	Z9Z
CMSZDA11V	10.4	11.6	5.0	20	150	1.0	0.1	8.0	15	0.07	Y1Y
CMSZDA12V	11.4	12.7	5.0	25	150	1.0	0.1	8.0	13	0.07	Y2Y
CMSZDA13V	12.4	14.1	5.0	30	170	1.0	0.1	8.0	12	0.08	Y3Y
CMSZDA15V	13.8	15.6	5.0	30	200	1.0	0.05	10.5	11	0.08	Y4Y
CMSZDA16V	15.3	17.1	5.0	40	200	1.0	0.05	11.2	10	0.08	Y5Y
CMSZDA18V	16.8	19.1	5.0	45	225	1.0	0.05	12.6	9.2	0.08	Y6Y
CMSZDA20V	18.8	21.2	5.0	55	225	1.0	0.05	14.0	8.3	0.08	Y7Y
CMSZDA22V	20.8	23.3	5.0	55	250	1.0	0.05	15.4	7.6	0.09	Y8Y
CMSZDA24V	22.8	25.6	5.0	70	250	1.0	0.05	16.8	7.0	0.09	Y9Y
CMSZDA27V	25.1	28.9	2.0	80	300	0.5	0.05	18.9	6.2	0.09	10W
CMSZDA30V	28.0	32.0	2.0	80	300	0.5	0.05	21.0	5.6	0.09	11W
CMSZDA33V	31.0	35.0	2.0	80	325	0.5	0.05	23.1	5.0	0.09	12W

All dimensions in inches (mm).



DATA SHEETS

NEW
CMXD2004
SUPER-MINI
TRIPLE ISOLATED
SURFACE MOUNT
HIGH VOLTAGE
SWITCHING DIODE



Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMXD2004 type contains three (3) Isolated High Voltage Silicon Switching Diodes, manufactured by the epitaxial planar process, epoxy molded in a super-mini surface mount package, designed for applications requiring high voltage capability. Marking code is X04.

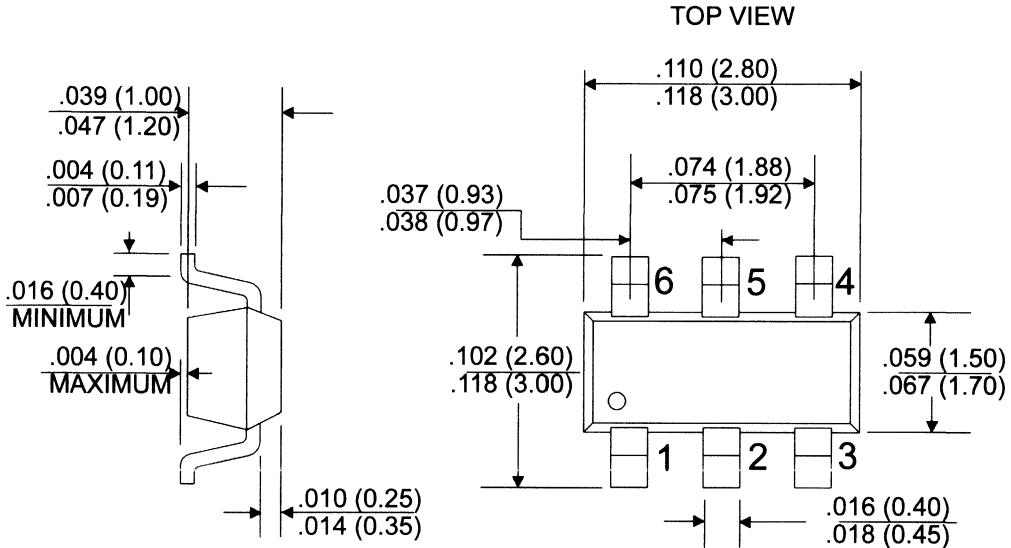
MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Continuous Reverse Voltage	V_R	240	V
Peak Repetitive Reverse Voltage	V_{RRM}	300	V
Peak Repetitive Reverse Current	I_O	200	mA
Continuous Forward Current	I_F	225	mA
Peak Repetitive Forward Current	I_{FRM}	625	mA
Forward Surge Current, $t_p=1$ ms	I_{FSM}	4000	mA
Forward Surge Current, $t_p=1$ s	I_{FSM}	1000	mA
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	65 to +150	$^\circ\text{C}$
Thermal Resistance	Θ_{JA}	357	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS PER DIODE ($T_A=25^\circ\text{C}$ unless otherwise noted)

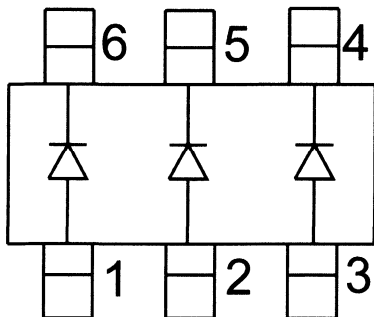
SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
I_R	$V_R=240\text{V}$		100	nA
I_R	$V_R=240\text{V}, T_A=150^\circ\text{C}$		100	μA
BV_R	$I_R=100\mu\text{A}$	300		V
V_F	$I_F=100\text{mA}$		1.0	V
C_T	$V_R=0, f=1$ MHz		5.0	pF
t_{rr}	$I_F=I_R=30\text{mA}$, Rec. To 3.0mA, $R_L=100\Omega$		50	ns

MECHANICAL OUTLINE - SOT-26 CASE



All Dimensions in Inches (mm)

Pin Configuration



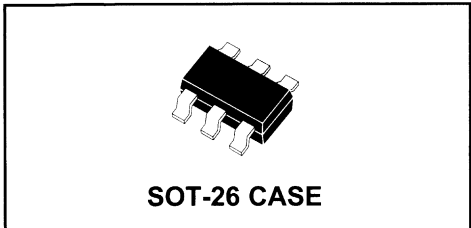
Lead Code

- 1) Anode 1
- 2) Anode 2
- 3) Anode 3
- 4) Cathode 3
- 5) Cathode 2
- 6) Cathode 1

**DATA
SHEETS**

R1 (14-Sept 2000)

NEW
CMXD4448
SUPER-MINI
TRIPLE ISOLATED
SURFACE MOUNT
HIGH SPEED
SWITCHING DIODE



CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMXD4448 type contains three (3) Isolated High Speed Silicon Switching Diodes, manufactured by the epitaxial planar process, epoxy molded in a super-mini surface mount package, designed for applications requiring high speed switching applications. Marking code is X48.

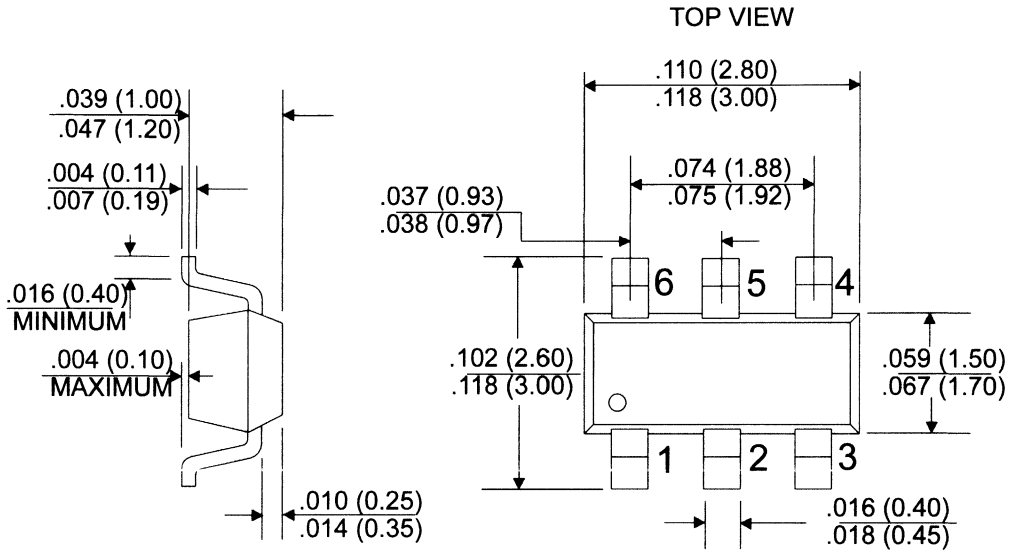
MAXIMUM RATINGS (T_A=25°C)

	SYMBOL		UNITS
Continuous Reverse Voltage	V _R	75	V
Peak Repetitive Reverse Voltage	V _R RM	100	V
Continuous Forward Current	I _F	250	mA
Peak Repetitive Forward Current	I _F RM	250	mA
Forward Surge Current, tp=1 μsec.	I _F SM	4000	mA
Forward Surge Current, tp=1 sec.	I _F SM	1000	mA
Power Dissipation	P _D	350	mW
Operating and Storage Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	θ _{JA}	357	°C/W

ELECTRICAL CHARACTERISTICS PER DIODE (T_A=25°C unless otherwise noted)

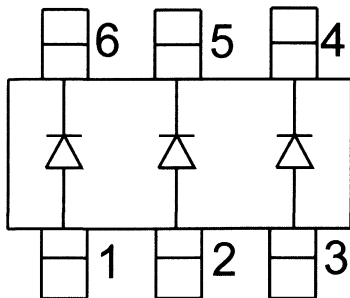
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _R	V _R =20V		25	nA
BV _R	I _R =5.0μA	75		V
BV _R	I _R =100μA	100		V
V _F	I _F =100mA		1.0	V
C _T	V _R =0, f=1 MHz		4.0	pF
t _{rr}	I _R =I _F =10mA, R _L =100Ω Rec. to 1.0mA		4.0	ns

MECHANICAL OUTLINE - SOT-26 CASE



All Dimensions in Inches (mm)

Pin Configuration



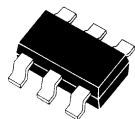
Lead Code

- 1) Anode 1
- 2) Anode 2
- 3) Anode 3
- 4) Cathode 3
- 5) Cathode 2
- 6) Cathode 1





CMXSH-3
SUPER-MINI
TRIPLE ISOLATED
SURFACE MOUNT
SCHOTTKY
SWITCHING DIODE



SOT-26 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMXSH-3 type contains three (3) Isolated Schottky Silicon Switching Diodes, manufactured by the epitaxial planar process, epoxy molded in a super-mini surface mount package, designed for applications requiring low forward voltage drop. Marking code is XH3.

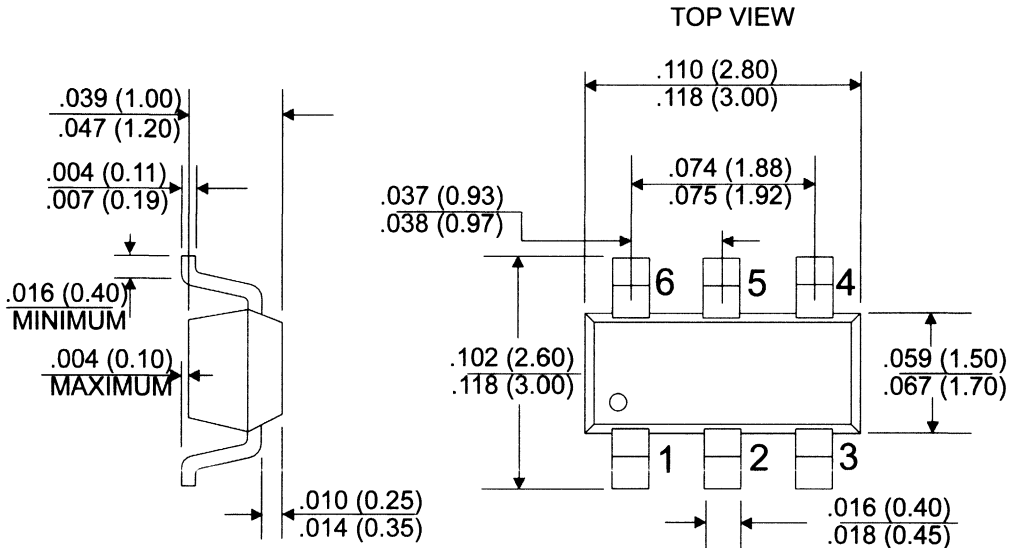
MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	30	V
Continuous Forward Current	I_F	100	mA
Peak Repetitive Forward Current	I_{FRM}	350	mA
Forward Surge Current, $t_p=10$ ms	I_{FSM}	750	mA
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	Θ_{JA}	357	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS PER DIODE ($T_A=25^\circ\text{C}$ unless otherwise noted)

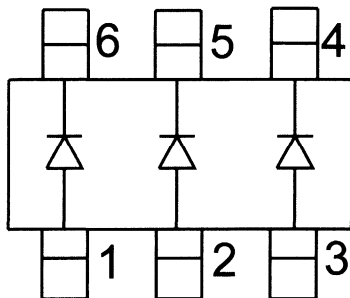
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_R	$V_R=25\text{V}$		90	500	nA
I_R	$V_R=25\text{V}, T_A=100^\circ\text{C}$		25	100	μA
B_{VR}	$I_R=100\mu\text{A}$	30			V
V_F	$I_F=2.0\text{mA}$		0.29	0.33	V
V_F	$I_F=15\text{mA}$		0.40	0.45	V
V_F	$I_F=100\text{mA}$		0.74	1.00	V
C_T	$V_R=1.0\text{V}, f=1.0\text{MHz}$		7.0		pF
t_{rr}	$I_F=I_R=10\text{mA}, I_{rr}=1.0\text{mA}, R_L=100\Omega$			5.0	ns

MECHANICAL OUTLINE - SOT-26 CASE



All Dimensions in Inches (mm)

Pin Configuration



Lead Code

- 1) Anode 1
- 2) Anode 2
- 3) Anode 3
- 4) Cathode 3
- 5) Cathode 2
- 6) Cathode 1

**DATA
SHEETS**

R1 (14-Sept 2000)

**CMZ5342B
THRU
CMZ5388B**

**HIGH POWER ZENER DIODE
6.8 VOLTS THRU 200 VOLTS
5.0W, 5% TOLERANCE**



SMC CASE

**Central™
Semiconductor Corp.**

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMZ5342B Series Silicon Zener Diode is a high quality voltage regulator, manufactured in an epoxy molded surface mount package, designed for use in industrial, commercial, entertainment and computer applications.

ABSOLUTE MAXIMUM RATINGS:

Power Dissipation (@ $T_A=25^\circ\text{C}$)
Operating and Storage Temperature

SYMBOL

P_D 5.0
 T_J, T_{stg} -65 to +150

UNITS

W
 $^\circ\text{C}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$), $V_F=1.2\text{V MAX}$ @ $I_F=1.0\text{A}$ FOR ALL TYPES.

TYPE NO.	ZENER VOLTAGE $V_Z @ I_{ZT}$			TEST CURRENT I_{ZT}	MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE CURRENT		MAXIMUM SURGE CURRENT (Note 1) i_r	MAXIMUM VOLTAGE REGULATION (Note 2) ΔV_Z	MAXIMUM REGULATOR CURRENT I_{ZM}	MARKING CODE
	MIN	NOM	MAX		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_R @ V_R$						
	VOLT	VOLTS	VOLTS		Ω	Ω	μA VOLTS						
CMZ5342B*	6.460	6.8	7.140	175	1.0	200	1.0	10	5.2	11.5	0.15	700	C5342B
CMZ5343B*	7.125	7.5	7.875	175	1.5	200	1.0	10	5.7	10.7	0.15	630	C5343B
CMZ5344B*	7.790	8.2	8.610	150	1.5	200	1.0	10	6.2	10.0	0.20	580	C5344B
CMZ5345B*	8.265	8.7	9.135	150	2.0	200	1.0	10	6.6	7.5	0.20	545	C5345B
CMZ5346B*	8.645	9.1	9.555	150	2.0	150	1.0	7.5	6.9	9.2	0.22	520	C5346B
CMZ5347B	9.500	10	10.50	125	2.0	125	1.0	5.0	7.6	8.6	0.22	475	C5347B
CMZ5348B	10.45	11	11.55	125	2.5	125	1.0	5.0	8.4	8.0	0.25	430	C5348B
CMZ5349B	11.40	12	12.60	100	2.5	125	1.0	2.0	9.1	7.5	0.25	395	C5349B
CMZ5350B	12.35	13	13.65	100	2.5	100	1.0	1.0	9.9	7.0	0.25	365	C5350B
CMZ5351B	13.30	14	14.70	100	2.5	75	1.0	1.0	10.6	6.7	0.25	340	C5351B
CMZ5352B	14.25	15	15.75	75	2.5	75	1.0	1.0	11.5	6.3	0.25	315	C5352B
CMZ5353B	15.20	16	16.80	75	2.5	75	1.0	1.0	12.2	6.00	0.30	295	C5353B
CMZ5354B	16.15	17	17.85	70	2.5	75	1.0	0.5	12.9	5.8	0.35	280	C5354B
CMZ5355B	17.10	18	18.90	65	2.5	75	1.0	0.5	13.7	5.5	0.40	264	C5355B
CMZ5356B	18.05	19	19.95	65	3.0	75	1.0	0.5	14.4	5.3	0.40	250	C5356B
CMZ5357B	19.00	20	21.00	65	3.0	75	1.0	0.5	15.2	5.1	0.40	237	C5357B
CMZ5358B	20.90	22	23.10	50	3.5	75	1.0	0.5	16.7	4.7	0.45	216	C5358B
CMZ5359B	22.80	24	25.20	50	3.5	100	1.0	0.5	18.2	4.4	0.55	198	C5359B
CMZ5360B	23.75	25	26.25	50	4.0	110	1.0	0.5	19.0	4.3	0.55	190	C5360B
CMZ5361B	25.65	27	28.35	50	5.0	120	1.0	0.5	20.6	4.1	0.60	176	C5361B
CMZ5362B	26.60	28	29.40	50	6.0	130	1.0	0.5	21.2	3.9	0.60	170	C5362B
CMZ5363B	28.50	30	31.50	40	8.0	140	1.0	0.5	22.8	3.7	0.60	158	C5363B
CMZ5364B	31.35	33	34.65	40	10	150	1.0	0.5	25.1	3.5	0.65	144	C5364B
CMZ5365B	34.20	36	37.80	30	11	160	1.0	0.5	27.4	3.3	0.65	132	C5365B

* Available on special order only, please consult factory.

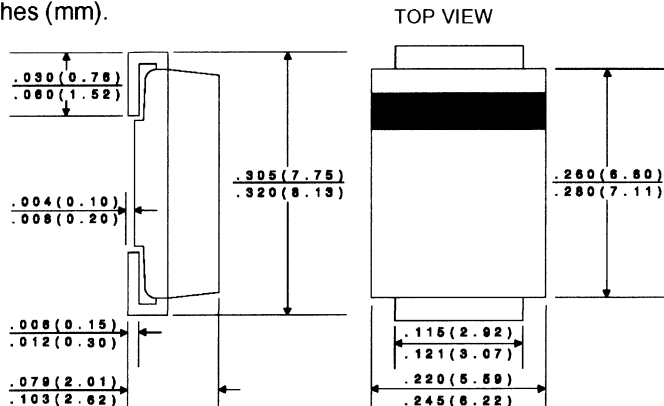
ELECTRICAL CHARACTERISTICS: (TA=25°C), VF=1.2V MAX @ IF=1.0A FOR ALL TYPES.

TYPE NO.	ZENER VOLTAGE V _Z @I _{ZT}			TEST CURRENT I _{ZT}	MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE CURRENT		MAXIMUM SURGE CURRENT (Note 1) I _T	MAXIMUM VOLTAGE REGULATION (Note 2) ΔV _Z	MAXIMUM REGULATOR CURRENT I _{ZM}	MARKING CODE
	MIN	NOM	MAX		Z _{ZT} @I _{ZT}	Z _{ZK} @I _{ZK}	I _R @ V _R						
	VOLTS	VOLTS	VOLTS		Ω	Ω	μA	VOLTS					
CMZ5366B	37.05	39	40.95	30	14	170	1.0	0.5	29.7	3.1	0.65	122	C5366B
CMZ5367B	40.85	43	45.15	30	20	190	1.0	0.5	32.7	2.8	0.70	110	C5367B
CMZ5368B	44.65	47	49.35	25	25	210	1.0	0.5	35.8	2.7	0.80	100	C5368B
CMZ5369B	48.45	51	53.55	25	27	230	1.0	0.5	38.8	2.5	0.90	93.0	C5369B
CMZ5370B	53.20	56	58.80	20	35	280	1.0	0.5	42.6	2.3	1.00	86.0	C5370B
CMZ5371B	57.00	60	63.00	20	40	350	1.0	0.5	45.5	2.2	1.20	79.0	C5371B
CMZ5372B	58.90	62	65.10	20	42	400	1.0	0.5	47.1	2.1	1.35	76.0	C5372B
CMZ5373B	64.60	68	71.40	20	44	500	1.0	0.5	51.7	2.0	1.50	70.0	C5373B
CMZ5374B	71.25	75	78.75	20	45	620	1.0	0.5	56.0	1.9	1.60	63.0	C5374B
CMZ5375B	77.90	82	86.10	15	65	720	1.0	0.5	62.2	1.8	1.80	58.0	C5375B
CMZ5376B	82.65	87	91.35	15	75	760	1.0	0.5	66.0	1.7	2.00	54.5	C5376B
CMZ5377B	86.45	91	95.55	15	75	760	1.0	0.5	69.2	1.6	2.20	52.5	C5377B
CMZ5378B	95.00	100	105.0	12	90	800	1.0	0.5	76.0	1.5	2.50	47.5	C5378B
CMZ5379B	104.5	110	115.5	12	125	1000	1.0	0.5	83.6	1.4	2.50	43.0	C5379B
CMZ5380B	114.0	120	126.0	10	170	1150	1.0	0.5	91.2	1.3	2.50	39.5	C5380B
CMZ5381B	123.5	130	136.5	10	190	1250	1.0	0.5	98.8	1.2	2.50	36.6	C5381B
CMZ5382B	133.0	140	147.0	8.0	230	1500	1.0	0.5	106	1.2	2.50	34.0	C5382B
CMZ5383B	142.5	150	157.5	8.0	330	1500	1.0	0.5	114	1.1	3.00	31.6	C5383B
CMZ5384B	152.0	160	168.0	8.0	350	1650	1.0	0.5	122	1.1	3.00	29.4	C5384B
CMZ5385B	161.5	170	178.5	8.0	380	1750	1.0	0.5	129	1.0	3.00	28.0	C5385B
CMZ5386B	171.0	180	189.0	5.0	430	1750	1.0	0.5	137	1.0	4.00	26.4	C5386B
CMZ5387B	180.5	190	199.5	5.0	450	1850	1.0	0.5	144	0.9	5.00	25.0	C5387B
CMZ5388B	190.0	200	210.0	5.0	480	1850	1.0	0.5	152	0.9	5.00	23.6	C5388B

Note 1. Surge Current (I_T) - Maximum allowable peak, non-recurrent square wave current (PW=8.3ms).

Note 2. Voltage Regulation (ΔV_Z) - V_Z Measurements are made at 10% and then at 50% of the I_Z max value listed in the electrical characteristics table. The test current time duration for each V_Z measurement is 40±10ms (T_A=25°C).

All Dimensions in Inches (mm).



DATA SHEETS

CMZ5921B
THRU
CMZ5956B

SURFACE MOUNT
SILICON ZENER DIODE
1.5 WATT, 6.8 THRU 200 VOLTS
± 5% TOLERANCE



SMA CASE

Central[™]
Semiconductor Corp.

FEATURES:

- SUPER MINIATURE CASE
- 200 WATTS OF TVS POWER
- ± 5% TOLERANCE
- SUPERIOR LOT TO LOT CONSISTENCY
- LOW COST
- HIGH RELIABILITY
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF WHEN MOUNTED ON PC BOARD

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 1.5 Watt Surface Mount Silicon Zener Diode is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications where small size is required. The SMA case occupies 30% less board space than the SMB case. To order devices on 12mm Tape and Reel (5000/13" Reel), add TR13 suffix to part number.

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

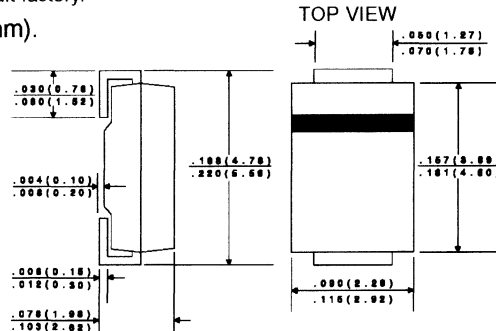
	SYMBOL		UNITS
Peak Forward Surge Current (8.3ms)	I_{FSM}	20	A
Power Dissipation ($T_L=75^\circ\text{C}$)	P_D	1.5	W
Power Dissipation	P_D	0.9	W
Peak Power Dissipation ($T_L<25^\circ\text{C}$) PW=10/1000 μs	P_{PK}	200	W
Peak Power Dissipation ($T_L<25^\circ\text{C}$) PW=8/20 μs	P_{PK}	1000	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JL}	50	$^\circ\text{C}/\text{W}$
Thermal Resistance	θ_{JA}	139	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$), $V_F=1.5\text{V MAX @ } I_F=200\text{mA}$ FOR ALL TYPES.

TYPE NO.	ZENER VOLTAGE $V_Z @ I_Z$			TEST CURRENT I_Z	MAXIMUM ZENER IMPEDENCE			MAXIMUM REVERSE CURRENT		MAXIMUM DC ZENER CURRENT I_{ZM}	MARKING CODE
	MIN	NOM	MAX		$Z_{TT} @ I_Z$	$Z_{ZK} @ I_{ZK}$	$I_{R@V_R}$				
	VOLTS	VOLTS	VOLTS	Ω	Ω	μA	VOLTS				
				mA			mA				
CMZ5921B*	6.460	6.8	7.140	55.1	2.5	200	1.0	2.5	5.2	221	C5921B
CMZ5922B*	7.125	7.5	7.875	50.0	3.0	400	0.5	2.5	6.0	200	C5922B
CMZ5923B*	7.790	8.2	8.610	45.7	3.5	400	0.5	2.5	6.5	183	C5923B
CMZ5924B*	8.645	9.1	9.555	41.2	4.0	500	0.5	2.5	7.0	165	C5924B
CMZ5925B	9.500	10	10.50	37.5	4.5	500	0.25	2.5	8.0	150	C5925B
CMZ5926B	10.45	11	11.55	34.1	5.5	550	0.25	0.5	8.4	136	C5926B
CMZ5927B	11.40	12	12.60	31.2	6.5	550	0.25	0.5	9.1	125	C5927B
CMZ5928B	12.35	13	13.65	28.8	7.0	550	0.25	0.5	9.9	115	C5928B
CMZ5929B	14.25	15	15.75	25.0	9.0	600	0.25	0.5	11.4	100	C5929B
CMZ5930B	15.20	16	16.80	23.4	10	600	0.25	0.5	12.2	94	C5930B
CMZ5931B	17.10	18	18.90	20.8	12	650	0.25	0.5	13.7	83	C5931B
CMZ5932B	19.00	20	21.00	18.7	14	650	0.25	0.5	15.2	75	C5932B
CMZ5933B	20.90	22	23.10	17.0	17.5	650	0.25	0.5	16.7	68	C5933B
CMZ5934B	22.80	24	25.20	15.6	19	700	0.25	0.5	18.2	63	C5934B
CMZ5935B	25.65	27	28.35	13.9	23	700	0.25	0.5	20.6	56	C5935B
CMZ5936B	28.50	30	31.50	12.5	26	750	0.25	0.5	22.8	50	C5936B
CMZ5937B	31.35	33	34.65	11.4	33	800	0.25	0.5	25.1	45	C5937B
CMZ5938B	34.20	36	37.80	10.4	38	850	0.25	0.5	27.4	42	C5938B
CMZ5939B	37.05	39	40.95	9.6	45	900	0.25	0.5	29.7	38	C5939B
CMZ5940B	40.85	43	45.15	8.7	53	950	0.25	0.5	32.7	35	C5940B
CMZ5941B	44.65	47	49.35	8.0	67	1000	0.25	0.5	35.8	32	C5941B
CMZ5942B	48.45	51	53.55	7.3	70	1100	0.25	0.5	38.8	29	C5942B
CMZ5943B	53.20	56	58.80	6.7	86	1300	0.25	0.5	42.6	27	C5943B
CMZ5944B	58.90	62	65.10	6.0	100	1500	0.25	0.5	47.1	24	C5944B
CMZ5945B	64.60	68	71.40	5.5	120	1700	0.25	0.5	51.7	22	C5945B
CMZ5946B	71.25	75	78.75	5.0	140	2000	0.25	0.5	56.0	20	C5946B
CMZ5947B	77.90	82	86.10	4.6	160	2500	0.25	0.5	62.2	18	C5947B
CMZ5948B	86.45	91	95.55	4.1	200	3000	0.25	0.5	69.2	16	C5948B
CMZ5949B	95.00	100	105.0	3.7	250	3100	0.25	0.5	76.0	15	C5949B
CMZ5950B	104.5	110	115.5	3.4	300	4000	0.25	0.5	83.6	13	C5950B
CMZ5951B	114.0	120	126.0	3.1	360	4500	0.25	0.5	91.2	12	C5951B
CMZ5952B	123.5	130	136.5	2.9	450	5000	0.25	0.5	98.8	11	C5952B
CMZ5953B	142.5	150	157.5	2.5	600	6000	0.25	0.5	114.0	10	C5953B
CMZ5954B	152.0	160	168.0	2.3	700	6500	0.25	0.5	121.6	9.0	C5954B
CMZ5955B	171.0	180	189.0	2.1	900	7000	0.25	0.5	136.8	8.0	C5955B
CMZ5956B	190.0	200	210.0	1.9	1200	8000	0.25	0.5	152.0	7.0	C5956B

* Available on special order; consult factory.

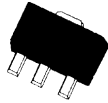
All Dimensions in Inches (mm).



DATA SHEETS

CQ89D
CQ89M
CQ89N

2.0 AMP TRIAC
400 THRU 800 VOLTS



SOT-89 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CQ89D series types are epoxy molded silicon triacs designed for full wave AC control applications featuring gate triggering in all four (4) quadrants.

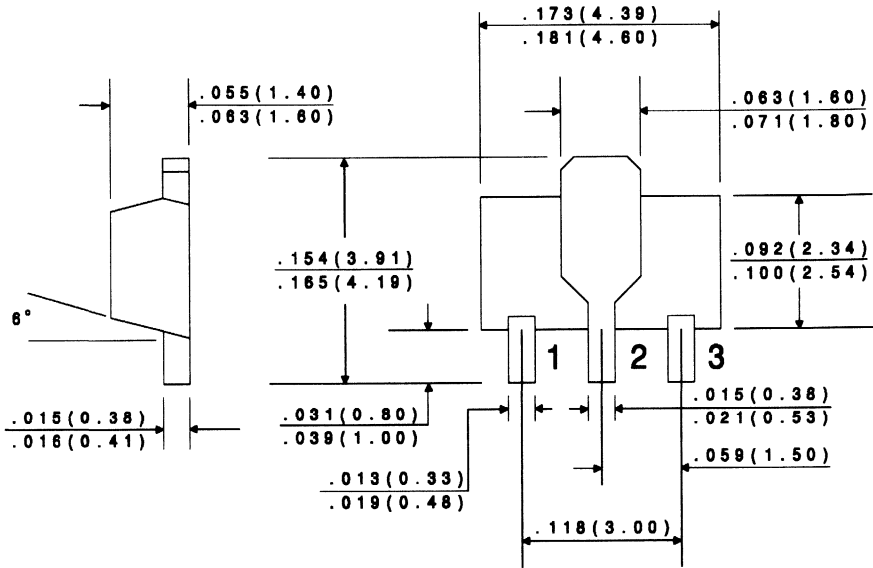
MAXIMUM RATINGS ($T_C=25^{\circ}\text{C}$)

	SYMBOL	CQ89D	CQ89M	CQ89N	UNITS
Peak Repetitive Off-State Voltage	V_{DRM}	400	600	800	V
RMS On-State Current ($T_C=80^{\circ}\text{C}$)	$I_T(\text{RMS})$		2.0		A
Peak One Cycle Surge (10ms)	I_{TSM}		10		A
Peak Gate Current	I_{GM}		1.0		A
Average Gate Power Dissipation	$P_{G(AV)}$		0.1		W
Storage Temperature	T_{stg}		-45 to +150		$^{\circ}\text{C}$
Junction Temperature	T_J		-45 to +125		$^{\circ}\text{C}$
Thermal Resistance	θ_{J-C}		10		$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{DRM}	$V_D = \text{Rated } V_{DRM}$			5.00	μA
I_{DRM}	$V_D = \text{Rated } V_{DRM}, T_C = 125^{\circ}\text{C}$			200	μA
I_{GT}	$V_D = 12\text{V}, \text{QUAD I, II, III, IV}$			25	mA
I_H	$V_D = 12\text{V}$			25	mA
V_{GT}	$V_D = 12\text{V}$			2.00	V
V_{TM}	$I_T = 3.0\text{A}$			1.75	V
dv/dt	$V_D = \frac{2}{3} V_{DRM}, T_C = 125^{\circ}\text{C}$	100			V/ μs

All dimensions in inches (mm).



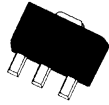
LEAD CODE:

- 1) GATE
- 2) MT2
- 3) MT1



CQ89DS
CQ89MS
CQ89NS

2.0 AMP TRIAC
400 THRU 800 VOLTS



SOT-89 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CQ89DS series types are epoxy molded silicon triacs designed for full wave AC control applications featuring gate triggering in all four (4) quadrants.

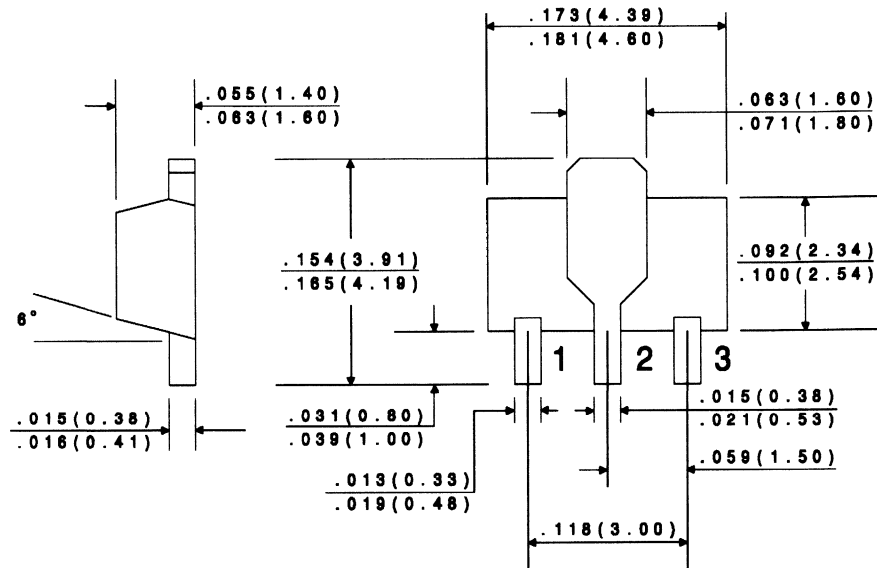
MAXIMUM RATINGS ($T_C=25^{\circ}C$)

	SYMBOL	CQ89DS	CQ89MS	CQ89NS	UNITS
Peak Repetitive Off-State Voltage	V_{DRM}	400	600	800	V
RMS On-State Current ($T_C=80^{\circ}C$)	$I_T(RMS)$		2.0		A
Peak One Cycle Surge (10ms)	I_{TSM}		10		A
Peak Gate Current	I_{GM}		1.0		A
Average Gate Power Dissipation	$P_{G(AV)}$		0.1		W
Storage Temperature	T_{stg}		-45 to +150		$^{\circ}C$
Junction Temperature	T_J		-45 to +125		$^{\circ}C$
Thermal Resistance	θ_{J-C}		10		$^{\circ}C/W$

ELECTRICAL CHARACTERISTICS ($T_C=25^{\circ}C$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{DRM}	$V_D=Rated V_{DRM}$			5.0	μA
I_{DRM}	$V_D=Rated V_{DRM}, T_C=125^{\circ}C$			200	μA
I_{GT}	$V_D=12V, QUAD I, II, III, IV$			5.0	mA
I_H	$V_D=12V$			5.0	mA
V_{GT}	$V_D=12V$			2.0	V
V_{TM}	$I_T=3.0A$			1.75	V
dv/dt	$V_D=2/3 V_{DRM}, T_C=125^{\circ}C$	30			V/ μs

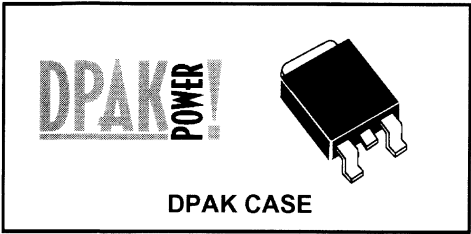
All dimensions in inches (mm).



DATA SHEETS

R1

CSHD3-40
SCHOTTKY RECTIFIER
SINGLE, 3.0 AMPS, 40 VOLTS



Central[™]

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CSHD3-40, Silicon Schottky Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer and automotive applications.

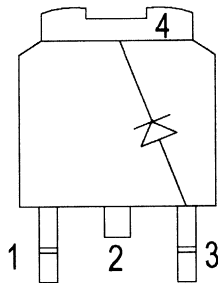
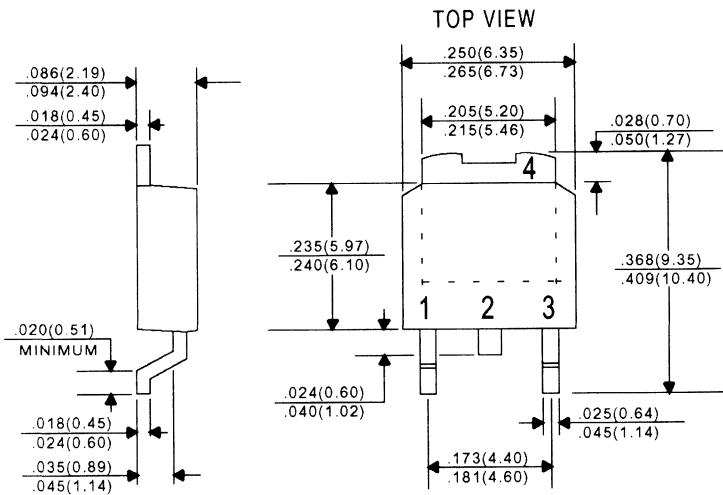
MAXIMUM RATINGS: ($T_C=25^{\circ}C$ unless otherwise noted)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	40	V
Average Rectified Forward Current ($T_C=120^{\circ}C$)	I_O	3.0	A
Peak Forward Surge Current ($t_p=10ms$)	I_{FSM}	75	A
Peak Repetitive Reverse Surge Current ($t_p=2 \mu s$)	I_{RRM}	1.0	A
Critical Rate of Rise of Reverse Voltage	dv/dt	10,000	V/ μs
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}C$
Thermal Resistance	θ_{JC}	5.5	$^{\circ}C/W$

ELECTRICAL CHARACTERISTICS: ($T_C=25^{\circ}C$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_R	$V_R=40V$		100	μA
I_R	$V_R=40V, T_C=125^{\circ}C$		10	mA
V_F	$I_F=3.0A$		0.65	V
V_F	$I_F=3.0A, T_C=125^{\circ}C$		0.60	V

All dimensions in inches (mm).



LEAD CODE:

- 1) NO CONNECTION
- 2) CATHODE
- 3) ANODE
- 4) CATHODE

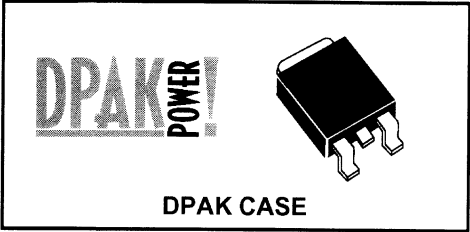
PIN 2 IS COMMON TO THE TAB (4).

R5



CSHD3-60

**SCHOTTKY RECTIFIER
SINGLE, 3.0 AMPS, 60 VOLTS**



**Central™
Semiconductor Corp.**

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CSHD3-60 is a Silicon Schottky Rectifier designed for surface mount fast switching applications requiring a low forward voltage drop.

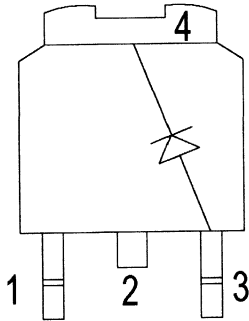
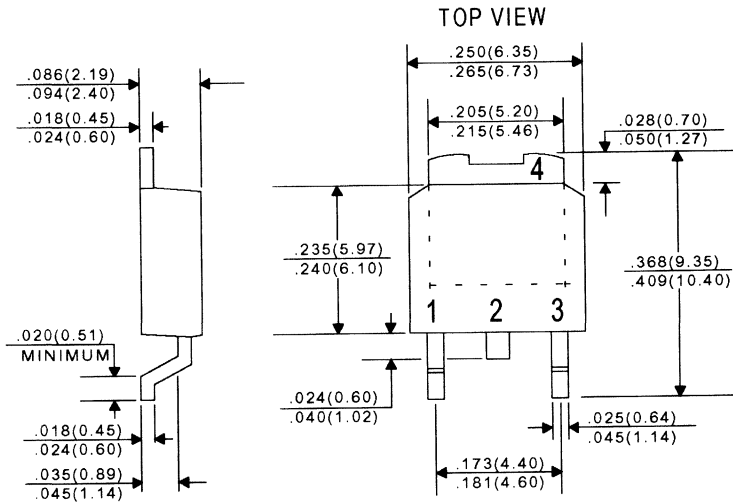
MAXIMUM RATINGS: ($T_C=25^\circ\text{C}$ unless otherwise noted)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	60	V
Average Rectified Forward Current ($T_C=120^\circ\text{C}$)	I_O	3.0	A
Peak Forward Surge Current ($t_p=10\text{ms}$)	I_{FSM}	50	A
Peak Repetitive Reverse Surge Current ($t_p=2\mu\text{s}$)	I_{RRM}	1.0	A
Critical Rate of Rise of Reverse Voltage	dv/dt	10,000	V/ μs
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JC}	3.5	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS: ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
I_R	$V_R=60\text{V}$		30	μA
I_R	$V_R=60\text{V}, T_C=125^\circ\text{C}$		10	mA
V_F	$I_F=3.0\text{A}$		0.75	V
V_F	$I_F=3.0\text{A}, T_C=125^\circ\text{C}$		0.70	V

All dimensions in inches (mm).



LEAD CODE:

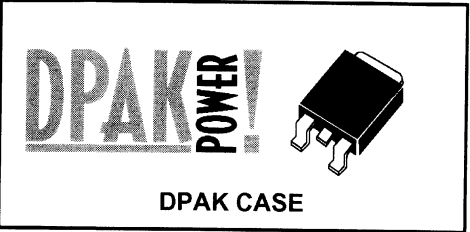
- 1) NO CONNECTION
- 2) CATHODE
- 3) ANODE
- 4) CATHODE

PIN 2 IS COMMON TO THE TAB (4).

DATA SHEETS

R4

CSHD3-100
SCHOTTKY RECTIFIER
SINGLE, 3.0 AMPS, 100 VOLTS
HIGH VOLTAGE



CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CSHD3-100 is a Silicon Schottky Rectifier designed for surface mount high voltage applications requiring a low forward voltage drop.

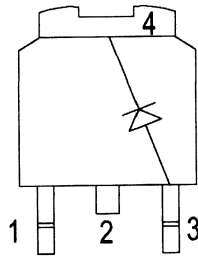
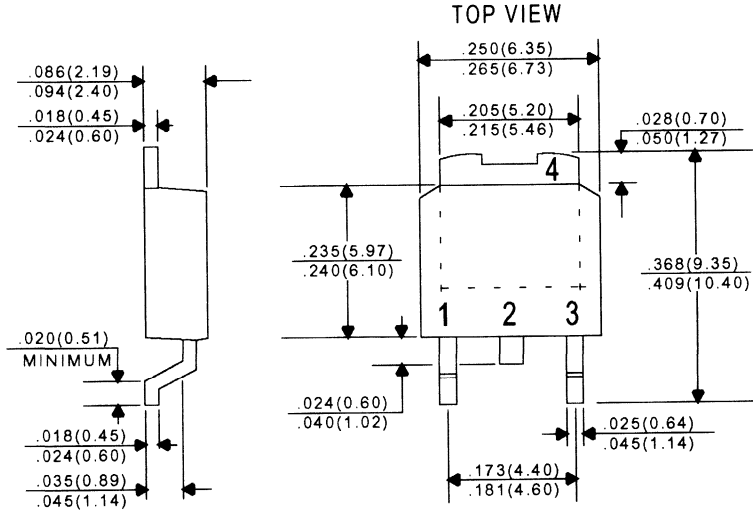
MAXIMUM RATINGS: ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
Average Rectified Forward Current ($T_C=120^{\circ}\text{C}$)	I_O	3.0	A
Peak Forward Surge Current ($t_p=10\text{ms}$)	I_{FSM}	50	A
Peak Repetitive Reverse Surge Current ($t_p=2\mu\text{s}$)	I_{RRM}	1.0	A
Critical Rate of Rise of Reverse Voltage	dv/dt	10,000	V/ μs
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	Θ_{JC}	3.5	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
I_R	$V_R=100\text{V}$		30	mA
I_R	$V_R=100\text{V}, T_C=125^{\circ}\text{C}$		10	mA
V_F	$I_F=3.0\text{A}$		0.85	V
V_F	$I_F=3.0\text{A}, T_C=125^{\circ}\text{C}$		0.80	V

All Dimensions in inches (mm).



Lead Code:

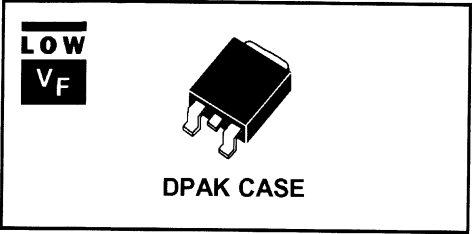
- 1) No Connection
- 2) Cathode
- 3) Anode
- 4) Cathode

Pin 2 is common to the tab (4).

DATA SHEETS

R1

CSHD5-25L
SCHOTTKY RECTIFIER
SINGLE, 5.0 AMPS, 25 VOLTS
LOW FORWARD VOLTAGE DROP



DESCRIPTION:

The CENTRAL SEMICONDUCTOR CSHD5-25L is a Silicon Power Schottky Rectifier designed for surface mount power applications requiring a low forward voltage drop.

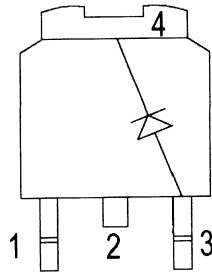
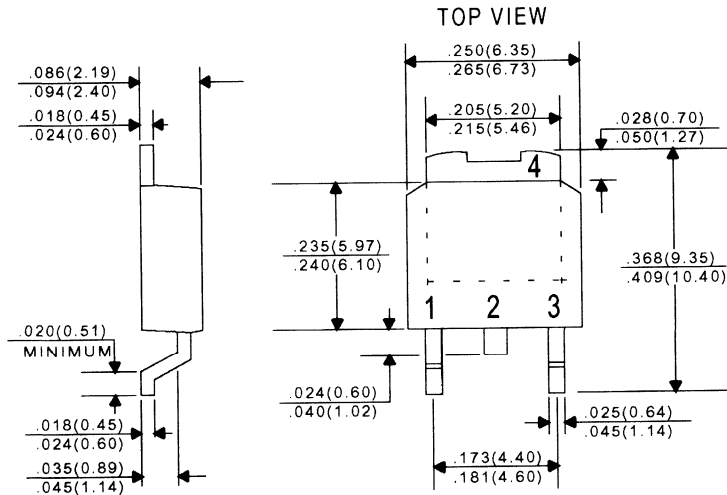
MAXIMUM RATINGS: ($T_C=25^{\circ}C$ unless otherwise noted)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	25	V
Average Rectified Forward Current ($T_C=120^{\circ}C$)	I_O	5.0	A
Peak Forward Surge Current ($t_p=10ms$)	I_{FSM}	80	A
Peak Repetitive Reverse Surge Current ($t_p=2\mu s$)	I_{RRM}	1.0	A
Critical Rate of Rise of Reverse Voltage	dv/dt	10,000	V/ μs
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}C$
Thermal Resistance	θ_{JC}	2.5	$^{\circ}C/W$

ELECTRICAL CHARACTERISTICS: ($T_C=25^{\circ}C$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
I_R	$V_R=25V$			500	μA
I_R	$V_R=25V, T_C=125^{\circ}C$			200	mA
V_F	$I_F=5.0A$			0.47	V
V_F	$I_F=5.0A, T_C=125^{\circ}C$			0.35	V

All Dimensions in Inches (mm).



Lead Code:

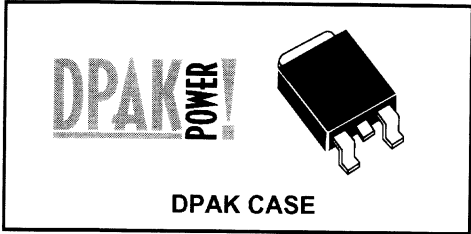
- 1) No Connection
- 2) Cathode
- 3) Anode
- 4) Cathode

Pin 2 is common to the tab (4).



R1

CSHD6-40C
SCHOTTKY RECTIFIER
DUAL, COMMON CATHODE
6.0 AMPS, 40 VOLTS



CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CSHD6-40C, Silicon Schottky Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer and automotive applications.

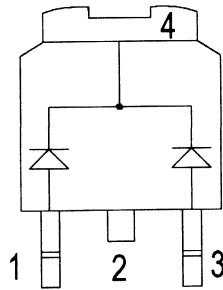
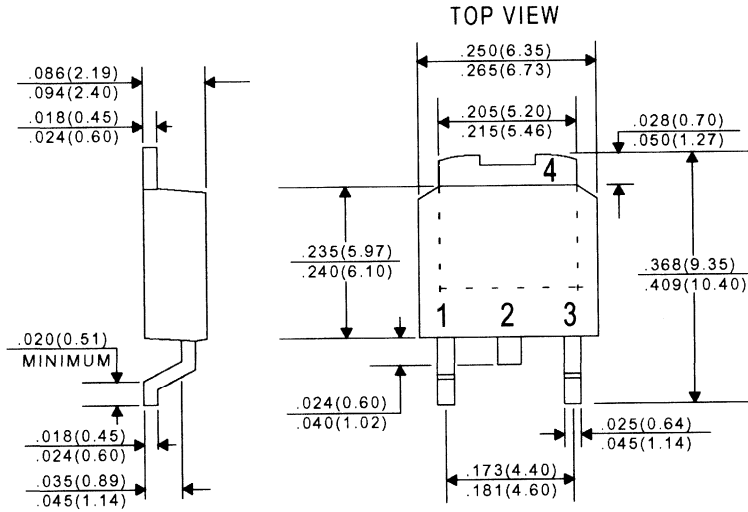
MAXIMUM RATINGS: ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	40	V
Average Rectified Forward Current ($T_C=120^{\circ}\text{C}$)	I_O	6.0	A
Peak Forward Surge Current ($t_p=10\text{ms}$)	I_{FSM}	75	A
Peak Repetitive Reverse Surge Current ($t_p=2\mu\text{s}$)	I_{RRM}	1.0	A
Critical Rate of Rise of Reverse Voltage	dv/dt	10,000	$\text{V}/\mu\text{s}$
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance, Per Diode	θ_{JC}	5.5	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS PER DIODE: ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_R	$V_R=40\text{V}$		100	μA
I_R	$V_R=40\text{V}, T_C=125^{\circ}\text{C}$		10	mA
V_F	$I_F=3.0\text{A}$		0.65	V
V_F	$I_F=3.0\text{A}, T_C=125^{\circ}\text{C}$		0.60	V
V_F	$I_F=6.0\text{A}$		0.85	V
V_F	$I_F=6.0\text{A}, T_C=125^{\circ}\text{C}$		0.80	V

All dimensions in inches (mm).



LEAD CODE:

- 1) ANODE #1
- 2) CATHODE
- 3) ANODE #2
- 4) CATHODE

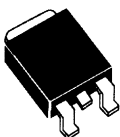
PIN 2 IS COMMON TO THE TAB (4).



CSHD6-60C

SCHOTTKY RECTIFIER
DUAL, COMMON CATHODE
6.0 AMPS, 60 VOLTS

DPAK
POWER!



DPAK CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CSHD6-60C is a Silicon Schottky Rectifier designed for surface mount fast switching applications requiring a low forward voltage drop.

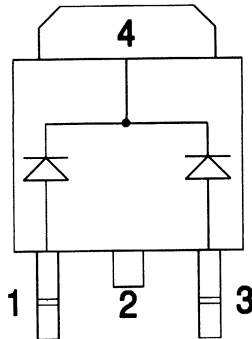
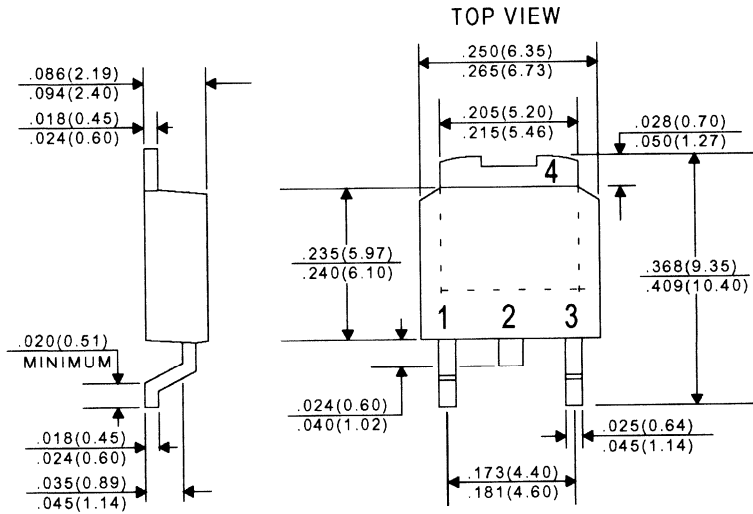
MAXIMUM RATINGS: ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	60	V
Average Rectified Forward Current ($T_C=120^{\circ}\text{C}$)	I_O	6.0	A
Peak Forward Surge Current ($t_p=10\text{ms}$)	I_{FSM}	50	A
Peak Repetitive Reverse Surge Current ($t_p=2\mu\text{s}$)	I_{RRM}	1.0	A
Critical Rate of Rise of Reverse Voltage	dv/dt	10,000	V/ μs
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance, Per Diode	θ_{JC}	3.5	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS PER DIODE: ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
I_R	$V_R=60\text{V}$		30	μA
I_R	$V_R=60\text{V}, T_C=125^{\circ}\text{C}$		10	mA
V_F	$I_F=3.0\text{A}$		0.70	V
V_F	$I_F=3.0\text{A}, T_C=125^{\circ}\text{C}$		0.65	V
V_F	$I_F=6.0\text{A}$		0.90	V
V_F	$I_F=6.0\text{A}, T_C=125^{\circ}\text{C}$		0.85	V

All dimensions in inches (mm).



LEAD CODE:

- 1) ANODE #1
- 2) CATHODE
- 3) ANODE #2
- 4) CATHODE

PIN 2 IS COMMON TO THE TAB (4).

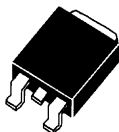
DATA SHEETS

R5

CSHD6-100C

SCHOTTKY RECTIFIER
DUAL, COMMON CATHODE
6.0 AMPS, 100 VOLTS
HIGH VOLTAGE

DPAK
POWER!



DPAK CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CSHD6-100C is a Silicon Schottky Rectifier designed for surface mount high voltage applications requiring a low forward voltage drop.

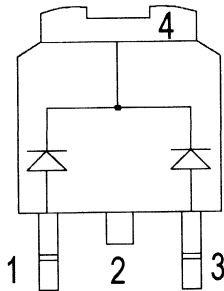
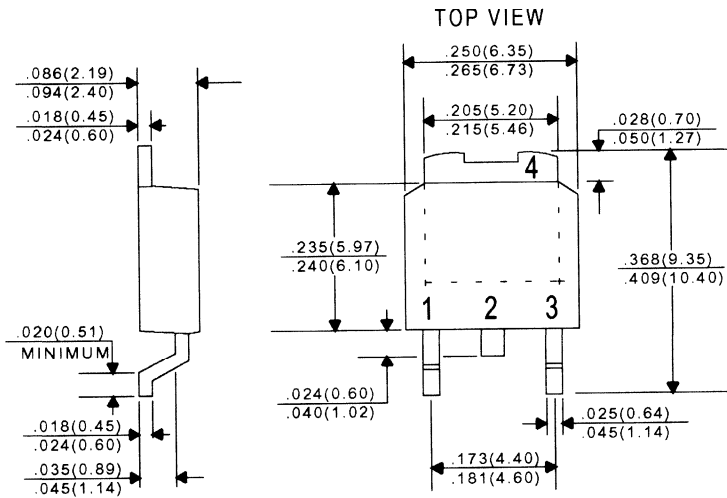
MAXIMUM RATINGS: ($T_C=25^\circ\text{C}$ unless otherwise noted)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
Average Rectified Forward Current ($T_C=120^\circ\text{C}$)	I_O	6.0	A
Peak Forward Surge Current ($t_p=10\text{ms}$)	I_{FSM}	50	A
Peak Repetitive Reverse Surge Current ($t_p=2\mu\text{s}$)	I_{RRM}	1.0	A
Critical Rate of Rise of Reverse Voltage	dv/dt	10,000	V/ μs
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JC}	3.5	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS PER DIODE: ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
I_R	$V_R=100\text{V}$		30	μA
I_R	$V_R=100\text{V}, T_C=125^\circ\text{C}$		10	mA
V_F	$I_F=3.0\text{A}$		0.75	V
V_F	$I_F=3.0\text{A}, T_C=125^\circ\text{C}$		0.70	V
V_F	$I_F=6.0\text{A}$		1.10	V
V_F	$I_F=6.0\text{A}, T_C=125^\circ\text{C}$		1.05	V

All Dimensions in Inches (mm).



Lead Code:

- 1) Anode #1
- 2) Cathode
- 3) Anode #2
- 4) Cathode

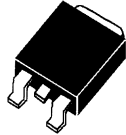
Pin 2 is common to the tab (4).



CSHD10-45L

POWER SCHOTTKY RECTIFIER
10 AMPS, 45 VOLTS

DPAK
POWER!



DPAK CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CSHD10-45L is a Silicon Power Schottky Rectifier designed for surface mount power applications requiring a low forward voltage drop.

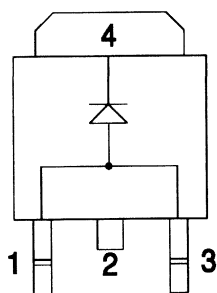
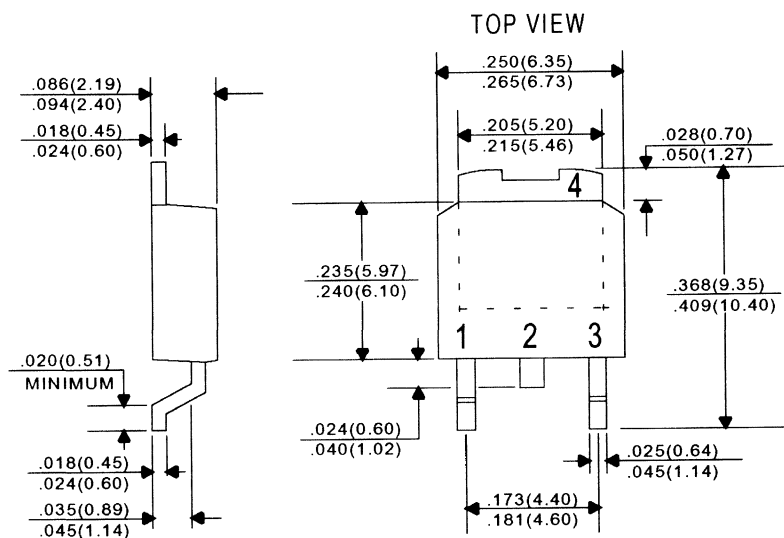
MAXIMUM RATINGS: ($T_C=25^\circ\text{C}$ unless otherwise noted)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	45	V
Average Rectified Forward Current ($T_C=120^\circ\text{C}$)	I_O	10	A
Peak Forward Surge Current ($t_p=10\text{ms}$)	I_{FSM}	200	A
Peak Repetitive Reverse Surge Current ($t_p=2\mu\text{s}$)	I_{RRM}	1.0	A
Critical Rate of Rise of Reverse Voltage	dV/dt	10,000	V/ μs
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JC}	3.5	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS PER DIODE: ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
I_R	$V_R=45\text{V}$		40	100	μA
I_R	$V_R=45\text{V}, T_C=125^\circ\text{C}$			15	mA
V_F	$I_F=10\text{A}$		0.575	0.75	V
V_F	$I_F=10\text{A}, T_C=125^\circ\text{C}$			0.55	V

All Dimensions in Inches (mm).



LEAD CODE:

- 1) ANODE
- 2) CATHODE
- 3) ANODE
- 4) CATHODE

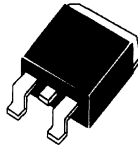
PIN 2 IS COMMON TO THE TAB (4).

DATA SHEETS

R3

CSHDD8-40
CSHDD8-60
CSHDD8-100

SILICON SCHOTTKY RECTIFIERS
SINGLE, 8.0 AMP, 40 THRU 100 VOLTS



D²PAK CASE

CentralTM
Semiconductor Corp.

FEATURES:

- HIGH RELIABILITY
- LOW FORWARD VOLTAGE
- HIGH CURRENT CAPABILITY
- HIGH SURGE CAPACITY
- UL FLAMMABILITY CLASSIFICATION 94V-0
- SUPERIOR LOT TO LOT CONSISTENCY
- LOW POWER LOSS, HIGH EFFECIENCY
- HIGH VOLTAGE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CSHDD8-40 Series types are Silicon Schottky Rectifiers designed for surface mount fast switching applications requiring a low forward voltage drop. To order devices on 24mm Tape and Reel (800/13" Reel), add TR13 suffix to part number.

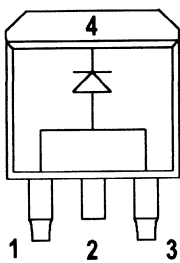
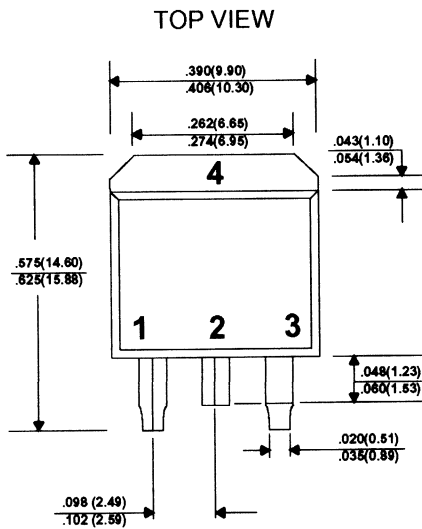
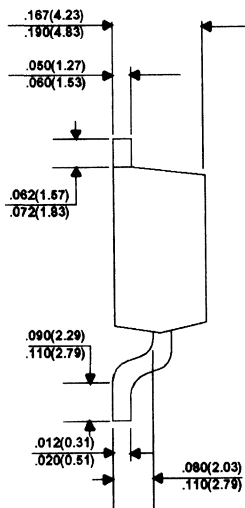
MAXIMUM RATINGS: (T_C=25°C unless otherwise noted)

	<u>SYMBOL</u>	<u>CSHDD8-40</u>	<u>CSHDD8-60</u>	<u>CSHDD8-100</u>	<u>UNITS</u>
Peak Repetitive Reverse Voltage	V _{RRM}	40	60	100	V
DC Blocking Voltage	V _R	40	60	100	V
RMS Reverse Voltage	V _{R(RMS)}	28	42	70	V
Average Forward Current (T _C =100°C)	I _O		8.0		A
Peak Forward Surge Current (8.3ms)	I _{FSM}		150		A
Critical Rate of Rise of Reverse Voltage	dV/dt		10,000		V/μs
Operating and Storage					
Junction Temperature	T _J , T _{stg}		-65 to +150		°C
Typical Thermal Resistance	θ _{JC}		2.0		°C/W
Typical Thermal Resistance	θ _{JA}		50		°C/W

ELECTRICAL CHARACTERISTICS: (T_C=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	<u>CSHDD8-40</u>		<u>CSHDD8-60</u>		<u>CSHDD8-100</u>		UNITS
		TYP	MAX	TYP	MAX	TYP	MAX	
I _R	V _R =Rated V _{RRM}		100		100		100	μA
I _R	V _R =Rated V _{RRM} , T _C = 125°C		15		15		15	mA
V _F	I _F =8.0A		0.65		0.75		0.85	V
V _F	I _F =8.0A, T _C = 125°C		0.57		0.65		0.75	V
V _F	I _F =16A		0.84		0.95		1.10	V
V _F	I _F =16A, T _C = 125°C		0.72		0.85		1.00	V
C _J	V _R =4.0V, f=1.0MHz	300		300		300		pF

All Dimensions in Inches (mm).



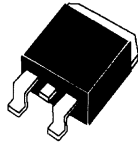
LEAD CODE:
 1) ANODE
 2) CATHODE
 3) ANODE
 4) CATHODE

PIN 2 IS COMMON TO THE TAB(4)

DATA SHEETS

CSHDD16-40C
CSHDD16-60C
CSHDD16-100C

SILICON SCHOTTKY RECTIFIERS
DUAL, COMMON CATHODE
16 AMP, 40 THRU 100 VOLTS



D²PAK CASE

Central[™]
Semiconductor Corp.

FEATURES:

- HIGH RELIABILITY
- LOW FORWARD VOLTAGE
- HIGH CURRENT CAPABILITY
- HIGH SURGE CAPACITY
- UL FLAMMABILITY CLASSIFICATION 94V-0
- SUPERIOR LOT TO LOT CONSISTENCY
- LOW POWER LOSS, HIGH EFFECIENCY
- HIGH VOLTAGE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CSHDD16-40C Series types are Silicon Schottky Rectifiers designed for surface mount fast switching applications requiring a low forward voltage drop. To order devices on 24mm Tape and Reel (800/13" Reel), add TR13 suffix to part number.

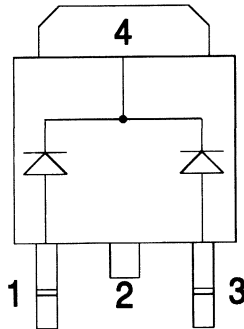
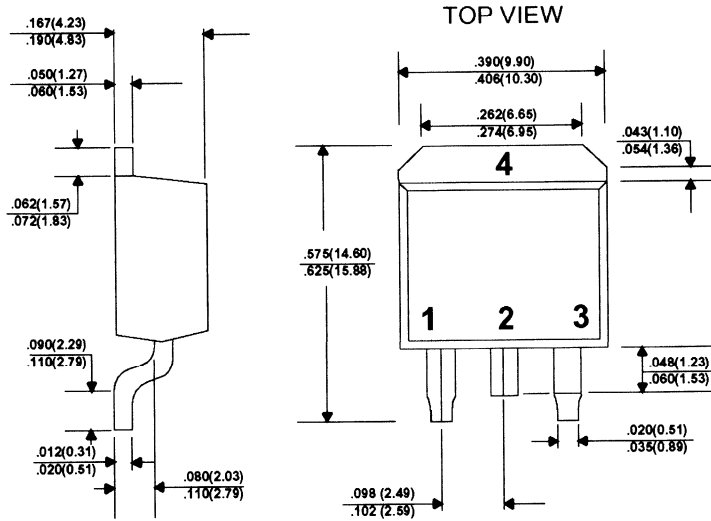
MAXIMUM RATINGS: (T_C=25°C unless otherwise noted)

	SYMBOL	CSHDD16 <u>-40C</u>	CSHDD16 <u>-60C</u>	CSHDD16 <u>-100C</u>	UNITS
Peak Repetitive Reverse Voltage	V _{RRM}	40	60	100	V
DC Blocking Voltage	V _R	40	60	100	V
RMS Reverse Voltage	V _{R(RMS)}	26	42	80	V
Average Forward Current (T _C =90°C)	I _O		16		A
Peak Forward Surge Current (8.3ms)	I _{FSM}		150		A
Critical Rate of Rise of Reverse Voltage	dV/dt		10,000		V/μs
Operating and Storage					
Junction Temperature	T _J , T _{stg}		-65 to +150		°C
Typical Thermal Resistance	θ _{JC}		2.0		°C/W
Typical Thermal Resistance	θ _{JA}		50		°C/W

ELECTRICAL CHARACTERISTICS PER DIODE: (T_C=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	CSHDD16 <u>-40C</u>		CSHDD16 <u>-60C</u>		CSHDD16 <u>-100C</u>		UNITS
		TYP	MAX	TYP	MAX	TYP	MAX	
I _R	V _R =Rated V _{RRM}		100		100		100	μA
I _R	V _R =Rated V _{RRM} , T _C = 125°C		15		15		15	mA
V _F	I _F =8.0A		0.65		0.75		0.85	V
V _F	I _F =8.0A, T _C = 125°C		0.57		0.65		0.75	V
V _F	I _F =16A		0.84		0.95		1.10	V
V _F	I _F =16A, T _C = 125°C		0.72		0.85		1.00	V
C _J	V _R =4.0V, f=1.0MHz	300		300		300		pF

All Dimensions in Inches (mm).



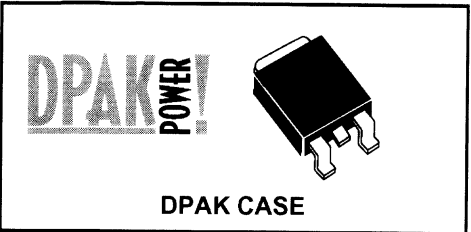
LEAD CODE:

- 1) ANODE#1
- 2) CATHODE
- 3) ANODE #2
- 4) CATHODE



CUD3-02

**ULTRA FAST RECOVERY RECTIFIER
SINGLE, 4.0 AMPS, 200 VOLTS**



CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CUD3-02 is a Silicon Ultra Fast Recovery Rectifier designed for ultra fast switching applications requiring a low forward drop.

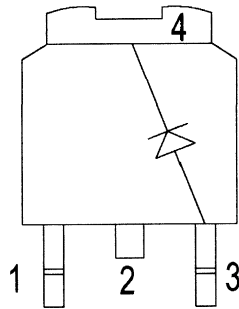
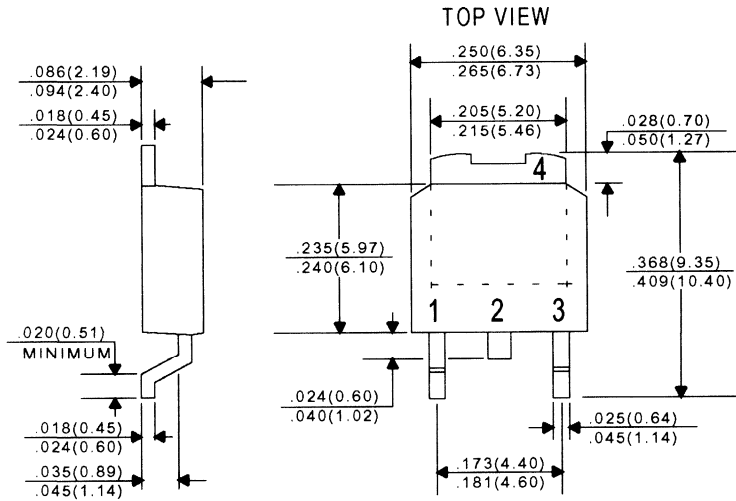
MAXIMUM RATINGS: ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	200	V
Peak Non Repetitive Surge Reverse Voltage	V_{RSM}	200	V
Average Rectified Forward Current ($T_C=130^{\circ}\text{C}$)	I_O	4.0	A
RMS Forward Current	$I_F(\text{RMS})$	10	A
Peak Forward Surge Current ($t_p=10\text{ms}$)	I_{FSM}	70	A
Critical Rate of Rise of Reverse Voltage	dv/dt	10,000	V/ μs
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JC}	5.0	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS: ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
I_R	$V_R=200\text{V}$		20	μA
I_R	$V_R=200\text{V}, T_C=100^{\circ}\text{C}$		500	μA
V_F	$I_F=12\text{A}$		1.25	V
V_F	$I_F=4.0\text{A}, T_C=100^{\circ}\text{C}$		0.85	V
t_{rr}	$V_R=30\text{V}, I_F=1.0\text{A}, di/dt=50\text{A}/\text{ms}$		35	ns

All dimensions in inches (mm).



LEAD CODE:

- 1) NO CONNECTION
- 2) CATHODE
- 3) ANODE
- 4) CATHODE

PIN 2 IS COMMON TO THE TAB (4).

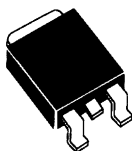
DATA
SHEETS

R4

CUD6-02C

ULTRA FAST RECOVERY RECTIFIER
DUAL, COMMON CATHODE
6.0 AMPS, 200 VOLTS

DPAK
POWER!



DPAK CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CUD6-02C is a Silicon Ultra Fast Recovery Rectifier designed for ultra fast switching applications requiring a low forward voltage drop.

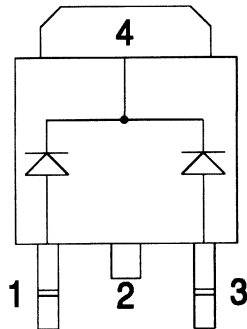
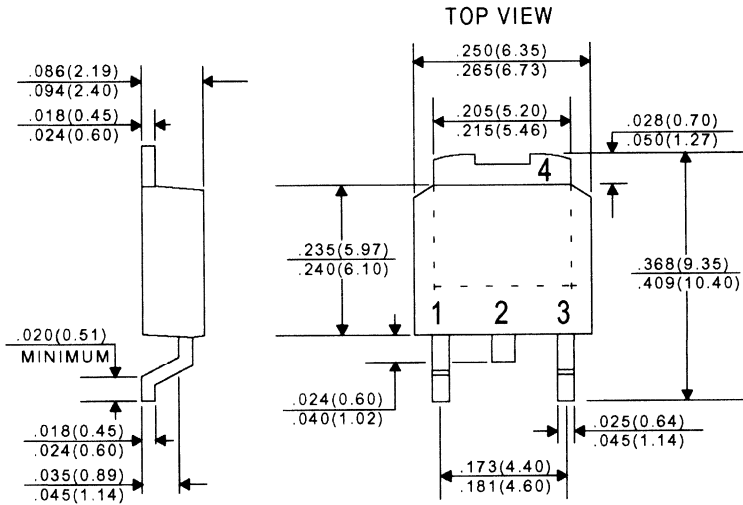
MAXIMUM RATINGS: ($T_C=25^\circ\text{C}$ unless otherwise noted)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	200	V
Peak Non Repetitive Surge Reverse Voltage	V_{RSM}	200	V
Average Forward Current ($T_C=130^\circ\text{C}$)	I_O	6.0	A
RMS Forward Current Per Diode	$I_F(\text{RMS})$	10	A
Peak Forward Surge Current Per Diode ($t_p=10\text{ms}$)	I_{FSM}	70	A
Critical Rate of Rise of Reverse Voltage	dv/dt	10,000	V/ μs
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance, Per Diode	θ_{JC}	5.0	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS PER DIODE: ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
I_R	$V_R=200\text{V}$		20	μA
I_R	$V_R=200\text{V}, T_C=100^\circ\text{C}$		500	μA
V_F	$I_F=10\text{A}$		1.25	V
V_F	$I_F=5.0\text{A}, T_C=100^\circ\text{C}$		0.85	V
t_{rr}	$V_R=30\text{V}, I_F=1.0\text{A}, di/dt=50\text{A}/\text{ms}$		35	ns

All dimensions in inches (mm).



DATA SHEETS

LEAD CODE:

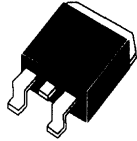
- 1) ANODE 1
- 2) CATHODE
- 3) ANODE 2
- 4) CATHODE

PIN 2 IS COMMON TO THE TAB (4).

R4

CUDD8-02
CUDD8-04
CUDD8-08

ULTRA FAST RECOVERY RECTIFIERS
SINGLE, 8.0 AMP, 200 THRU 800 VOLTS



D²PAK CASE

Central[™]
Semiconductor Corp.

FEATURES:

- HIGH RELIABILITY
- LOW FORWARD VOLTAGE
- HIGH CURRENT CAPABILITY
- HIGH SURGE CAPACITY
- UL FLAMMABILITY CLASSIFICATION 94V-0
- SUPERIOR LOT TO LOT CONSISTENCY
- ULTRA FAST RECOVERY TIME
- HIGH VOLTAGE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CUDD8-02 Series types are a Silicon Ultra-Fast Recovery Rectifier designed for surface mount ultra fast switching applications requiring a low forward voltage drop. To order devices on 24mm Tape and Reel (800/13" Reel), add TR13 suffix to part number.

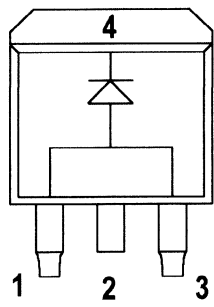
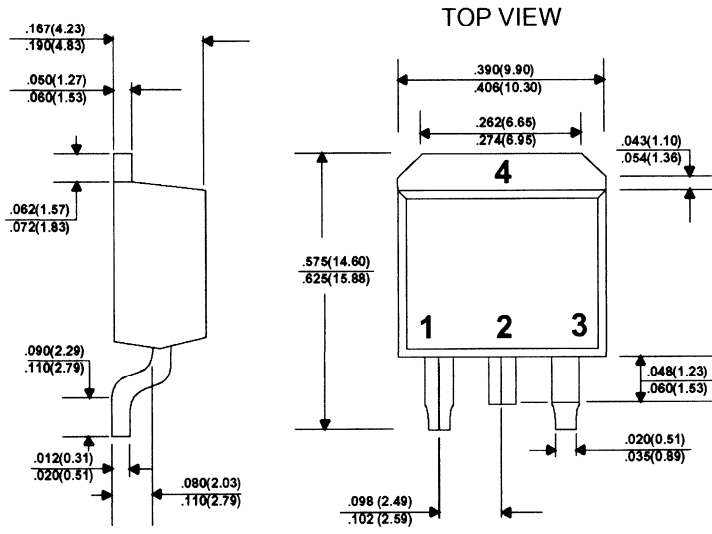
MAXIMUM RATINGS: (T_C=25°C unless otherwise noted)

	SYMBOL	CUDD8-02	CUDD8-04	CUDD8-08	UNITS
Peak Repetitive Reverse Voltage	V _{RRM}	200	400	800	V
DC Blocking Voltage	V _R	200	400	800	V
RMS Reverse Voltage	V _{R(RMS)}	140	280	560	V
Average Forward Current (T _C =100°C)	I _O		8.0		A
Peak Forward Surge Current (8.3ms)	I _{FSM}		125		A
Operating and Storage					
Junction Temperature	T _J , T _{stg}		-65 to +150		°C
Typical Thermal Resistance	θ _{JC}		3.0		°C/W
Typical Thermal Resistance	θ _{JA}		50		°C/W

ELECTRICAL CHARACTERISTICS: (T_C=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	CUDD8-02		CUDD8-04		CUDD8-08		UNITS
		TYP	MAX	TYP	MAX	TYP	MAX	
I _R	V _R =Rated V _{RRM}		5.0		10		10	μA
I _R	V _R =Rated V _{RRM} , T _C =150°C		250		500		500	μA
V _F	I _F =8.0A		0.975		1.3		1.5	V
V _F	I _F =8.0A, T _C = 150°C		0.895		1.1		1.2	V
t _{rr}	I _F =0.5A, I _R =1.0A, I _{RR} =0.25A		25		25		50	ns
C _J	V _R =4.0V, f=1.0MHz	80		80		50		pF

All Dimensions in Inches (mm).



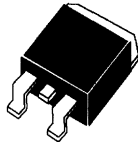
LEAD CODE:
 1) ANODE
 2) CATHODE
 3) ANODE
 4) CATHODE

PIN 2 IS COMMON TO THE TAB(4)



CUDD16-02C
CUDD16-04C
CUDD16-08C

ULTRA FAST RECOVERY RECTIFIERS
DUAL, COMMON CATHODE
16 AMP, 200 THRU 800 VOLTS



D²PAK CASE

Central[™]
Semiconductor Corp.

FEATURES:

- HIGH RELIABILITY
- LOW FORWARD VOLTAGE
- HIGH CURRENT CAPABILITY
- HIGH SURGE CAPACITY
- UL FLAMMABILITY CLASSIFICATION 94V-0
- SUPERIOR LOT TO LOT CONSISTENCY
- ULTRA FAST RECOVERY TIME
- HIGH VOLTAGE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CUDD16-02C Series types are a Silicon Ultra-Fast Recovery Rectifier designed for surface mount ultra fast switching applications requiring a low forward voltage drop. To order devices on 24mm Tape and Reel (800/13" Reel), add TR13 suffix to part number.

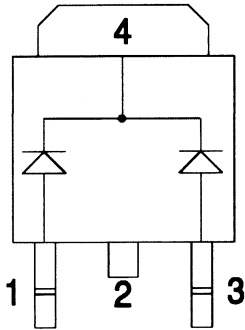
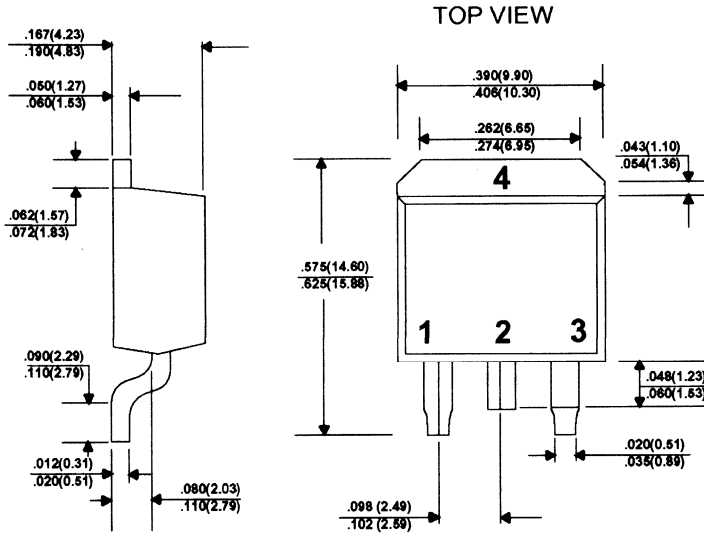
MAXIMUM RATINGS: (T_C=25°C unless otherwise noted)

	SYMBOL	CUDD16 -02C	CUDD16 -04C	CUDD16 -08C	UNITS
Peak Repetitive Reverse Voltage	V _{RRM}	200	400	800	V
DC Blocking Voltage	V _R	200	400	800	V
RMS Reverse Voltage	V _{R(RMS)}	140	280	560	V
Average Forward Current (T _C =100°C)	I _O		16		A
Peak Forward Surge Current (8.3ms)	I _{FSM}		125		A
Operating and Storage					
Junction Temperature	T _J , T _{stg}		-50 to +150		°C
Typical Thermal Resistance	θ _{JC}		3.0		°C/W
Typical Thermal Resistance	θ _{JA}		50		°C/W

ELECTRICAL CHARACTERISTICS PER DIODE: (T_C=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	CUDD16-02C		CUDD16-04C		CUDD16-08C		UNITS
		TYP	MAX	TYP	MAX	TYP	MAX	
I _R	V _R =Rated V _{RRM}		5.0		10		10	μA
I _R	V _R =Rated V _{RRM} , T _C = 150°C		250		500		500	μA
V _F	I _F =8.0A		0.975		1.3		1.5	V
V _F	I _F =8.0A, T _C = 150°C		0.895		1.1		1.2	V
t _{rr}	I _F =0.5A, I _R =1.0A, I _{RR} =0.25A		25		25		50	ns
C _J	V _R =4.0V, f=1.0MHz		80		80		50	pF

All Dimensions in Inches (mm).



LEAD CODE:

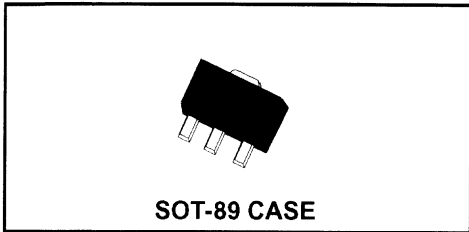
- 1) ANODE#1
- 2) CATHODE
- 3) ANODE #2
- 4) CATHODE

PIN 2 IS COMMON TO THE TAB(4)

DATA SHEETS

CXSH-4

SCHOTTKY BARRIER RECTIFIER



CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CXSH-4 type is a schottky barrier rectifier mounted in an epoxy molded case using a metal to silicon junction to yield low forward voltage drop. This device utilizes a single chip with anode connections made to PIN 1 and PIN 3.

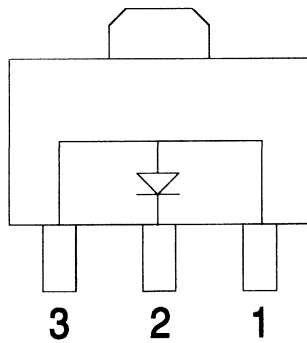
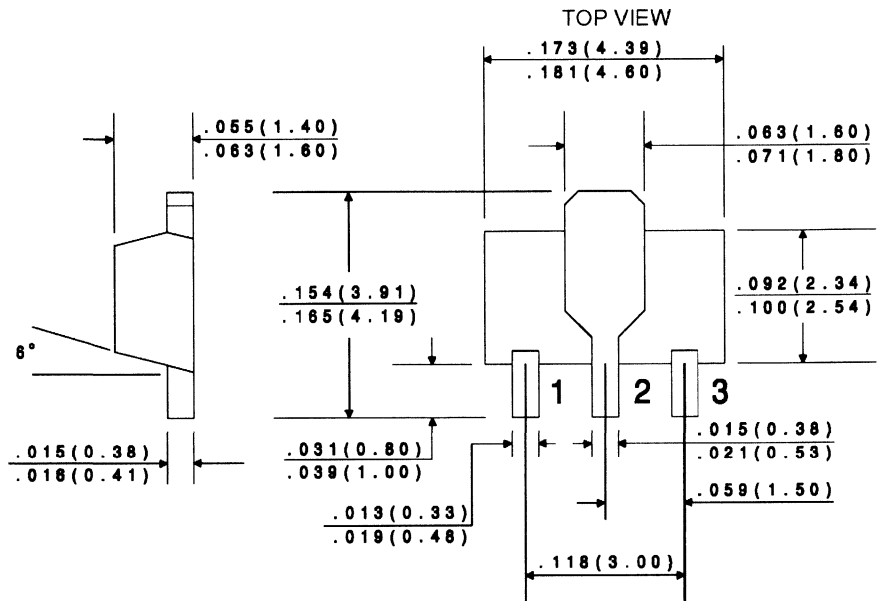
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	40	V
DC Blocking Voltage	V_R	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	V
Average Forward Current	I_O	1.0	A
Peak Forward Surge Current(8.3ms, Non-Rep.)	I_{FSM}	10	A
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_R	$V_R=40\text{V}$		1.0	mA
I_R	$V_R=40\text{V}, T_A=100^{\circ}\text{C}$		10	mA
V_F	$I_F=1.0\text{A}$		0.55	V

All dimensions in inches (mm).



DATA SHEETS

LEAD CODE:

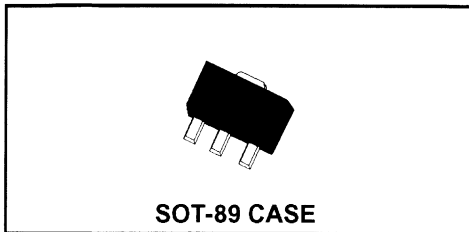
- 1) ANODE
- 2) CATHODE
- 3) ANODE

PIN 2 IS COMMON TO THE TAB.

R2

CXT2222A

NPN SILICON TRANSISTOR



CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CXT2222A type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for small signal general purpose and switching applications.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

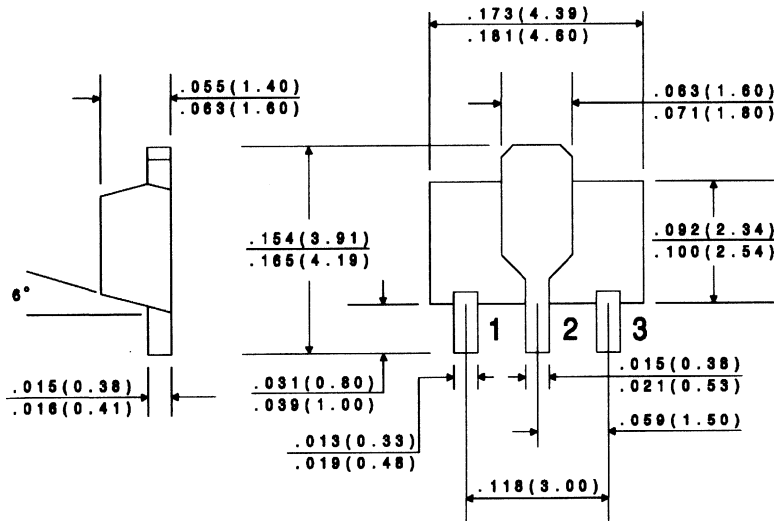
	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	75	V
Collector-Emitter Voltage	V_{CE0}	40	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	600	mA
Power Dissipation	P_D	1.2	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	104	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=60\text{V}$		10	nA
I_{CBO}	$V_{CB}=60\text{V}, T_A=125^{\circ}\text{C}$		10	μA
I_{EBO}	$V_{EB}=3.0\text{V}$		10	nA
I_{CEV}	$V_{CE}=60\text{V}, V_{EB}=3.0\text{V}$		10	nA
BV_{CBO}	$I_C=10\mu\text{A}$	75		V
BV_{CEO}	$I_C=10\text{mA}$	40		V
BV_{EBO}	$I_E=10\mu\text{A}$	6.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.3	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.0	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$	0.6	1.2	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		2.0	V
h_{FE}	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	35		
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	50		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	75		

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=10V, I_C=150mA$	100	300	
h_{FE}	$V_{CE}=1.0V, I_C=150mA$	50		
h_{FE}	$V_{CE}=10V, I_C=500mA$	40		
f_T	$V_{CE}=20V, I_C=20mA, f=100MHz$	300		MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		8.0	pF
C_{ib}	$V_{EB}=0.5V, I_C=0, f=1.0MHz$		25	pF
h_{ie}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	2.0	8.0	$k\Omega$
h_{ie}	$V_{CE}=10V, I_C=10mA, f=1.0kHz$	0.25	1.25	$k\Omega$
h_{re}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$		8.0	$\times 10^{-4}$
h_{re}	$V_{CE}=10V, I_C=10mA, f=1.0kHz$		4.0	$\times 10^{-4}$
h_{fe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	50	300	
h_{fe}	$V_{CE}=10V, I_C=10mA, f=1.0kHz$	75	375	
h_{oe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	5.0	35	$\mu mhos$
h_{oe}	$V_{CE}=10V, I_C=10mA, f=1.0kHz$	25	200	$\mu mhos$
$rb' C_C$	$V_{CB}=10V, I_E=20mA, f=31.8MHz$		150	ps
NF	$V_{CE}=10V, I_C=100\mu A, R_S=1.0k\Omega, f=1.0kHz$		4.0	dB
t_d	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		10	ns
t_r	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		25	ns
t_s	$V_{CC}=30V, I_C=150mA, I_{B1}=I_{B2}=15mA$		225	ns
t_f	$V_{CC}=30V, I_C=150mA, I_{B1}=I_{B2}=15mA$		60	ns

All dimensions in inches (mm).



LEAD CODE:

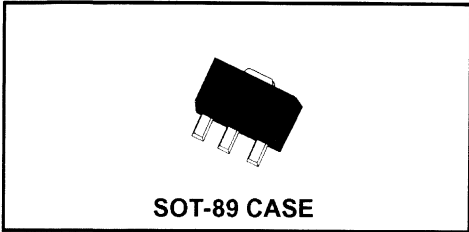
- 1) EMITTER
- 2) COLLECTOR
- 3) BASE

DATA SHEETS

R2

CXT2907A

PNP SILICON TRANSISTOR



CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CXT2907A type is an PNP silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for small signal general purpose and switching applications.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

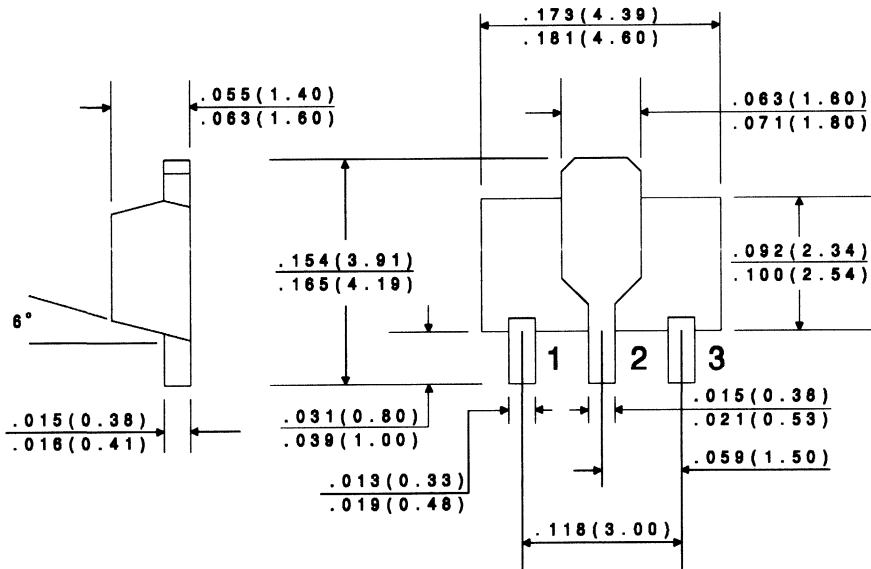
	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	60	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	600	mA
Power Dissipation	P_D	1.2	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	Θ_{JA}	104	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=50\text{V}$		10	nA
I_{CBO}	$V_{CB}=50\text{V}, T_A=125^{\circ}\text{C}$		10	μA
I_{CEV}	$V_{CE}=30\text{V}, V_{BE}=0.5\text{V}$		50	nA
BV_{CBO}	$I_C=10\mu\text{A}$	60		V
BV_{CEO}	$I_C=10\text{mA}$	60		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.4	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.6	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		1.3	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		2.6	V
h_{FE}	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	75		
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	100		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	100		

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=10V, I_C=150mA$	100	300	
h_{FE}	$V_{CE}=10V, I_C=500mA$	50		
f_T	$V_{CE}=20V, I_C=50mA, f=100MHz$	200		MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		8.0	pF
C_{ib}	$V_{BE}=2.0V, I_C=0, f=1.0MHz$		30	pF
t_{on}	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		45	ns
t_d	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		10	ns
t_r	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		40	ns
t_{off}	$V_{CC}=6.0V, I_C=150mA, I_{B1}=I_{B2}=15mA$		100	ns
t_s	$V_{CC}=6.0V, I_C=150mA, I_{B1}=I_{B2}=15mA$		80	ns
t_f	$V_{CC}=6.0V, I_C=150mA, I_{B1}=I_{B2}=15mA$		30	ns

All dimensions in inches (mm).



DATA SHEETS

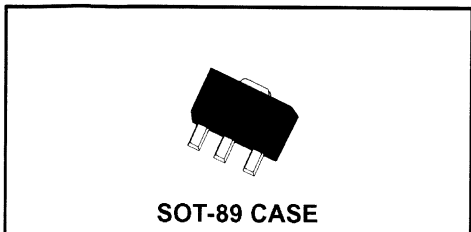
LEAD CODE:

- 1) EMITTER
- 2) COLLECTOR
- 3) BASE

R2

CXT3019

NPN SILICON TRANSISTOR



Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CXT3019 type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high current general purpose amplifier applications.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

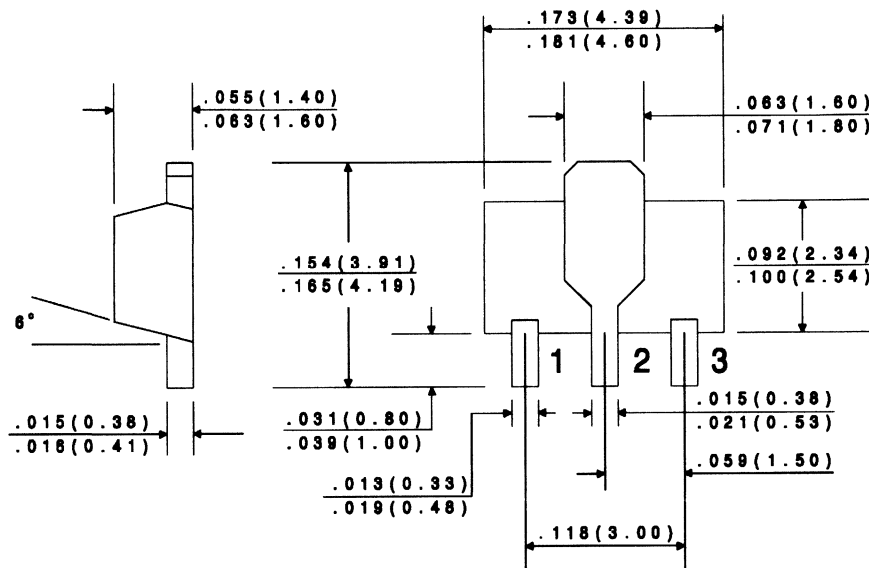
	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	140	V
Collector-Emitter Voltage	V_{CE0}	80	V
Emitter-Base Voltage	V_{EBO}	7.0	V
Collector Current	I_C	1.0	A
Collector Current (Peak)	I_{CM}	1.5	A
Power Dissipation	PD	1.2	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	104	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CB0}	$V_{CB}=90\text{V}$		10	nA
I_{EBO}	$V_{EB}=5.0\text{V}$		10	nA
BV_{CB0}	$I_C=100\mu\text{A}$	140		V
BV_{CE0}	$I_C=30\text{mA}$	80		V
BV_{EBO}	$I_E=100\mu\text{A}$	7.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.2	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.5	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		1.1	V
h_{FE}	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	50		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	90		
h_{FE}	$V_{CE}=10\text{V}, I_C=150\text{mA}$	100	300	
h_{FE}	$V_{CE}=10\text{V}, I_C=500\text{mA}$	50		
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{A}$	15		

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
f_T	$V_{CE}=10V, I_C=50mA, f=1.0MHz$	100		MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		12	pF
C_{ib}	$V_{EB}=0.5V, I_C=0, f=1.0MHz$		60	pF
NF	$V_{CE}=10V, I_C=100\mu A, R_S=1k\Omega, f=1.0kHz$		4.0	dB

All dimensions in inches (mm).



LEAD CODE:

- 1) EMITTER
- 2) COLLECTOR
- 3) BASE

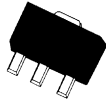
DATA SHEETS

R2



CXT3150

**SURFACE MOUNT
NPN POWER TRANSISTOR**



SOT-89 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CXT3150 type is a NPN Silicon Power Transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high current, high gain, fast switching applications.

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

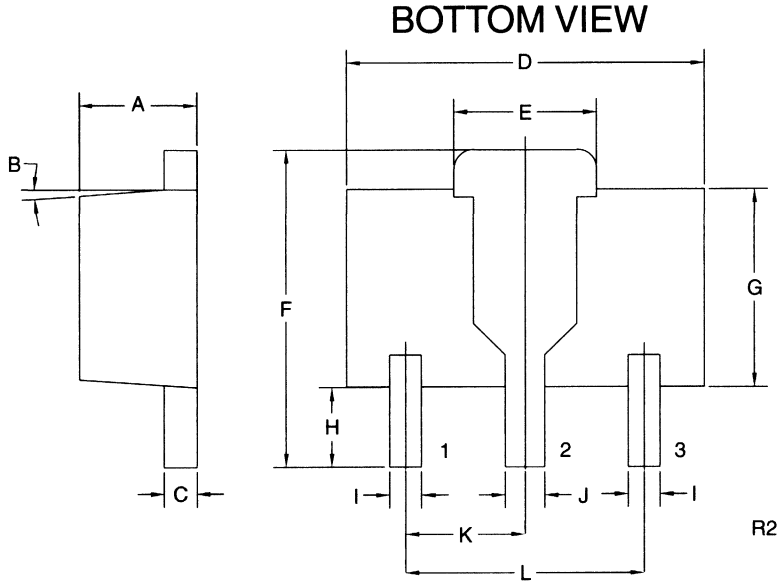
	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EBO}	7.0	V
Collector Current	I_C	5.0	A
Base Current	I_B	1.0	A
Power Dissipation	P_D	1.2	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	104	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=50\text{V}$			1.0	μA
I_{EBO}	$V_{EB}=7.0\text{V}$			1.0	μA
BV_{CEO}	$I_C=10\text{mA}$	25			V
$V_{CE(SAT)}$	$I_C=3.0\text{A}, I_B=150\text{mA}$			0.35	V
$V_{CE(SAT)}$	$I_C=4.0\text{A}, I_B=200\text{mA}$			0.50	V
$V_{BE(SAT)}$	$I_C=3.0\text{A}, I_B=150\text{mA}$			1.10	V
$V_{BE(SAT)}$	$I_C=4.0\text{A}, I_B=200\text{mA}$			1.40	V
h_{FE}	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$	250		550	
h_{FE}	$V_{CE}=2.0\text{V}, I_C=2.0\text{A}$	150			
h_{FE}	$V_{CE}=2.0\text{V}, I_C=5.0\text{A}$	50			
f_T	$V_{CE}=6.0\text{V}, I_C=50\text{mA}, f=200\text{MHz}$		150		MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$			50	pF

R1 (14-Sept 2000)

SOT-89 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) EMITTER
- 2) COLLECTOR
- 3) BASE

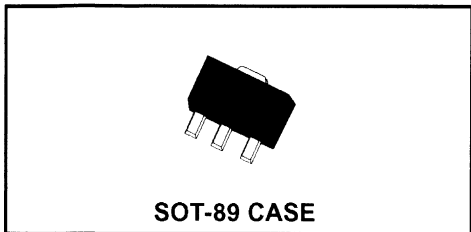
DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.055	0.067	1.40	1.70
B	4°		4°	
C	0.016	0.018	0.40	0.46
D	0.173	0.185	4.40	4.70
E	0.070	0.074	1.79	1.87
F	0.146	0.177	3.70	4.50
G	0.094	0.106	2.40	2.70
H	0.028	0.051	0.70	1.30
I	0.015	0.019	0.38	0.48
J	0.019	0.023	0.48	0.58
K	0.059		1.50	
L	0.118		3.00	

SOT-89 (REV: R2)



**CXT3904 NPN
CXT3906 PNP**

**COMPLEMENTARY
SILICON TRANSISTORS**



CentralTM

Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR CXT3904, CXT3906 types are complementary silicon transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for small signal general purpose and switching applications.

MAXIMUM RATINGS (T_A=25°C)

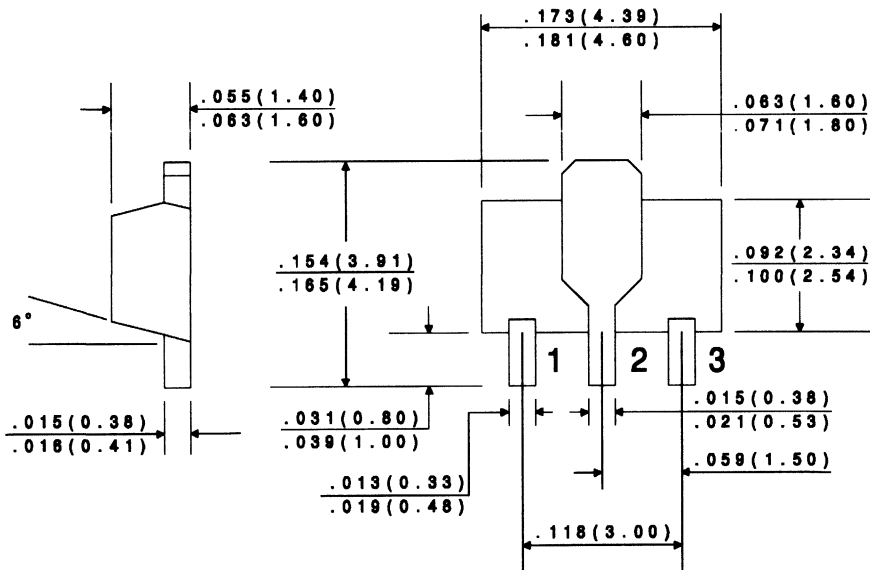
	SYMBOL	CXT3904	CXT3906	UNITS
Collector-Base Voltage	V _{CBO}	60	40	V
Collector-Emitter Voltage	V _{CEO}	40	40	V
Emitter-Base Voltage	V _{EBO}	6.0	5.0	V
Collector Current	I _C	200		mA
Power Dissipation	P _D	1.2		W
Operating and Storage				
Junction Temperature	T _J , T _{stg}	-65 to +150		°C
Thermal Resistance	θ _{JA}	104		°C/W

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	CXT3904		CXT3906		UNITS
		MIN	MAX	MIN	MAX	
I _{CEV}	V _{CE} =30V, V _{EB} =3.0V		50		50	nA
BV _{CBO}	I _C =10μA	60		40		V
BV _{CEO}	I _C =1.0mA	40		40		V
BV _{EBO}	I _E =10μA	6.0		5.0		V
V _{CE(SAT)}	I _C =10mA, I _B =1.0mA		0.20		0.25	V
V _{CE(SAT)}	I _C =50mA, I _B =5.0mA		0.30		0.40	V
V _{BE(SAT)}	I _C =10mA, I _B =1.0mA	0.65	0.85	0.65	0.85	V
V _{BE(SAT)}	I _C =50mA, I _B =5.0mA		0.95		0.95	V
h _{FE}	V _{CE} =1.0V, I _C =0.1mA	40		60		
h _{FE}	V _{CE} =1.0V, I _C =1.0mA	70		80		
h _{FE}	V _{CE} =1.0V, I _C =10mA	100	300		100	300
h _{FE}	V _{CE} =1.0V, I _C =50mA	60		60		

SYMBOL	TEST CONDITIONS	CXT3904		CXT3906		UNITS
		MIN	MAX	MIN	MAX	
h_{FE}	$V_{CE}=1.0V, I_C=100mA$	30		30		
f_T	$V_{CE}=20V, I_C=10mA, f=100MHz$	300		250		MHz
C_{ob}	$V_{CB}=5.0V, I_E=0, f=1.0MHz$		4.0		4.5	pF
C_{ib}	$V_{BE}=0.5V, I_C=0, f=1.0MHz$		8.0		10	pF
h_{ie}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	1.0	10	2.0	12	$k\Omega$
h_{re}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	0.5	8.0	0.1	10	$\times 10^{-4}$
h_{fe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	100	400	100	400	
h_{oe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	1.0	40	3.0	60	mmhos
NF	$V_{CE}=5.0V, I_C=100\mu A, R_S=1.0k\Omega$ $f=10Hz$ to $15.7kHz$		5.0		4.0	dB
t_d	$V_{CC}=3.0V, V_{BE}=0.5V, I_C=10mA, I_{B1}=1.0mA$		35		35	ns
t_r	$V_{CC}=3.0V, V_{BE}=0.5V, I_C=10mA, I_{B1}=1.0mA$		35		35	ns
t_s	$V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=1.0mA$		200		225	ns
t_f	$V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=1.0mA$		50		75	ns

All dimensions in inches (mm).



LEAD CODE:

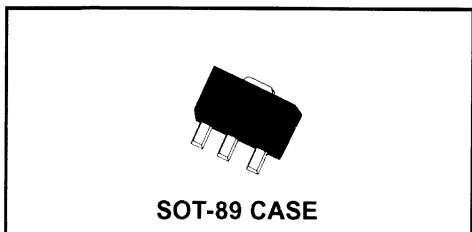
- 1) EMITTER
- 2) COLLECTOR
- 3) BASE

DATA SHEETS

R2

CXT4033

PNP SILICON TRANSISTOR



CentralTM

Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR CXT4033 type is an PNP silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high current general purpose amplifier applications.

MAXIMUM RATINGS (T_A=25°C)

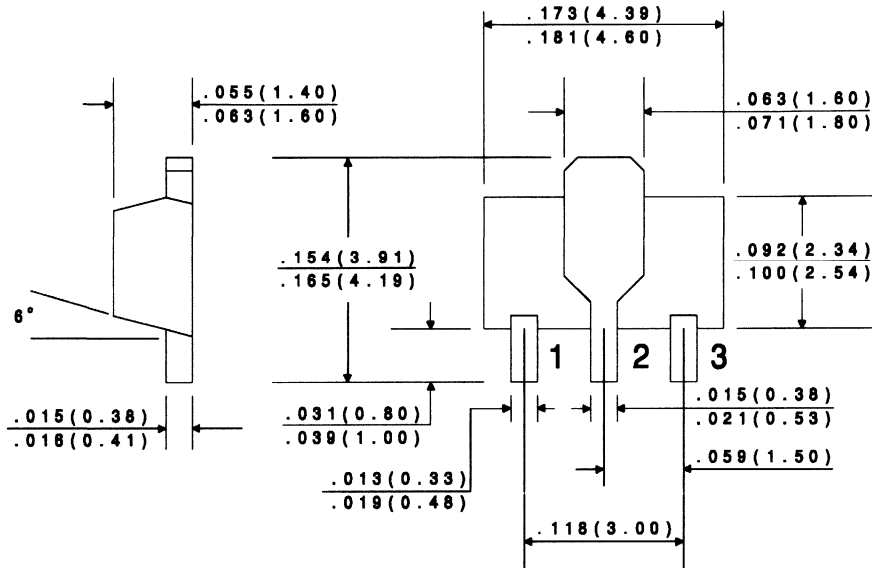
	SYMBOL		UNITS
Collector-Base Voltage	V _{CB0}	80	V
Collector-Emitter Voltage	V _{CEO}	80	V
Emitter-Base Voltage	V _{EBO}	5.0	V
Collector Current	I _C	1.0	A
Collector Current (Peak)	I _{CM}	1.5	A
Power Dissipation	P _D	1.2	W
Operating and Storage			
Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	θ _{JA}	104	°C/W

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _{CB0}	V _{CB} =60V		50	nA
I _{EBO}	V _{EB} =5.0V		10	nA
BV _{CB0}	I _C =10μA	80		V
BV _{CEO}	I _C =10mA	80		V
BV _{EBO}	I _E =10μA	5.0		V
V _{CE(SAT)}	I _C =150mA, I _B =15mA		0.15	V
V _{CE(SAT)}	I _C =500mA, I _B =50mA		0.50	V
V _{BE(SAT)}	I _C =150mA, I _B =15mA		0.90	V
V _{BE(SAT)}	I _C =500mA, I _B =50mA		1.10	V
h _{FE}	V _{CE} =5.0V, I _C =0.1mA	75		
h _{FE}	V _{CE} =5.0V, I _C =100mA	100	300	
h _{FE}	V _{CE} =5.0V, I _C =500mA	70		
h _{FE}	V _{CE} =5.0V, I _C =1.0A	25		

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
f_T	$V_{CE}=10V, I_C=50mA, f=1.0MHz$	100		MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		20	pF
C_{ib}	$V_{EB}=0.5V, I_C=0, f=1.0MHz$		110	pF

All dimensions in inches (mm).



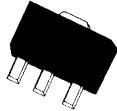
LEAD CODE:

- 1) EMITTER
- 2) COLLECTOR
- 3) BASE

R2

CXT5401

PNP SILICON TRANSISTOR



SOT-89 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CXT5401 type is a PNP silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high voltage amplifier applications.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

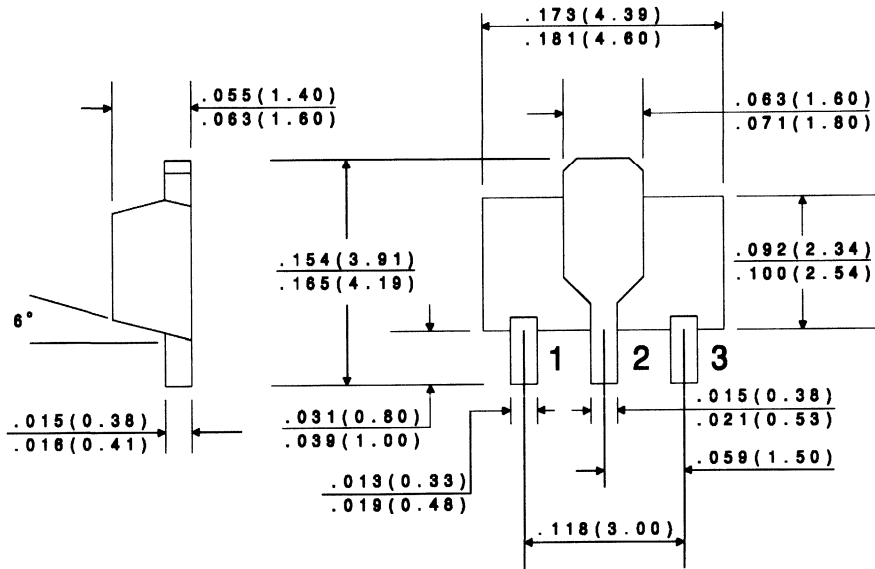
	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	160	V
Collector-Emitter Voltage	V_{CEO}	150	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	500	mA
Power Dissipation	P_D	1.2	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	Θ_{JA}	104	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=120\text{V}$		50	nA
I_{CBO}	$V_{CB}=120\text{V}, T_A=100^{\circ}\text{C}$		50	μA
BV_{CBO}	$I_C=100\mu\text{A}$	160		V
BV_{CEO}	$I_C=1.0\text{mA}$	150		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.2	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.5	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		1.0	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		1.0	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	50		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	60	240	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=50\text{mA}$	50		
f_T	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100	300	MHz

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		6.0	pF
h_{fe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	40	200	
NF	$V_{CE}=5.0V, I_C=200\mu A, R_S=10\Omega$ $f=10Hz$ to $15.7kHz$		8.0	dB

All dimensions in inches (mm).



DATA SHEETS

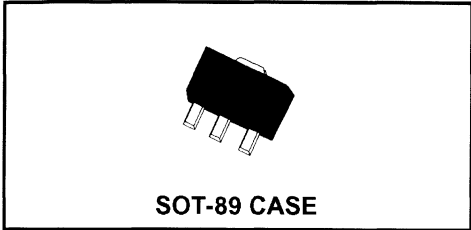
LEAD CODE:

- 1) EMITTER
- 2) COLLECTOR
- 3) BASE

R2

CXT5551

NPN SILICON TRANSISTOR



CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CXT5551 type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high voltage amplifier applications.

MAXIMUM RATINGS (T_A=25°C)

	SYMBOL		UNITS
Collector-Base Voltage	V _{CB0}	180	V
Collector-Emitter Voltage	V _{CEO}	160	V
Emitter-Base Voltage	V _{EBO}	6.0	V
Collector Current	I _C	600	mA
Power Dissipation	P _D	1.2	W
Operating and Storage			
Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	Θ _{JA}	104	°C/W

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _{CBO}	V _{CB} =120V		50	nA
I _{CBO}	V _{CB} =120V, T _A =100°C		50	μA
I _{EBO}	V _{EB} =4.0V		50	nA
BV _{CB0}	I _C =100μA	180		V
BV _{CEO}	I _C =1.0mA	160		V
BV _{EBO}	I _E =10μA	6.0		V
V _{CE(SAT)}	I _C =10mA, I _B =1.0mA		0.15	V
V _{CE(SAT)}	I _C =50mA, I _B =5.0mA		0.20	V
V _{BE(SAT)}	I _C =10mA, I _B =1.0mA		1.00	V
V _{BE(SAT)}	I _C =50mA, I _B =5.0mA		1.00	V
h _{FE}	V _{CE} =5.0V, I _C =1.0mA	80		
h _{FE}	V _{CE} =5.0V, I _C =10mA	80	250	
h _{FE}	V _{CE} =5.0V, I _C =50mA	30		
f _T	V _{CE} =10V, I _C =10mA, f=100MHz	100	300	MHz

SYMBOL

C_{ob}
 h_{fe}
 NF

TEST CONDITIONS

$V_{CB}=10V, I_E=0, f=1.0MHz$
 $V_{CE}=10V, I_C=1.0mA, f=1.0kHz$
 $V_{CE}=5.0V, I_C=200\mu A, R_S=10\Omega$
 $f=10Hz$ to $15.7kHz$

MIN

MAX

UNITS

50

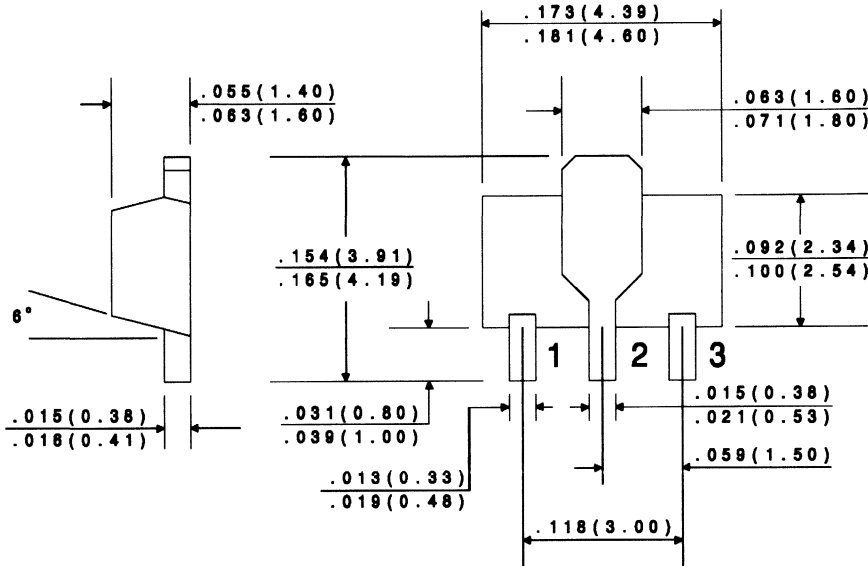
6.0
 200

pF

8.0

dB

All dimensions in inches (mm).



LEAD CODE:

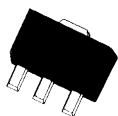
- 1) EMITTER
- 2) COLLECTOR
- 3) BASE



R2

CXTA14 NPN
CXTA64 PNP

SILICON COMPLEMENTARY
DARLINGTON TRANSISTORS



SOT-89 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CXTA14, CXTA64 types are complementary silicon Darlington transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring extremely high gain.

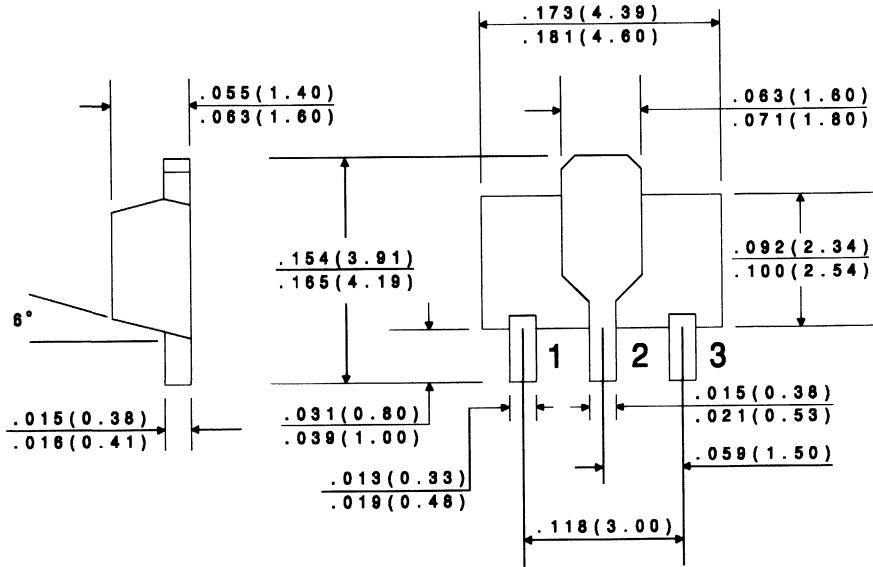
MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Base Voltage	V_{EBO}	10	V
Collector Current	I_C	500	mA
Power Dissipation	P_D	1.2	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	104	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=30\text{V}$		100	nA
I_{EBO}	$V_{EB}=10\text{V}$		100	nA
BV_{CES}	$I_C=100\mu\text{A}$	30		V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=0.1\text{mA}$		1.5	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$		2.0	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	10,000		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$	20,000		
f_T	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	125		MHz

All dimensions in inches (mm).



LEAD CODE:

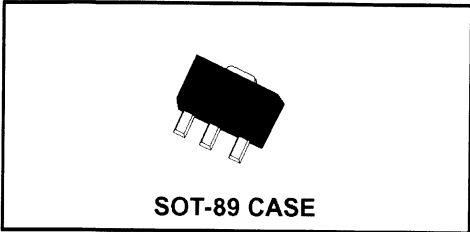
- 1) EMITTER
- 2) COLLECTOR
- 3) BASE

DATA
SHEETS

R2

CXTA27

NPN DARLINGTON TRANSISTOR



CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CXTA27 type is a NPN Silicon Darlington Transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring high voltage.

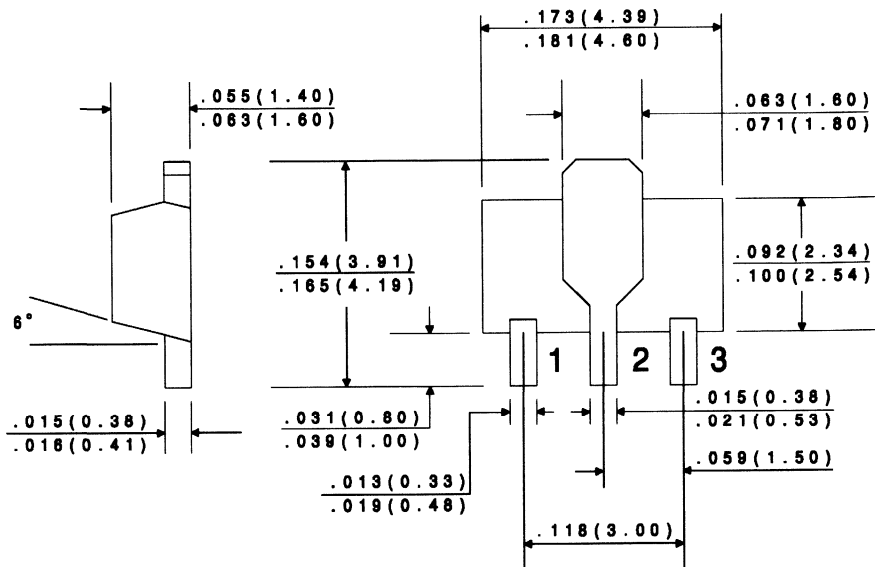
MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Collector-Emitter Voltage	V_{CES}	60	V
Emitter-Base Voltage	V_{EBO}	10	V
Collector Current	I_C	500	mA
Power Dissipation	P_D	1.2	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	104	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=50\text{V}$		100	nA
I_{CES}	$V_{CE}=50\text{V}$		500	nA
I_{EBO}	$V_{EB}=10\text{V}$		100	nA
B_{VCBO}	$I_C=100\mu\text{A}$	60		V
B_{VCEs}	$I_C=100\mu\text{A}$	60		V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=0.1\text{mA}$		1.5	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$		2.0	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	10,000		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$	10,000		
f_T	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	125		MHz

All dimensions in inches (mm).



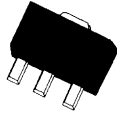
LEAD CODE:

- 1) EMITTER
- 2) COLLECTOR
- 3) BASE

DATA
SHEETS

CXTA42 NPN
CXTA92 PNP

SILICON COMPLIMENTARY
HIGH VOLTAGE TRANSISTOR



SOT-89 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CXTA42, CXTA92 types are complementary surface mount epoxy molded silicon planar epitaxial transistors designed for high voltage applications.

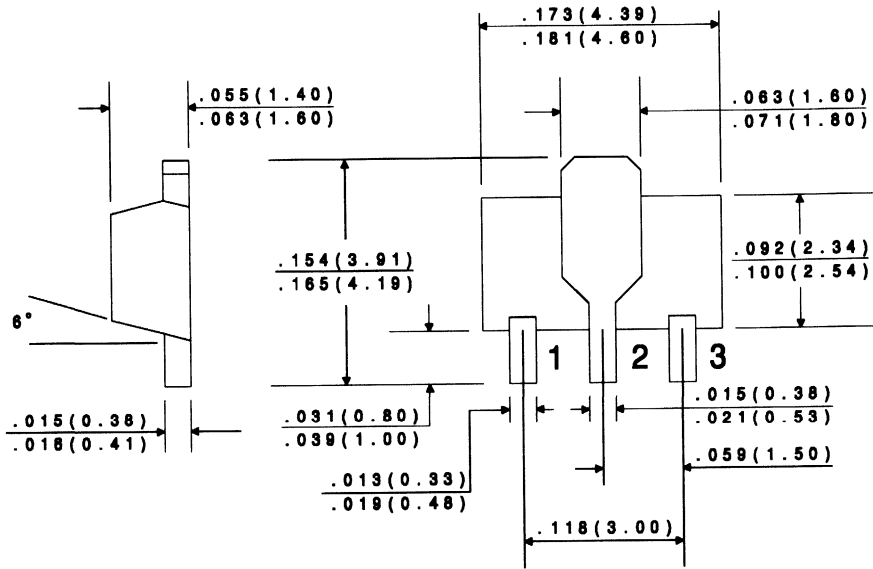
MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL	CXTA42	CXTA92	UNITS
Collector-Base Voltage	V_{CBO}	300	300	V
Collector-Emitter Voltage	V_{CEO}	300	300	V
Emitter-Base Voltage	V_{EBO}	6.0	5.0	V
Collector Current	I_C	500		mA
Power Dissipation	P_D	1.2		W
Operating and Storage				
Junction Temperature	T_J, T_{stg}	-65 to +150		$^\circ\text{C}$
Thermal Resistance	Θ_{JA}	104		$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	CXTA42		CXTA92		UNITS
		MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB}=200\text{V}$		100		250	nA
I_{EBO}	$V_{BE}=6.0\text{V}$		100		-	nA
I_{EBO}	$V_{BE}=3.0\text{V}$		-		100	nA
BV_{CBO}	$I_C=100\mu\text{A}$	300		300		V
BV_{CEO}	$I_C=1.0\text{mA}$	300		300		V
BV_{EBO}	$I_E=100\mu\text{A}$	6.0		5.0		V
$V_{CE(SAT)}$	$I_C=20\text{mA}, I_B=2.0\text{mA}$		0.5		0.5	V
$V_{BE(SAT)}$	$I_C=20\text{mA}, I_B=2.0\text{mA}$		0.9		0.9	V
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	25		25		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	40		40		
h_{FE}	$V_{CE}=10\text{V}, I_C=30\text{mA}$	40		25		
f_T	$V_{CE}=20\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	50		50		MHz
C_{ob}	$V_{CB}=20\text{V}, I_E=0, f=1.0\text{MHz}$		3.0		6.0	pF

All dimensions in inches (mm).



LEAD CODE:

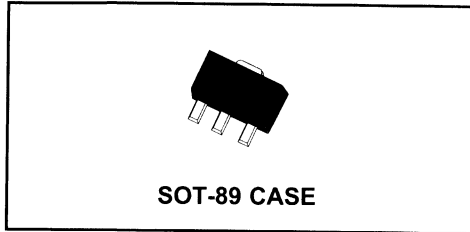
- 1) EMITTER
- 2) COLLECTOR
- 3) BASE



NEW

CXTA44

**SURFACE MOUNT
NPN SILICON
HIGH VOLTAGE TRANSISTOR**



CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CXTA44 type is a surface mount epoxy molded silicon planar epitaxial NPN transistor designed for extremely high voltage applications.

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	450	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	300	mA
Power Dissipation	P_D	1.2	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	Θ_{JA}	104	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

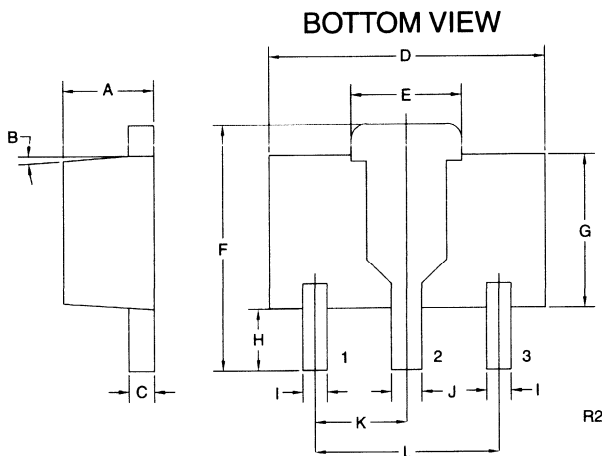
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=400\text{V}$		100	nA
I_{CES}	$V_{CE}=400\text{V}$		500	nA
I_{EBO}	$V_{BE}=4.0\text{V}$		100	nA
BV_{CBO}	$I_C=100\mu\text{A}$	450		V
BV_{CES}	$I_C=100\mu\text{A}$	450		V
BV_{CEO}	$I_C=1.0\text{mA}$	400		V
BV_{EBO}	$I_E=10\mu\text{A}$	6.0		V
$V_{CE(SAT)}$	$I_C=1.0\text{mA}, I_B=0.1\text{mA}$		0.40	V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.50	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.75	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.75	V

**SURFACE MOUNT
NPN SILICON
HIGH VOLTAGE
TRANSISTOR**

ELECTRICAL CHARACTERISTICS: Continued

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=10V, I_C=1.0mA$	40		
h_{FE}	$V_{CE}=10V, I_C=10mA$	50	200	
h_{FE}	$V_{CE}=10V, I_C=50mA$	45		
h_{FE}	$V_{CE}=10V, I_C=100mA$	20		
f_T	$V_{CE}=10V, I_C=10mA, f=10MHz$	20		MHz
C_{ob}	$V_{CB}=20V, I_E=0, f=1.0MHz$		7.0	pF
C_{ib}	$V_{EB}=0.5V, I_C=0, f=1.0MHz$		130	pF

SOT-89 CASE - MECHANICAL OUTLINE



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.055	0.067	1.40	1.70
B	4°		4°	
C	0.016	0.018	0.40	0.46
D	0.173	0.185	4.40	4.70
E	0.070	0.074	1.79	1.87
F	0.146	0.177	3.70	4.50
G	0.094	0.106	2.40	2.70
H	0.028	0.051	0.70	1.30
I	0.015	0.019	0.38	0.48
J	0.019	0.023	0.48	0.58
K	0.059		1.50	
L	0.118		3.00	

SOT-89 (REV: R2)



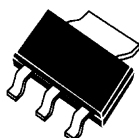
LEAD CODE:

- 1) EMITTER
- 2) COLLECTOR
- 3) BASE

R1 (14-Sept 2000)

CZS5064

SILICON CONTROLLED RECTIFIER



SOT-223 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR CZS5064 type is an epoxy molded PNP Silicon Controlled Rectifier manufactured in an epoxy molded surface mount package, designed for control systems and sensing circuit applications.

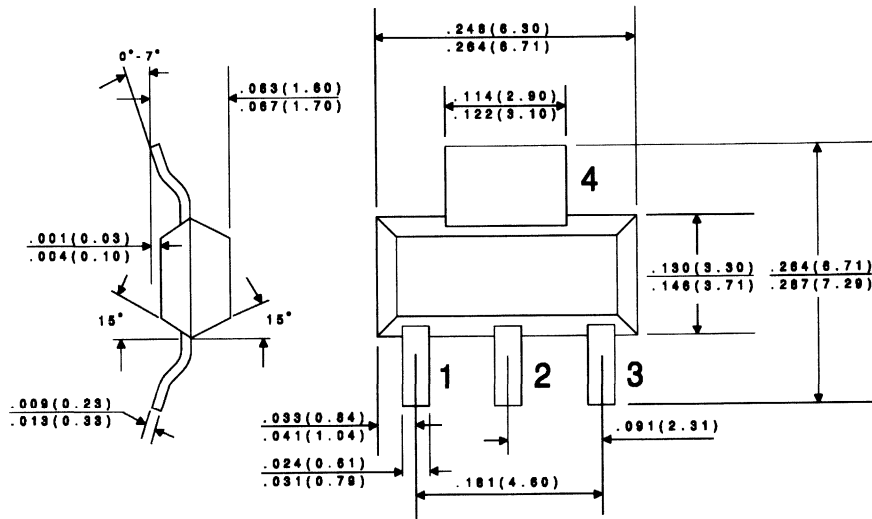
MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

	SYMBOL		UNITS
Peak Repetitive Off-State Voltage	V _{DRM}	400	V
Peak Repetitive Reverse Voltage	V _{RRM}	400	V
RMS On-State Current	I _{T(RMS)}	0.8	A
Average On-State Current (T _C =67°C)	I _{T(AV)}	0.51	A
Operating Junction Temperature	T _J	-40 to +125	°C
Storage Temperature	T _{stg}	-40 to +150	°C
Thermal Resistance	θ _{JA}	150	°C/W
Thermal Resistance	θ _{JC}	25	°C/W

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _{DRM}	V _D =400V, R _{GK} =1KΩ, T _C =125°C		50	μA
I _{RRM}	V _D =400V, R _{GK} =1KΩ, T _C =125°C		50	μA
V _T	I _T =1.2A		1.7	V
I _{GT}	V _D =7.0V, R _L =100Ω, R _{GK} =1KΩ		200	μA
V _{GT}	V _D =7.0V, R _L =100Ω, R _{GK} =1KΩ		0.8	V
V _{GD}	V _D =400V, R _L =100Ω, T _C =125°C	0.1		V
I _H	V _D =7.0, R _{GK} =1KΩ		5.0	mA
t _{ON}	V _D =400V, I _{GT} =1.0mA, I _F =1.0A, R _{GK} =1.0Ω, di/dt=6.0A/μs		2.8 TYP	μs

All dimensions in inches (mm).



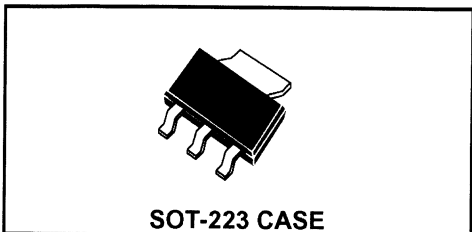
LEAD CODE:

- 1) CATHODE
- 2) ANODE
- 3) GATE
- 4) ANODE



CZSH-4

SCHOTTKY BARRIER RECTIFIER



CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZSH-4 type is a schottky barrier rectifier mounted in an epoxy molded case using a metal to silicon junction to yield low forward voltage drop. This device utilizes a single chip with anode connections made to PIN 1 and PIN 3.

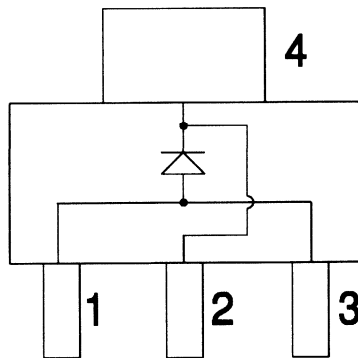
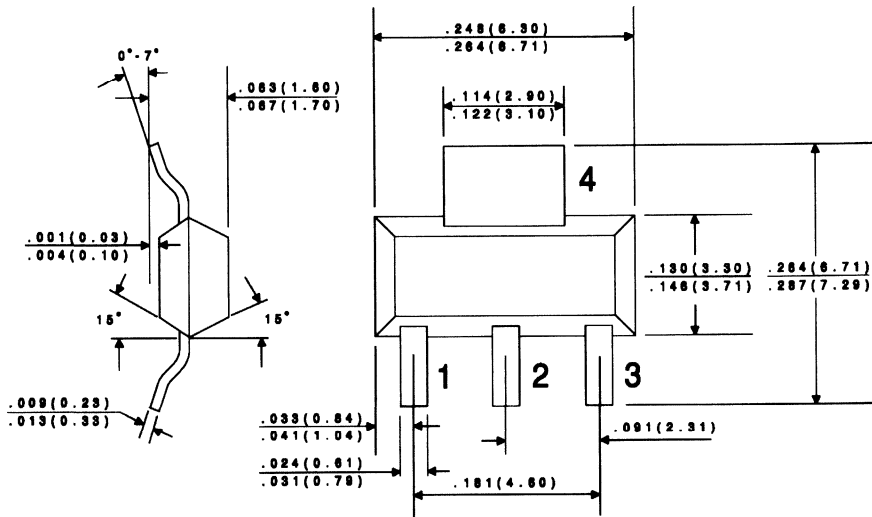
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	40	V
DC Blocking Voltage	V_R	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	V
Average Forward Current	I_O	2.0	A
Peak Forward Surge Current (8.3ms, Non-Rep.)	I_{FSM}	10	A
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_R	$V_R=40\text{V}$		1.0	mA
I_R	$V_R=40\text{V}, T_A=100^{\circ}\text{C}$		10	mA
V_F	$I_F=1.0\text{A}$		0.50	V
V_F	$I_F=2.0\text{A}$		0.60	V

All dimensions in inches (mm).



DATA SHEETS

LEAD CODE:

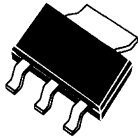
- 1) ANODE
- 2) CATHODE
- 3) ANODE
- 4) CATHODE

R2

CZT31C NPN
CZT32C PNP

2.0W COMPLEMENTARY SILICON
POWER TRANSISTOR

POWER
223TM



SOT-223 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT31C and CZT32C types are surface mount epoxy molded complementary silicon transistors manufactured by the epitaxial base process, designed for surface mounted power amplifier applications up to 3.0 amps.

MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$)

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Collector Current
Peak Collector Current
Base Current
Power Dissipation
Operating and Storage
Junction Temperature
Thermal Resistance

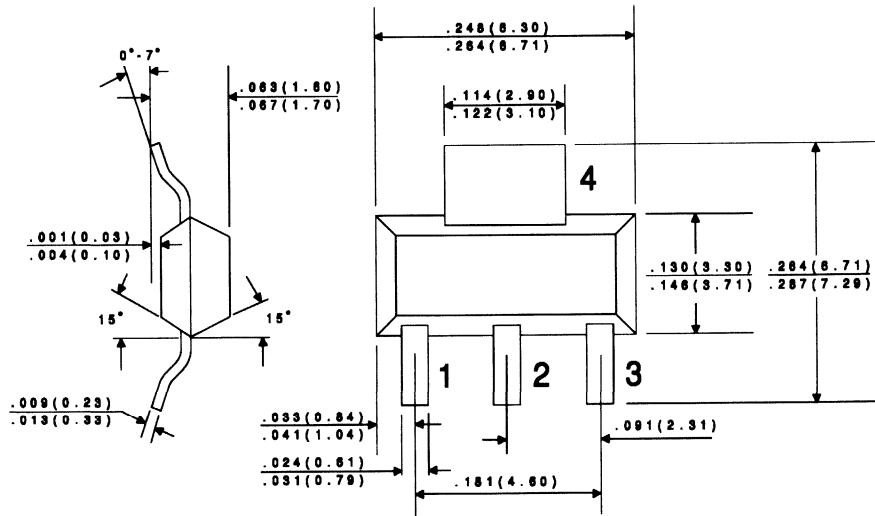
SYMBOL		UNITS
V_{CBO}	100	V
V_{CEO}	100	V
V_{EBO}	5.0	V
I_C	3.0	A
I_{CM}	6.0	A
I_B	1.0	A
P_D	2.0	W
T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Θ_{JA}	62.5	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CES}	$V_{CE}=100\text{V}$		200	μA
I_{CEO}	$V_{CE}=60\text{V}$		300	μA
I_{EBO}	$V_{EB}=5.0\text{V}$		1.0	mA
BV_{CEO}	$I_C=30\text{mA}$	100		V
* $V_{CE(SAT)}$	$I_C=3.0\text{A}, I_B=375\text{mA}$		1.2	V
* $V_{BE(ON)}$	$V_{CE}=4.0\text{V}, I_C=3.0\text{A}$		1.8	V
* h_{FE}	$V_{CE}=4.0\text{V}, I_C=1.0\text{A}$	25		
* h_{FE}	$V_{CE}=4.0\text{V}, I_C=3.0\text{A}$	10	100	
f_T	$V_{CE}=10\text{V}, I_C=500\text{mA}, f=1.0\text{MHz}$	3.0		MHz

* Pulsed, 2%D.C.

All dimensions in inches (mm).



LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

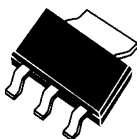


R1

CZT122 NPN
CZT127 PNP

COMPLEMENTARY SILICON
POWER DARLINGTON TRANSISTOR

POWERTM
223



SOT-223 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT122, CZT127 types are Complementary Silicon Power Darlington Transistors manufactured in a surface mount package designed for low speed switching and amplifier applications.

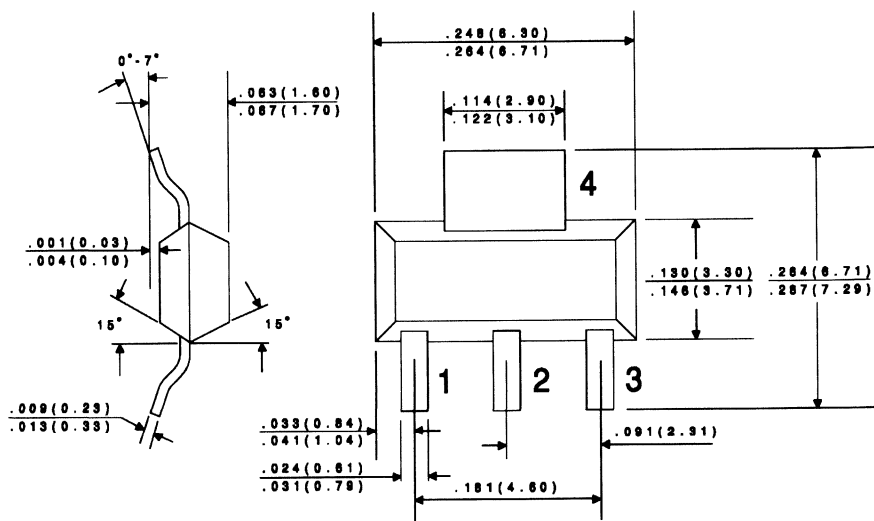
MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	100	V
Collector-Emitter Voltage	V_{CE0}	100	V
Emitter-Base Voltage	V_{EB0}	5.0	V
Collector Current	I_C	5.0	A
Peak Collector Current	I_{CM}	8.0	A
Base Current	I_B	120	mA
Power Dissipation	P_D	2.0	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	Θ_{JA}	62.5	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CE0}	$V_{CE}=50\text{V}$		500	μA
I_{CBO}	$V_{CB}=100\text{V}$		200	μA
I_{EBO}	$V_{EB}=5.0\text{V}$		2.0	mA
BV_{CE0}	$I_C=30\text{mA}$	100		V
$V_{CE(SAT)}$	$I_C=3.0\text{A}, I_B=12\text{mA}$		2.0	V
$V_{CE(SAT)}$	$I_C=5.0\text{A}, I_B=20\text{mA}$		4.0	V
$V_{BE(ON)}$	$V_{CE}=3.0\text{V}, I_C=3.0\text{A}$		2.5	V
h_{FE}	$V_{CE}=3.0\text{V}, I_C=500\text{mA}$	1000		
h_{FE}	$V_{CE}=3.0\text{V}, I_C=3.0\text{A}$	1000		
f_T	$V_{CE}=4.0\text{V}, I_C=3.0\text{A}, f=1.0\text{MHz}$	4.0		MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$ (CZT122)		200	pF
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$ (CZT127)		300	pF

All dimensions in inches (mm).



LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR



R1



CZT250K

SURFACE MOUNT
NPN SILICON
DARLINGTON TRANSISTOR



SOT-223 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT250K type is an NPN silicon Darlington transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring extremely high gain.

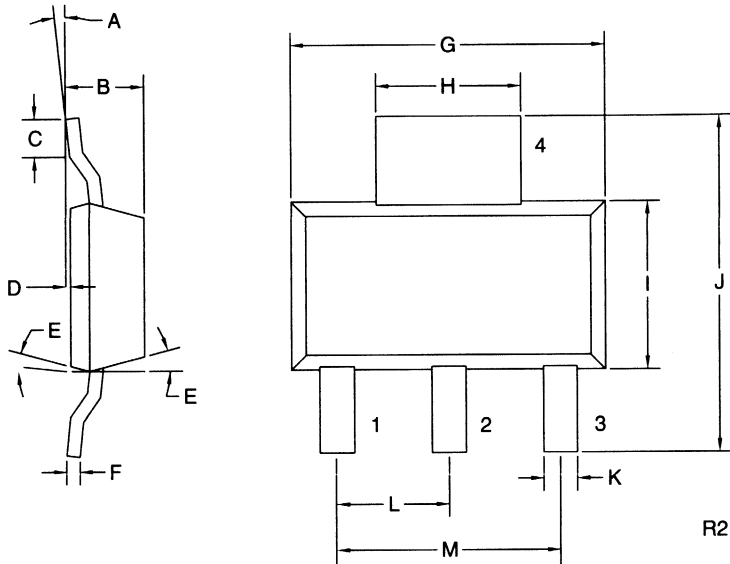
MAXIMUM RATINGS: (T_A=25°C)

	SYMBOL		UNITS
Collector-Base Voltage	V _{CB0}	50	V
Collector-Emitter Voltage	V _{CEO}	25	V
Emitter-Base Voltage	V _{EBO}	10	V
Collector Current	I _C	1.0	A
Power Dissipation	PD	2.0	W
Operating and Storage	T _J , T _{stg}	-65 to +150	°C
Junction Temperature			
Thermal Resistance	θ _{JA}	62.5	°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _{CBO}	V _{CB} =30V		100	nA
BV _{CB0}	I _C =10μA	50		V
BV _{CEO}	I _C =10mA	25		V
BV _{EBO}	I _E =100μA	10		V
V _{CE(SAT)}	I _C =100mA, I _B =0.1mA		1.5	V
V _{BE(ON)}	V _{CE} =5.0V, I _C =100mA		2.0	V
h _{FE}	V _{CE} =5.0V, I _C =10mA	250,000		
h _{FE}	V _{CE} =5.0V, I _C =100mA	250,000		
f _T	V _{CE} =5.0V, I _C =10mA, f=100MHz	125		MHz

SOT-223 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0°	7°	0°	7°
B	0.063	0.067	1.60	1.70
C	0.022		0.55	
D	0.001	0.004	0.03	0.10
E	15°		15°	
F	0.009	0.013	0.23	0.33
G	0.248	0.264	6.30	6.71
H	0.114	0.122	2.90	3.10
I	0.130	0.146	3.30	3.71
J	0.264	0.287	6.71	7.29
K	0.024	0.031	0.61	0.79
L	0.091		2.31	
M	0.181		4.60	

SOT-223 (REV: R2)

**DATA
SHEETS**



CZT651

**SURFACE MOUNT
NPN HIGH CURRENT TRANSISTOR**



SOT-223 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT651 type is a NPN Silicon Transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high current applications

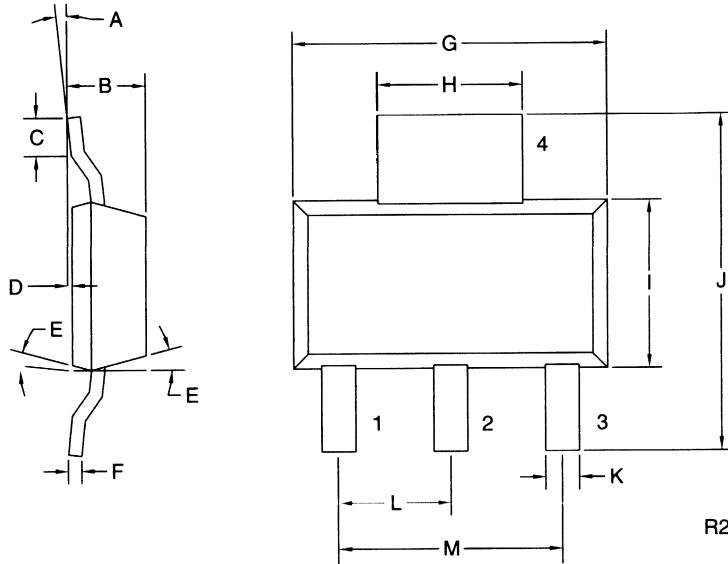
MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	2.0	A
Power Dissipation	P_D	2.0	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	Θ_{JA}	62.5	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=80\text{V}$		100	nA
I_{EBO}	$V_{EB}=4.0\text{V}$		100	nA
BV_{CBO}	$I_C=100\mu\text{A}$	80		V
BV_{CEO}	$I_C=10\text{mA}$	60		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$		0.3	V
$V_{CE(SAT)}$	$I_C=2.0\text{A}, I_B=200\text{mA}$		0.5	V
$V_{BE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$		1.2	V
$V_{BE(ON)}$	$V_{CE}=2.0\text{V}, I_C=1.0\text{A}$		1.0	V
h_{FE}	$V_{CE}=2.0\text{V}, I_C=50\text{mA}$	75		
h_{FE}	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$	75		
h_{FE}	$V_{CE}=2.0\text{V}, I_C=1.0\text{A}$	75		
h_{FE}	$V_{CE}=2.0\text{V}, I_C=2.0\text{A}$	40		
f_T	$V_{CE}=5.0\text{V}, I_C=50\text{mA}, f=100\text{MHz}$	75		MHz

SOT-223 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0°	7°	0°	7°
B	0.063	0.067	1.60	1.70
C	0.022		0.55	
D	0.001	0.004	0.03	0.10
E	15°		15°	
F	0.009	0.013	0.23	0.33
G	0.248	0.264	6.30	6.71
H	0.114	0.122	2.90	3.10
I	0.130	0.146	3.30	3.71
J	0.264	0.287	6.71	7.29
K	0.024	0.031	0.61	0.79
L	0.091		2.31	
M	0.181		4.60	

SOT-223 (REV: R2)





CZT751

**SURFACE MOUNT
PNP HIGH CURRENT TRANSISTOR**



SOT-223 CASE

**Central™
Semiconductor Corp.**

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT751 type is a PNP Silicon Transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high current applications.

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	2.0	A
Power Dissipation	P_D	2.0	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	Θ_{JA}	62.5	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

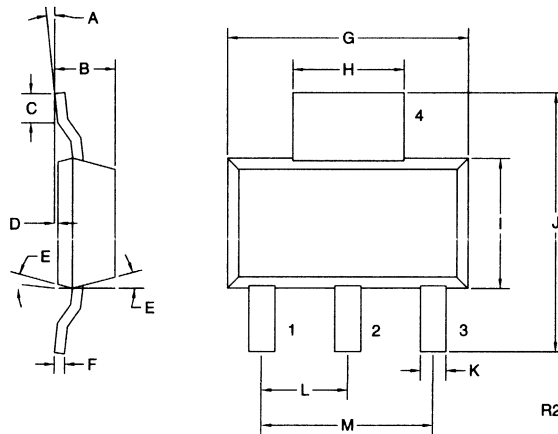
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=80\text{V}$		100	nA
I_{EBO}	$V_{EB}=4.0\text{V}$		100	nA
BV_{CBO}	$I_C=100\mu\text{A}$	80		V
BV_{CEO}	$I_C=10\text{mA}$	60		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$		0.3	V
$V_{CE(SAT)}$	$I_C=2.0\text{A}, I_B=200\text{mA}$		0.5	V
$V_{BE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$		1.2	V
$V_{BE(ON)}$	$V_{CE}=2.0\text{V}, I_C=1.0\text{A}$		1.0	V

**SURFACE MOUNT
PNP HIGH CURRENT
TRANSISTOR**

ELECTRICAL CHARACTERISTICS: Continued

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=2.0V, I_C=50mA$	75		
h_{FE}	$V_{CE}=2.0V, I_C=500mA$	75		
h_{FE}	$V_{CE}=2.0V, I_C=1.0A$	75		
h_{FE}	$V_{CE}=2.0V, I_C=2.0A$	40		
f_T	$V_{CE}=5.0V, I_C=50mA, f=100MHz$	75		MHz

SOT-223 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0°	7°	0°	7°
B	0.063	0.067	1.60	1.70
C	0.022		0.55	
D	0.001	0.004	0.03	0.10
E	15°		15°	
F	0.009	0.013	0.23	0.33
G	0.248	0.264	6.30	6.71
H	0.114	0.122	2.90	3.10
I	0.130	0.146	3.30	3.71
J	0.264	0.287	6.71	7.29
K	0.024	0.031	0.61	0.79
L	0.091		2.31	
M	0.181		4.60	


SOT-223 (REV: R2)

DATA SHEETS

NEW

CZT900K

**SURFACE MOUNT
NPN SILICON
DARLINGTON TRANSISTOR**



SOT-223 CASE

CentralTM Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT900K type is an NPN silicon Darlington transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring extremely high gain.

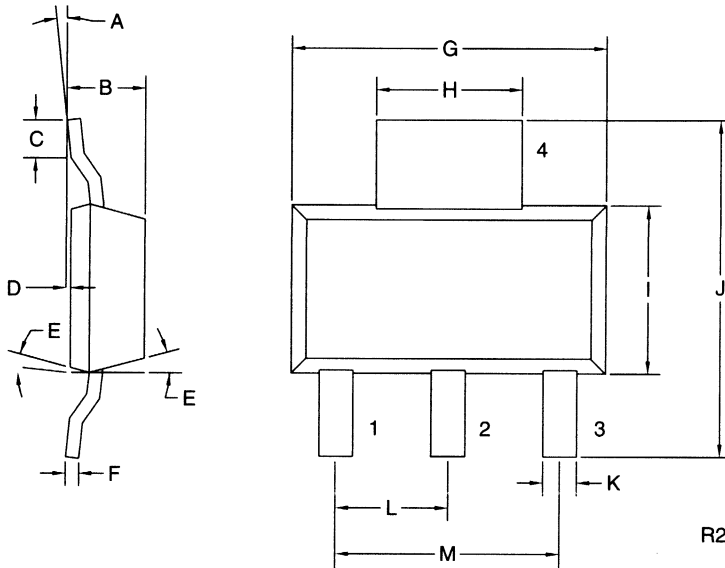
MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EBO}	10	V
Collector Current	I_C	1.0	A
Power Dissipation	P_D	2.0	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	Θ_{JA}	62.5	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=30\text{V}$		100	nA
BV_{CBO}	$I_C=10\mu\text{A}$	50		V
BV_{CEO}	$I_C=10\text{mA}$	25		V
BV_{EBO}	$I_E=100\mu\text{A}$	10		V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=0.1\text{mA}$		1.5	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$		2.0	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	900,000		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$	900,000		
f_T	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	125		MHz

SOT-223 CASE - MECHANICAL OUTLINE



LEAD CODE:

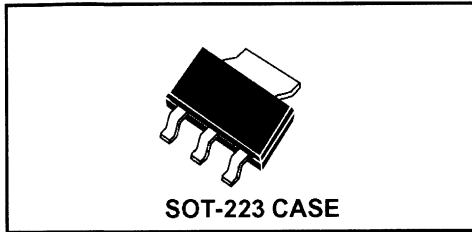
- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0°	7°	0°	7°
B	0.063	0.067	1.60	1.70
C	0.022		0.55	
D	0.001	0.004	0.03	0.10
E	15°		15°	
F	0.009	0.013	0.23	0.33
G	0.248	0.264	6.30	6.71
H	0.114	0.122	2.90	3.10
I	0.130	0.146	3.30	3.71
J	0.264	0.287	6.71	7.29
K	0.024	0.031	0.61	0.79
L	0.091		2.31	
M	0.181		4.60	

SOT-223 (REV: R2)



CZT2000
NPN SILICON
EXTREMELY HIGH VOLTAGE
DARLINGTON TRANSISTOR



CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT2000 type is an NPN Epitaxial Planar Silicon Darlington Transistor manufactured in an epoxy molded surface mount package, designed for applications requiring extremely high voltages and high gain capability.

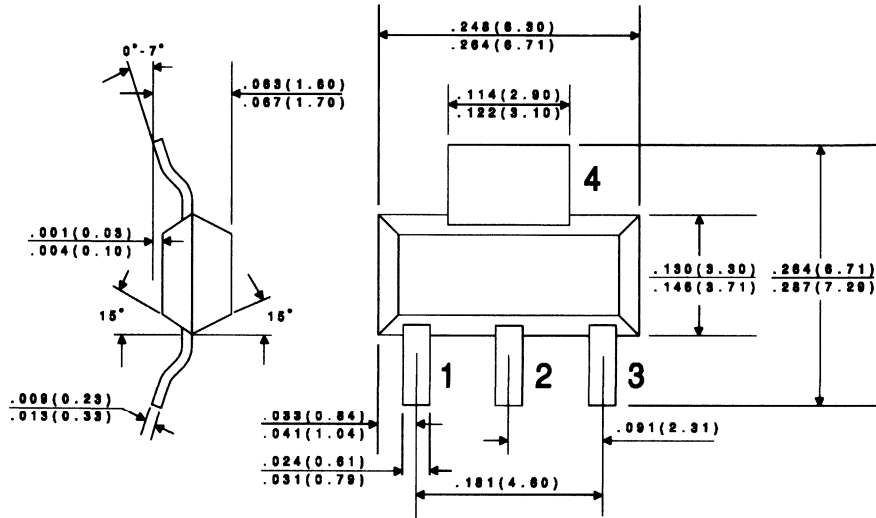
MAXIMUM RATINGS (T_A=25°C)

	SYMBOL		UNITS
Collector-Base Voltage	V _{CB0}	200	V
Collector-Emitter Voltage	V _{CES}	200	V
Emitter-Base Voltage	V _{EBO}	10	V
Collector Current	I _C	600	mA
Power Dissipation	P _D	2.0	W
Operating and Storage			
Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	θ _{JA}	62.5	°C/W

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _{CB0}	V _{CB} =180V		500	nA
I _{EBO}	V _{BE} =10V		100	nA
BV _{CES}	I _C =1.0mA	200		V
V _{CE(SAT)}	I _C =20mA, I _B =25μA		0.9	V
V _{CE(SAT)}	I _C =80mA, I _B =40μA		1.1	V
V _{CE(SAT)}	I _C =160mA, I _B =100μA		1.2	V
V _{BE(ON)}	V _{CE} =5.0V, I _C =160mA		2.0	V
h _{FE}	V _{CE} =5.0V, I _C =100μA	3,000		
h _{FE}	V _{CE} =5.0V, I _C =10mA	3,000		
h _{FE}	V _{CE} =5.0V, I _C =160mA	3,000		

All dimensions in inches (mm).



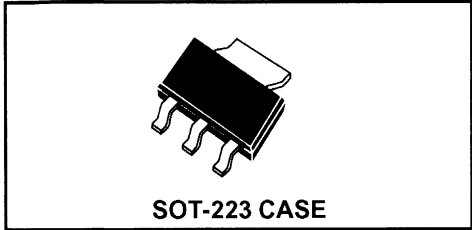
LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

DATA SHEETS

CZT2222A

NPN SILICON TRANSISTOR



CentralTM

Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR CZT2222A type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for general purpose amplifier and switching applications.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

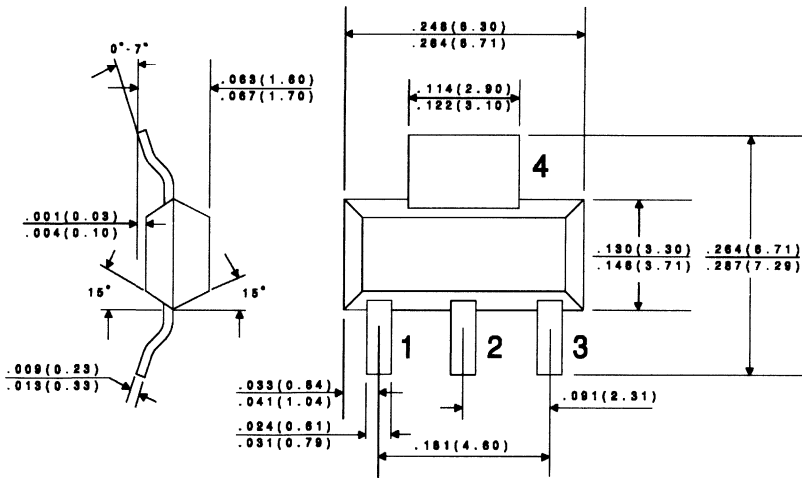
	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	75	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	600	mA
Power Dissipation	P_D	2.0	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	62.5	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=60\text{V}$		10	nA
I_{CBO}	$V_{CB}=60\text{V}, T_A=125^{\circ}\text{C}$		10	μA
I_{EBO}	$V_{EB}=3.0\text{V}$		10	nA
I_{CEV}	$V_{CE}=60\text{V}, V_{EB}=3.0\text{V}$		10	nA
BV_{CBO}	$I_C=10\mu\text{A}$	75		V
BV_{CEO}	$I_C=10\text{mA}$	40		V
BV_{EBO}	$I_E=10\mu\text{A}$	6.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.3	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.0	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$	0.6	1.2	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		2.0	V
h_{FE}	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	35		
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	50		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	75		

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=10V, I_C=150mA$	100	300	
h_{FE}	$V_{CE}=1.0V, I_C=150mA$	50		
h_{FE}	$V_{CE}=10V, I_C=500mA$	40		
f_T	$V_{CE}=20V, I_C=20mA, f=100MHz$	300		MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		8.0	pF
C_{ib}	$V_{EB}=0.5V, I_C=0, f=1.0MHz$		25	pF
h_{ie}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	2.0	8.0	$k\Omega$
h_{ie}	$V_{CE}=10V, I_C=10mA, f=1.0kHz$	0.25	1.25	$k\Omega$
h_{re}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$		8.0	$\times 10^{-4}$
h_{re}	$V_{CE}=10V, I_C=10mA, f=1.0kHz$		4.0	$\times 10^{-4}$
h_{fe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	50	300	
h_{fe}	$V_{CE}=10V, I_C=10mA, f=1.0kHz$	75	375	
h_{oe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	5.0	35	$\mu mhos$
h_{oe}	$V_{CE}=10V, I_C=10mA, f=1.0kHz$	25	200	$\mu mhos$
$rb'C_C$	$V_{CB}=10V, I_E=20mA, f=31.8MHz$		150	ps
NF	$V_{CE}=10V, I_C=100\mu A, R_S=1.0k\Omega, f=1.0kHz$		4.0	dB
t_d	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		10	ns
t_r	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		25	ns
t_s	$V_{CC}=30V, I_C=150mA, I_{B1}=I_{B2}=15mA$		225	ns
t_f	$V_{CC}=30V, I_C=150mA, I_{B1}=I_{B2}=15mA$		60	ns

All dimensions in inches (mm).

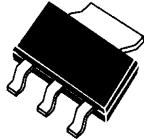


LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

CZT2907A

PNP SILICON TRANSISTOR



SOT-223 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT2907A type is an PNP silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for general purpose amplifier and switching applications.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

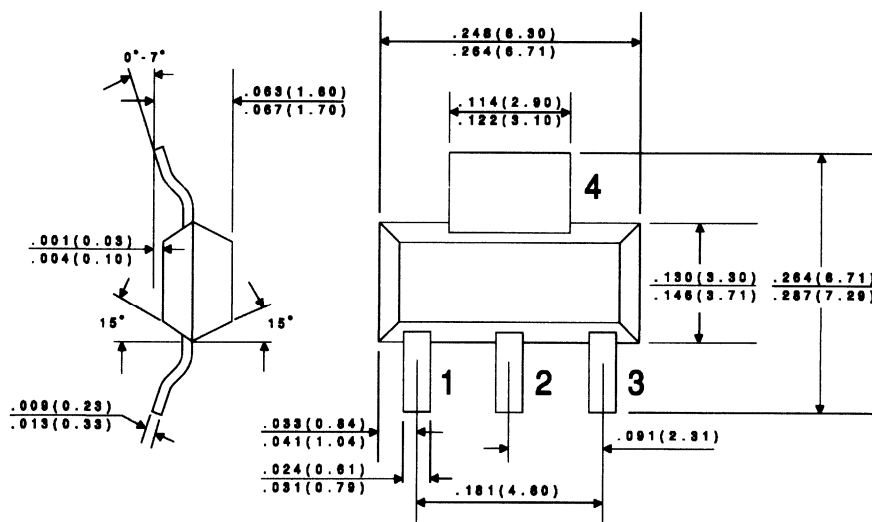
	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	60	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	600	mA
Power Dissipation	P_D	2.0	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	Θ_{JA}	62.5	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CB0}	$V_{CB}=50\text{V}$		10	nA
I_{CBO}	$V_{CB}=50\text{V}, T_A=125^{\circ}\text{C}$		10	μA
I_{CEV}	$V_{CE}=30\text{V}, V_{BE}=0.5\text{V}$		50	nA
BV_{CB0}	$I_C=10\mu\text{A}$	60		V
BV_{CEO}	$I_C=10\text{mA}$	60		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.4	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.6	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		1.3	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		2.6	V
h_{FE}	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	75		
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	100		

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=10V, I_C=10mA$	100		
h_{FE}	$V_{CE}=10V, I_C=150mA$	100	300	
h_{FE}	$V_{CE}=10V, I_C=500mA$	50		
f_T	$V_{CE}=20V, I_C=50mA, f=100MHz$	200		MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		8.0	pF
C_{ib}	$V_{BE}=2.0V, I_C=0, f=1.0MHz$		30	pF
t_{on}	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		45	ns
t_d	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		10	ns
t_r	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		40	ns
t_{off}	$V_{CC}=6.0V, I_C=150mA, I_{B1}=I_{B2}=15mA$		100	ns
t_s	$V_{CC}=6.0V, I_C=150mA, I_{B1}=I_{B2}=15mA$		80	ns
t_f	$V_{CC}=6.0V, I_C=150mA, I_{B1}=I_{B2}=15mA$		30	ns

All dimensions in inches (mm).



LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

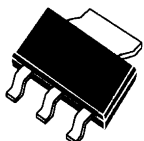
DATA
SHEETS

R2

CZT2955 PNP
CZT3055 NPN

2.0W SURFACE MOUNT
COMPLEMENTARY SILICON
POWER TRANSISTOR

POWER
223TM



SOT-223 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT2955 and CZT3055 types are surface mount epoxy molded complementary silicon transistors manufactured by the epitaxial base process, designed for surface mounted power amplifier applications up to 6.0 amps.

MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$)

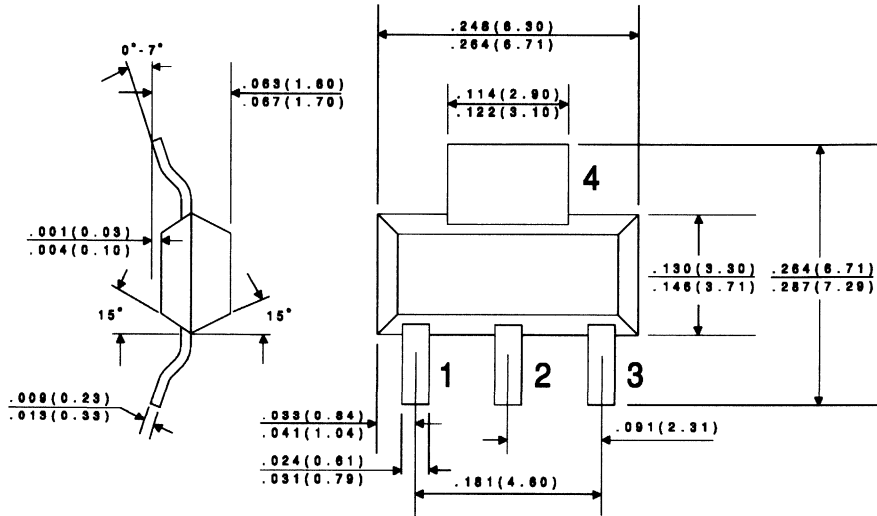
	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CER}	70	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	7.0	V
Collector Current	I_C	6.0	A
Base Current	I_B	3.0	A
Power Dissipation	P_D	2.0	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	62.5	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CEO}	$V_{CE}=30\text{V}$		700	μA
I_{CEV}	$V_{CE}=100\text{V}, V_{EB(\text{off})}=1.5\text{V}$		1.0	mA
I_{EBO}	$V_{EB}=7.0\text{V}$		5.0	mA
BV_{CER}	$I_C=30\text{mA}, R_{BE}=100\Omega$	70		V
BV_{CEO}	$I_C=30\text{mA}$	60		V
* $V_{CE(\text{SAT})}$	$I_C=4.0\text{A}, I_B=400\text{mA}$		1.1	V
* $V_{BE(\text{ON})}$	$V_{CE}=4.0\text{V}, I_C=4.0\text{A}$		1.5	V
* h_{FE}	$V_{CE}=4.0\text{V}, I_C=4.0\text{A}$	20	70	
* h_{FE}	$V_{CE}=4.0\text{V}, I_C=6.0\text{A}$	5.0		
f_T	$V_{CE}=10\text{V}, I_C=500\text{mA}, f=1.0\text{MHz}$	2.5		MHZ

* Pulsed, 2% D.C.

All dimensions in inches (mm).



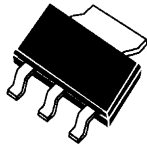
LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR



CZT3019

NPN SILICON TRANSISTOR



SOT-223 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT3019 type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high current general purpose amplifier applications.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

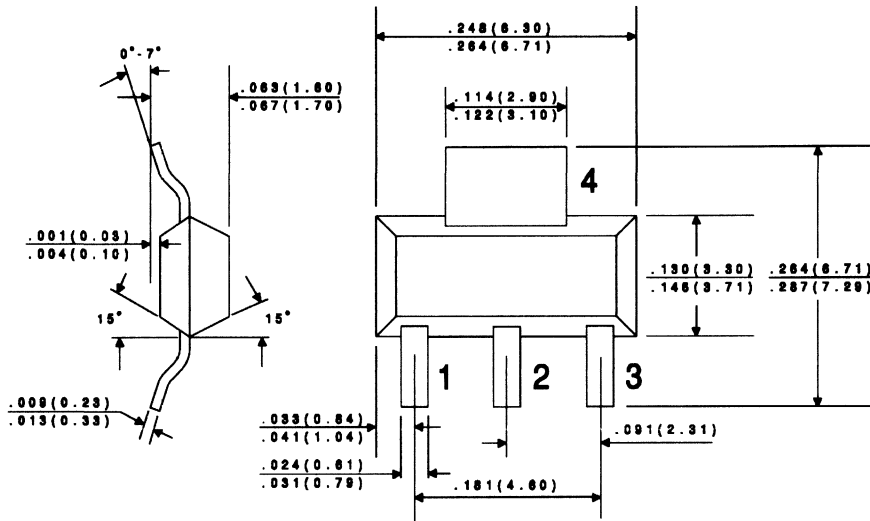
	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	120	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	7.0	V
Collector Current	I_C	1.0	A
Collector Current (Peak)	I_{CM}	1.5	A
Power Dissipation	P_D	2.0	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	62.5	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=90\text{V}$		10	nA
I_{EBO}	$V_{EB}=5.0\text{V}$		10	nA
BV_{CBO}	$I_C=100\mu\text{A}$	120		V
BV_{CEO}	$I_C=30\text{mA}$	80		V
BV_{EBO}	$I_E=100\mu\text{A}$	7.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.2	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.5	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		1.1	V
h_{FE}	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	50		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	90		
h_{FE}	$V_{CE}=10\text{V}, I_C=150\text{mA}$	100	300	
h_{FE}	$V_{CE}=10\text{V}, I_C=500\text{mA}$	50		
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{A}$	15		

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
f_T	$V_{CE}=10V, I_C=50mA, f=1.0MHz$	100		MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		12	pF
C_{ib}	$V_{EB}=0.5V, I_C=0, f=1.0MHz$		60	pF
NF	$V_{CE}=10V, I_C=100\mu A, R_S=1k\Omega, f=1.0kHz$		4.0	dB

All dimensions in inches (mm).



LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR


DATA
SHEETS

R2

NEW

CZT3150

**SURFACE MOUNT
NPN POWER TRANSISTOR**



SOT-223 CASE

CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT3150 type is a NPN Silicon Power Transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high current, high gain, fast switching applications.

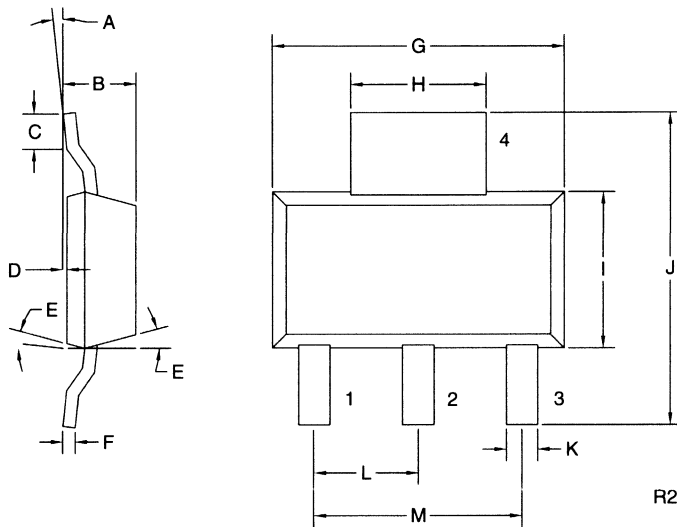
MAXIMUM RATINGS: (T_A=25°C)

	SYMBOL		UNITS
Collector-Base Voltage	V _{CBO}	50	V
Collector-Emitter Voltage	V _{CEO}	25	V
Emitter-Base Voltage	V _{EBO}	7.0	V
Collector Current	I _C	5.0	A
Base Current	I _B	1.0	A
Power Dissipation	P _D	2.0	W
Operating and Storage Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	θ _{JA}	62.5	°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I _{CBO}	V _{CB} =50V			1.0	μA
I _{EBO}	V _{EB} =7.0V			1.0	μA
BV _{CEO}	I _C =10mA	25			V
V _{CE(SAT)}	I _C =3.0A, I _B =150mA			0.35	V
V _{CE(SAT)}	I _C =4.0A, I _B =200mA			0.50	V
V _{BE(SAT)}	I _C =3.0A, I _B =150mA			1.10	V
V _{BE(SAT)}	I _C =4.0A, I _B =200mA			1.40	V
h _{FE}	V _{CE} =2.0V, I _C =500mA	250		550	
h _{FE}	V _{CE} =2.0V, I _C =2.0A	150			
h _{FE}	V _{CE} =2.0V, I _C =5.0A	50			
f _T	V _{CE} =6.0V, I _C =50mA, f=200MHz		150		MHz
C _{ob}	V _{CB} =10V, I _E =0, f=1.0MHz			50	pF

SOT-223 CASE - MECHANICAL OUTLINE



LEAD CODE:

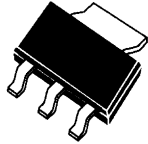
- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0°	7°	0°	7°
B	0.063	0.067	1.60	1.70
C	0.022		0.55	
D	0.001	0.004	0.03	0.10
E	15°		15°	
F	0.009	0.013	0.23	0.33
G	0.248	0.264	6.30	6.71
H	0.114	0.122	2.90	3.10
I	0.130	0.146	3.30	3.71
J	0.264	0.287	6.71	7.29
K	0.024	0.031	0.61	0.79
L	0.091		2.31	
M	0.181		4.60	

SOT-223 (REV: R2)

CZT3904 NPN
CZT3906 PNP

COMPLEMENTARY
SILICON TRANSISTORS



SOT-223 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT3904, CZT3906 types are complementary silicon transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for small signal general purpose and switching applications.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

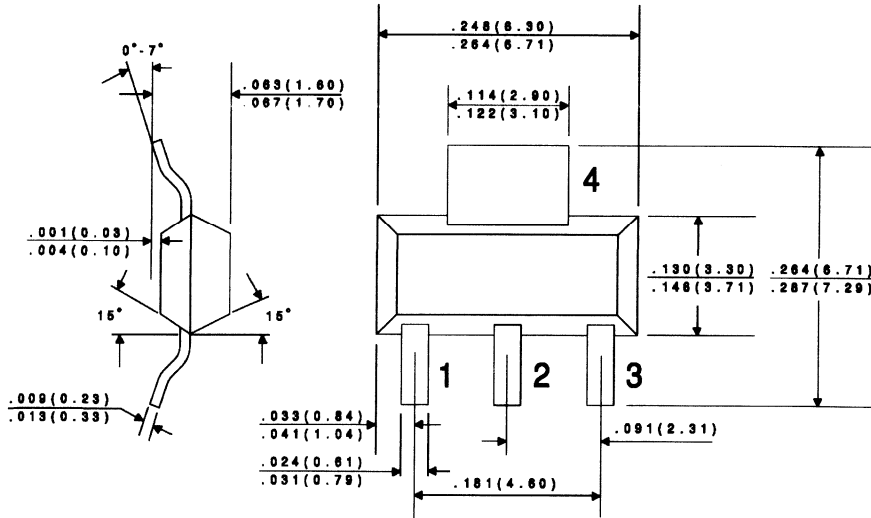
	SYMBOL	CZT3904	CZT3906	UNITS
Collector-Base Voltage	V_{CB0}	60	40	V
Collector-Emitter Voltage	V_{CE0}	40	40	V
Emitter-Base Voltage	V_{EB0}	6.0	5.0	V
Collector Current	I_C	200		mA
Power Dissipation	P_D	2.0		W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150		$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	62.5		$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	CZT3904		CZT3906		UNITS
		MIN	MAX	MIN	MAX	
I_{CEV}	$V_{CE}=30\text{V}, V_{EB}=3.0\text{V}$		50		50	nA
BV_{CB0}	$I_C=10\mu\text{A}$	60		40		V
BV_{CE0}	$I_C=1.0\text{mA}$	40		40		V
BV_{EB0}	$I_E=10\mu\text{A}$	6.0		5.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.20		0.25	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.30		0.40	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	0.65	0.85	0.65	0.85	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.95		0.95	V
h_{FE}	$V_{CE}=1.0\text{V}, I_C=0.1\text{mA}$	40		60		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=1.0\text{mA}$	70		80		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=10\text{mA}$	100	300	100	300	
h_{FE}	$V_{CE}=1.0\text{V}, I_C=50\text{mA}$	60		60		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=100\text{mA}$	30		30		

SYMBOL	TEST CONDITIONS	CZT3904		CZT3906		UNITS
		MIN	MAX	MIN	MAX	
f_T	$V_{CE}=20V, I_C=10mA, f=100MHz$	300		250		MHz
C_{ob}	$V_{CB}=5.0V, I_E=0, f=1.0MHz$		4.0		4.5	pF
C_{ib}	$V_{BE}=0.5V, I_C=0, f=1.0MHz$		8.0		10	pF
h_{ie}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	1.0	10	2.0	12	k Ω
h_{re}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	0.5	8.0	0.1	10	$\times 10^{-4}$
h_{fe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	100	400	100	400	
h_{oe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	1.0	40	3.0	60	$\mu mhos$
NF	$V_{CE}=5.0V, I_C=100\mu A, R_S=1.0k\Omega$ $f=10Hz$ to $15.7kHz$		5.0		4.0	dB
t_d	$V_{CC}=3.0V, V_{BE}=0.5V, I_C=10mA, I_{B1}=1.0mA$		35		35	ns
t_r	$V_{CC}=3.0V, V_{BE}=0.5V, I_C=10mA, I_{B1}=1.0mA$		35		35	ns
t_s	$V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=1.0mA$		200		225	ns
t_f	$V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=1.0mA$		50		75	ns

All dimensions in inches (mm).



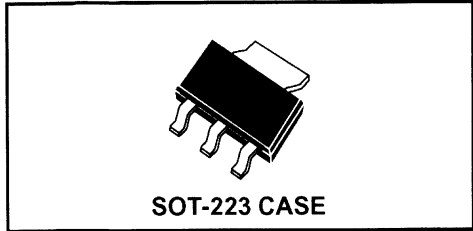
LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

DATA SHEETS

CZT4033

PNP SILICON TRANSISTOR



CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT4033 type is an PNP silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high current general purpose amplifier applications.

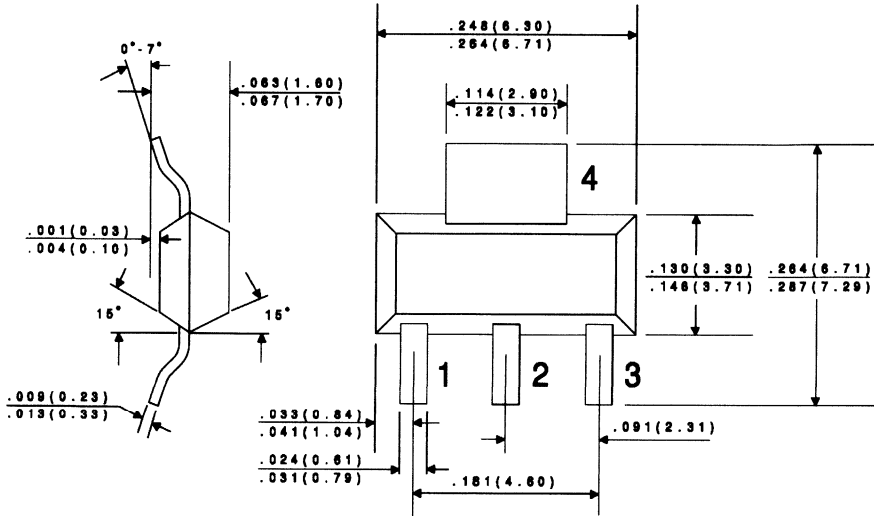
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	1.0	A
Collector Current (Peak)	I_{CM}	1.5	A
Power Dissipation	P_D	2.0	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	62.5	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=60\text{V}$		50	nA
I_{EBO}	$V_{EB}=5.0\text{V}$		10	nA
BV_{CBO}	$I_C=10\mu\text{A}$	80		V
BV_{CEO}	$I_C=10\text{mA}$	80		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.15	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.50	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.90	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.10	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=0.1\text{mA}$	75		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$	100	300	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=500\text{mA}$	70		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{A}$	25		
f_T	$V_{CE}=10\text{V}, I_C=50\text{mA}, f=1.0\text{MHz}$	100		MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		20	pF
C_{ib}	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		110	pF

All dimensions in inches (mm).

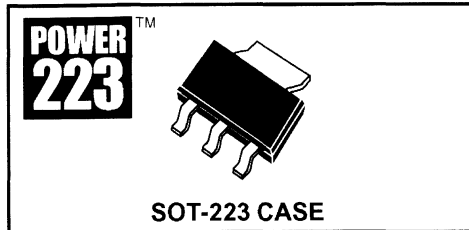


LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR



CZT5338
NPN SILICON
POWER TRANSISTOR



Central[™]

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT5338 type is an NPN silicon power transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring extremely high current amplification and switching capability.

MAXIMUM RATINGS (T_A=25°C)

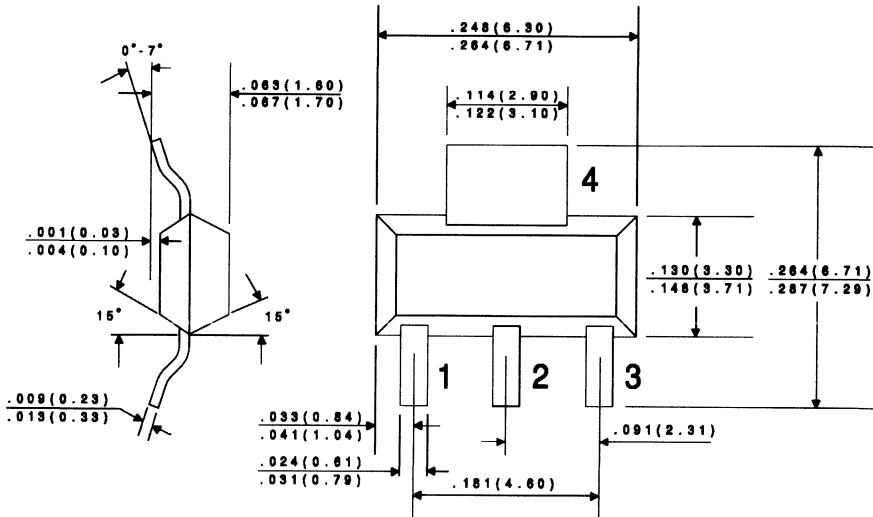
	SYMBOL		UNITS
Collector-Base Voltage	V _{CB0}	100	V
Collector-Emitter Voltage	V _{CEO}	100	V
Emitter-Base Voltage	V _{EBO}	6.0	V
Collector Current	I _C	5.0	A
Base Current	I _B	1.0	A
Power Dissipation	P _D	2.0	W
Operating and Storage			
Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	θ _{JA}	62.5	°C/W

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _{CBO}	V _{CB} =100V		10	μA
I _{EBO}	V _{BE} =6.0V		100	μA
I _{CEO}	V _{CE} =90V		100	μA
BV _{CEO}	I _C =50mA	100		V
V _{CE(SAT)}	I _C =2.0A, I _B =200mA		0.7	V
V _{CE(SAT)}	I _C =5.0A, I _B =500mA		1.2	V
V _{BE(SAT)}	I _C =2.0A, I _B =200mA		1.2	V
V _{BE(SAT)}	I _C =5.0A, I _B =500mA		1.8	V
h _{FE}	V _{CE} =2.0V, I _C =500mA	30		
h _{FE}	V _{CE} =2.0V, I _C =2.0A	30	120	
h _{FE}	V _{CE} =2.0V, I _C =5.0A	20		

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
f_T	$V_{CE}=10V, I_C=500mA, f=10MHz$	30		MH
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		250	pF
C_{ib}	$V_{BE}=2.0V, I_C=0, f=1.0MHz$		1000	pF
t_d	$V_{CC}=40V, V_{BE}=3.0V, I_C=2.0A, I_{B1}=200mA$		100	ns
t_r	$V_{CC}=40V, V_{BE}=3.0V, I_C=2.0A, I_{B1}=200mA$		100	ns
t_s	$V_{CC}=40V, I_C=2.0A, I_{B1}=I_{B2}=200mA$		2.0	μs
t_f	$V_{CC}=40V, I_C=2.0A, I_{B1}=I_{B2}=200mA$		200	ns

All dimensions in inches (mm).



DATA SHEETS

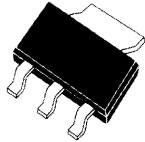
LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

R2

CZT5401

PNP SILICON TRANSISTOR



SOT-223 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT5401 type is an PNP silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high voltage amplifier applications.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

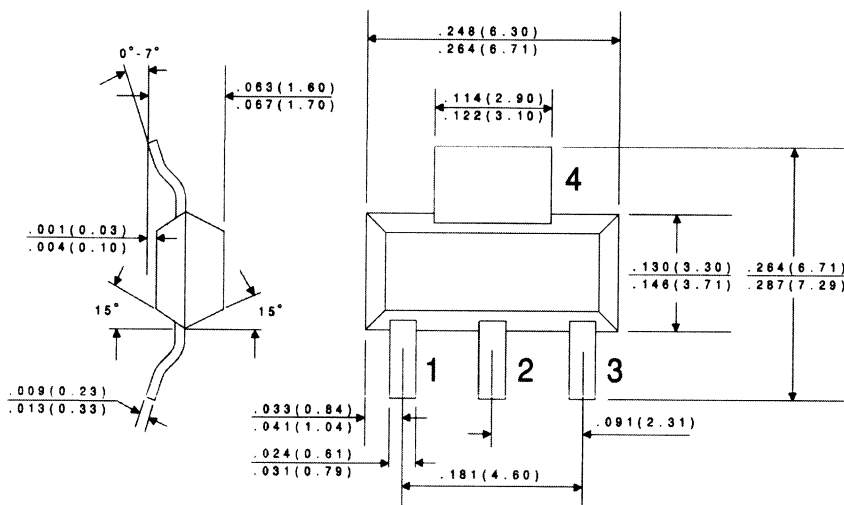
	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	160	V
Collector-Emitter Voltage	V_{CEO}	150	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	600	mA
Power Dissipation	P_D	2.0	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	62.5	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=100\text{V}$		50	nA
I_{CBO}	$V_{CB}=100\text{V}, T_A=150^{\circ}\text{C}$		50	mA
I_{EBO}	$V_{EB}=3.0\text{V}$		50	nA
BV_{CBO}	$I_C=100\mu\text{A}$	160		V
BV_{CEO}	$I_C=1.0\text{mA}$	150		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.2	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.5	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		1.0	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		1.0	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	50		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	60	240	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=50\text{mA}$	50		

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
f_T	$V_{CE}=10V, I_C=10mA, f=100MHz$	100	300	MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		6.0	pF
h_{fe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	40	200	
NF	$V_{CE}=5.0V, I_C=200\mu A, R_S=10\Omega$ $f=10Hz$ to $15.7kHz$		8.0	dB

All dimensions in inches (mm).



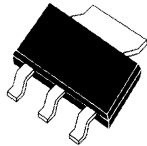
LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

DATA
SHEETS

CZT5551

NPN SILICON TRANSISTOR



SOT-223 CASE

Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT5551 type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high voltage amplifier applications.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

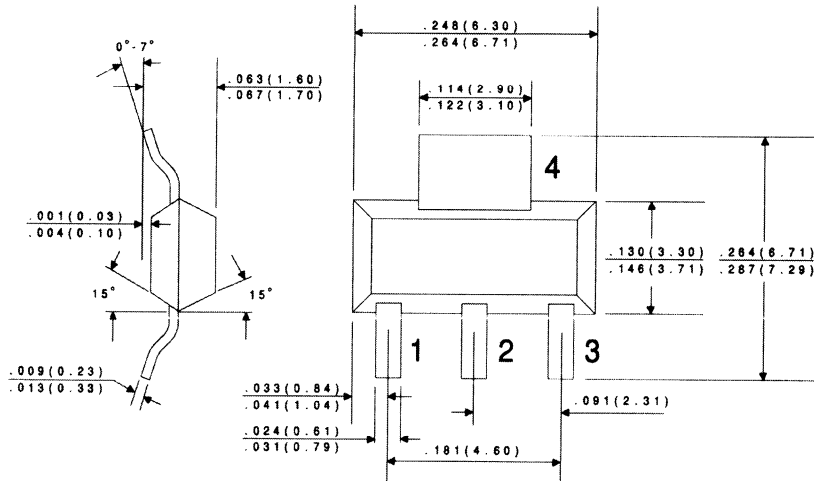
	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	180	V
Collector-Emitter Voltage	V_{CEO}	160	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	600	mA
Power Dissipation	P_D	2.0	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	62.5	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=120\text{V}$		50	nA
I_{CBO}	$V_{CB}=120\text{V}, T_A=100^{\circ}\text{C}$		50	μA
I_{EBO}	$V_{EB}=4.0\text{V}$		50	nA
BV_{CB0}	$I_C=100\mu\text{A}$	180		V
BV_{CEO}	$I_C=1.0\text{mA}$	160		V
BV_{EBO}	$I_E=10\mu\text{A}$	6.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.15	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.20	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		1.00	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		1.00	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	80		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	80	250	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=50\text{mA}$	30		

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
f_T	$V_{CE}=10V, I_C=10mA, f=100MHz$	100	300	MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		6.0	pF
C_{ib}	$V_{EB}=0.5V, I_C=0, f=1.0MHz$		20	pF
h_{fe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	50	200	
NF	$V_{CE}=5.0V, I_C=200\mu A, R_S=10\Omega$ $f=10Hz$ to $15.7kHz$		8.0	dB

All dimensions in inches (mm).



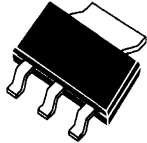
LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 3) COLLECTOR

DATA SHEETS

CZTA14 NPN
CZTA64 PNP

SILICON COMPLEMENTARY
DARLINGTON TRANSISTORS



SOT-223 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZTA14, CZTA64 types are complementary silicon Darlington transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring extremely high gain.

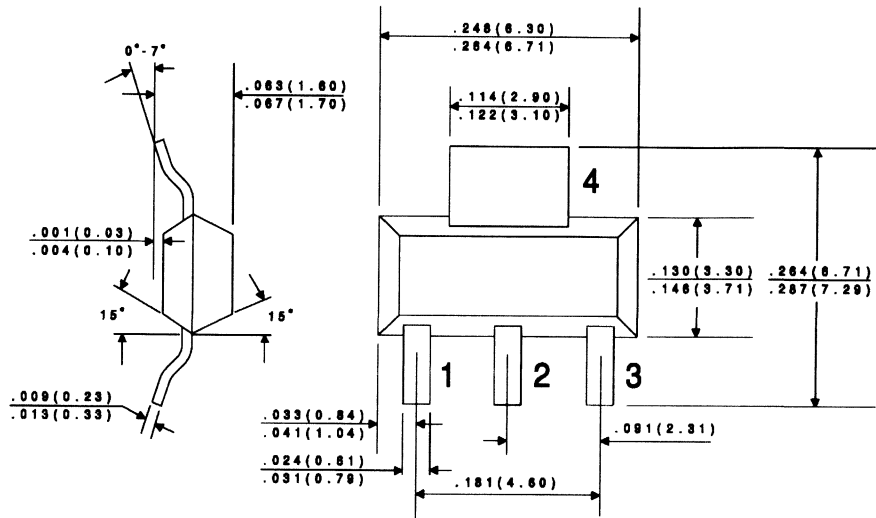
MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	30	V
Collector-Emitter Voltage	V_{CE0}	30	V
Emitter-Base Voltage	V_{EB0}	10	V
Collector Current	I_C	1,000	mA
Power Dissipation	P_D	2.0	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	62.5	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=30\text{V}$		100	nA
I_{CEO}	$V_{CE}=10\text{V}$		100	nA
BV_{CES}	$I_C=100\mu\text{A}$	30		V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=0.1\text{mA}$		1.5	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$		2.0	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	10,000		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$	20,000		
f_T	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	125		MHz

All dimensions in inches (mm).



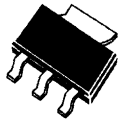
LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

DATA
SHEETS

CZTA27

NPN HIGH VOLTAGE
DARLINGTON TRANSISTOR



SOT-223 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION

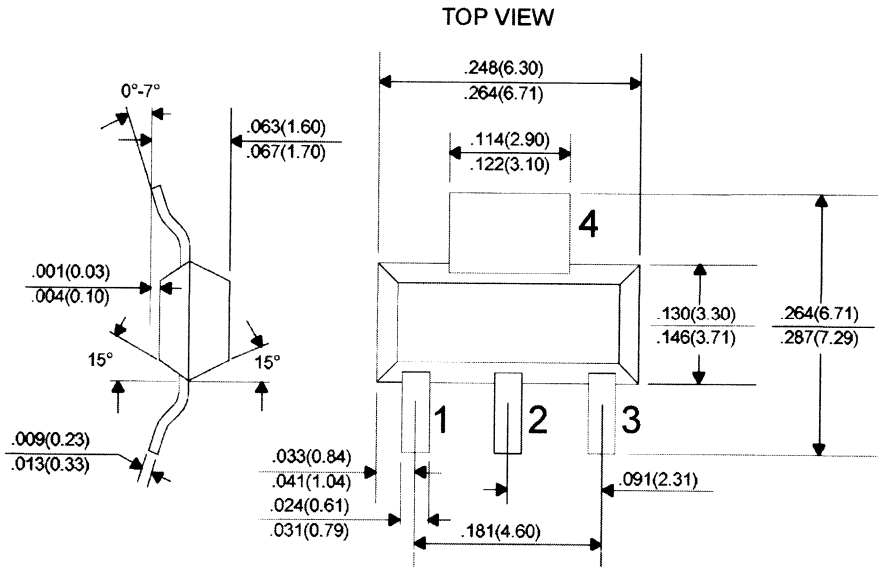
The CENTRAL SEMICONDUCTOR CZTA27 type is a NPN Silicon Darlington Transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring extremely high gain and high voltage.

MAXIMUM RATINGS (T _A =25°C)	SYMBOL		UNITS
Collector-Emitter Voltage	V _{CES}	60	V
Emitter-Base Voltage	V _{EBO}	10	V
Collector Current	I _C	500	mA
Power Dissipation	P _D	2.0	W
Operating and Storage Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	θ _{JA}	62.5	°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _{CBO}	V _{CB} =50V		100	nA
I _{CES}	V _{CE} =50V		500	nA
I _{EBO}	V _{EB} =10V		100	nA
BV _{CBO}	I _C =100μA	60		V
BV _{CES}	I _C =100μA	60		V
V _{CE(SAT)}	I _C =100mA, I _B =0.1mA		1.5	V
V _{BE(ON)}	V _{CE} =5.0V, I _C =100mA		2.0	V
h _{FE}	V _{CE} =5.0V, I _C =10mA	10,000		
h _{FE}	V _{CE} =5.0V, I _C =100mA	10,000		
f _T	V _{CE} =5.0V, I _C =10mA, f=100MHz	125		MHz

All Dimensions in Inches (mm)



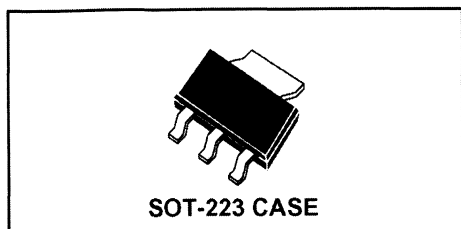
LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR



**CZTA42 NPN
CZTA92 PNP**

**COMPLEMENTARY
SILICON HIGH VOLTAGE TRANSISTOR**



DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZTA42, CZTA92 types are complementary surface mount epoxy molded silicon planar epitaxial transistors designed for high voltage applications.

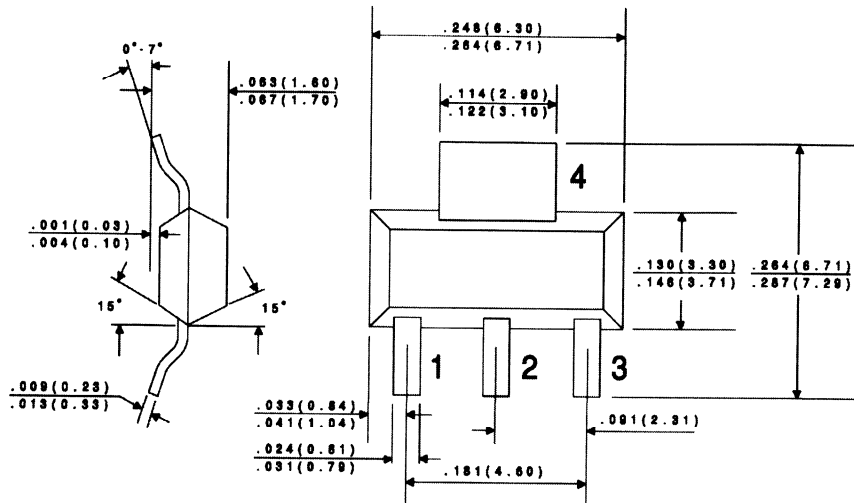
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

	SYMBOL	<u>CZTA42</u>	<u>CZTA92</u>	UNITS
Collector-Base Voltage	V_{CBO}	300	300	V
Collector-Emitter Voltage	V_{CEO}	300	300	V
Emitter-Base Voltage	V_{EBO}	6.0	5.0	V
Collector Current	I_C		500	mA
Power Dissipation	P_D		2.0	W
Operating and Storage				
Junction Temperature	T_J, T_{stg}	-65 to +150		$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	62.5		$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	<u>CZTA42</u>		<u>CZTA92</u>		UNITS
		MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB}=200\text{V}$		100		250	nA
I_{EBO}	$V_{BE}=6.0\text{V}$		100		-	nA
I_{EBO}	$V_{BE}=3.0\text{V}$		-		100	nA
BV_{CBO}	$I_C=100\mu\text{A}$	300		300		V
BV_{CEO}	$I_C=1.0\text{mA}$	300		300		V
BV_{EBO}	$I_E=100\mu\text{A}$	6.0		5.0		V
$V_{CE(SAT)}$	$I_C=20\text{mA}, I_B=2.0\text{mA}$		0.5		0.5	V
$V_{BE(SAT)}$	$I_C=20\text{mA}, I_B=2.0\text{mA}$		0.9		0.9	V
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	25		25		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	40		40		
h_{FE}	$V_{CE}=10\text{V}, I_C=30\text{mA}$	40		25		
f_T	$V_{CE}=20\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	50		50		MHz
C_{ob}	$V_{CB}=20\text{V}, I_E=0, f=1.0\text{MHz}$		3.0		6.0	pF

All dimensions in inches (mm).



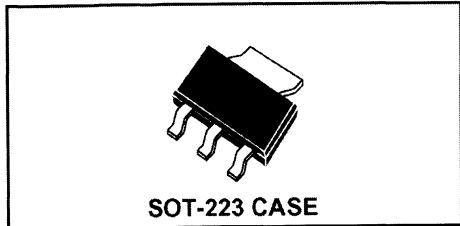
LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

DATA
SHEETS

CZTA44

**NPN SILICON EXTREMELY
HIGH VOLTAGE TRANSISTOR**



Central[™]
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZTA44 type is a surface mount epoxy molded silicon planar epitaxial NPN transistor designed for extremely high voltage applications.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

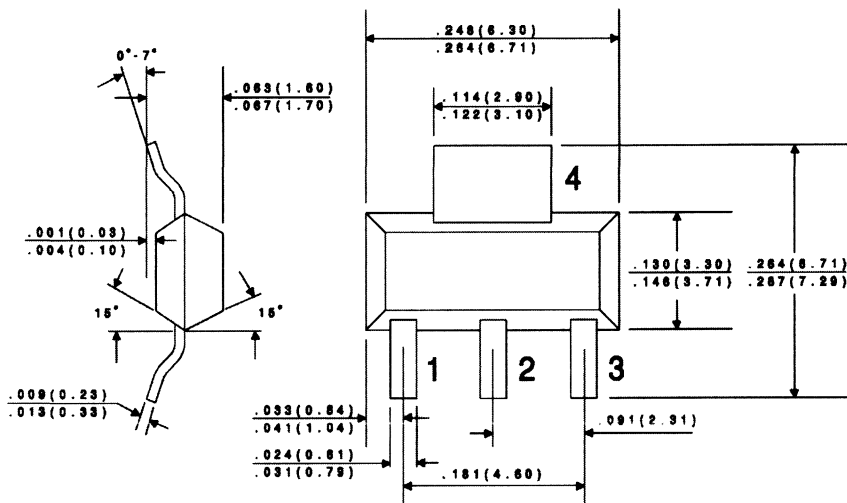
	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	450	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	300	mA
Power Dissipation	P_D	2.0	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	62.5	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=400\text{V}$		100	nA
I_{CES}	$V_{CE}=400\text{V}$		500	nA
I_{EBO}	$V_{BE}=4.0\text{V}$		100	nA
BV_{CBO}	$I_C=100\mu\text{A}$	450		V
BV_{CES}	$I_C=100\mu\text{A}$	450		V
BV_{CEO}	$I_C=1.0\text{mA}$	400		V
BV_{EBO}	$I_E=10\mu\text{A}$	6.0		V
$V_{CE(SAT)}$	$I_C=1.0\text{mA}, I_B=0.1\text{mA}$		0.40	V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.50	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.75	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.75	V
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	40		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	50	200	
h_{FE}	$V_{CE}=10\text{V}, I_C=50\text{mA}$	45		

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=10V, I_C=100mA$	20		
f_T	$V_{CE}=10V, I_C=10mA, f=10MHz$	20		MHz
C_{ob}	$V_{CB}=20V, I_E=0, f=1.0MHz$		7.0	pF
C_{ib}	$V_{EB}=0.5V, I_C=0, f=1.0MHz$		130	pF

All dimensions in inches (mm).



LEAD CODE:


- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR



NEW

CZTA77

**SURFACE MOUNT
PNP DARLINGTON TRANSISTOR**



SOT-223 CASE

CentralTM Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZTA77 type is a Silicon PNP Darlington Transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring extremely high gain.

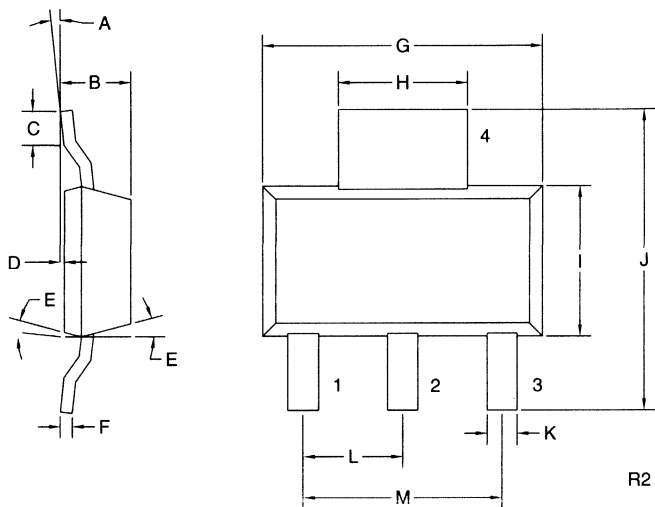
MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Collector-Emitter Voltage	V_{CES}	60	V
Emitter-Base Voltage	V_{EBO}	10	V
Collector Current	I_C	1.0	A
Power Dissipation	P_D	2.0	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	Θ_{JA}	62.5	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CES}	$V_{CE}=50\text{V}$		500	nA
I_{CBO}	$V_{CB}=50\text{V}$		100	nA
I_{EBO}	$V_{EB}=10\text{V}$		100	nA
BV_{CES}	$I_C=100\mu\text{A}$	60		V
BV_{CBO}	$I_C=100\mu\text{A}$	60		V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=0.1\text{mA}$		1.5	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$		2.0	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	10,000		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$	10,000		
f_T	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	125		MHz

SOT-223 CASE - MECHANICAL OUTLINE



Lead Code:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0°	7°	0°	7°
B	0.063	0.067	1.60	1.70
C	0.022		0.55	
D	0.001	0.004	0.03	0.10
E	15°		15°	
F	0.009	0.013	0.23	0.33
G	0.248	0.264	6.30	6.71
H	0.114	0.122	2.90	3.10
I	0.130	0.146	3.30	3.71
J	0.264	0.287	6.71	7.29
K	0.024	0.031	0.61	0.79
L	0.091		2.31	
M	0.181		4.60	

SOT-223 (REV: R2)



P6SMB6.8A
THRU
P6SMB200A



UNI-DIRECTIONAL
GLASS PASSIVATED JUNCTION
TRANSIENT VOLTAGE SUPPRESSOR
600 WATTS, 6.8 THRU 200 VOLTS



SMB CASE

CentralTM
Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR P6SMB6.8A Series types are Surface Mount Uni-Directional Glass Passivated Junction Transient Voltage Suppressors designed to protect voltage sensitive components from high voltage transients. **THIS DEVICE IS MANUFACTURED WITH A GLASS PASSIVATED CHIP FOR OPTIMUM RELIABILITY.**

Note: For Bi-directional devices, please refer to the P6SMB6.8CA Series data sheet.

Specified by
**BREAKDOWN
VOLTAGE**

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Peak Power Dissipation
Peak Forward Surge Current (JEDEC Method)
Operating and Storage
Junction Temperature

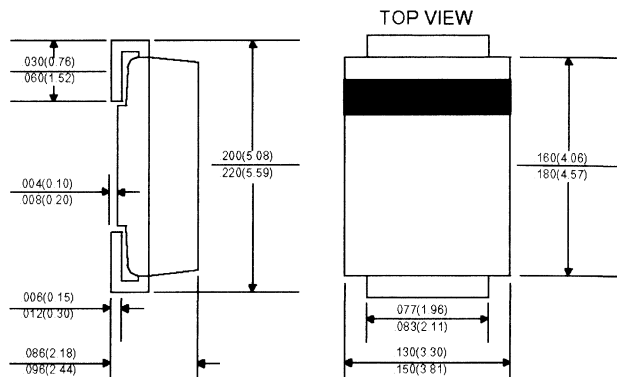
SYMBOL		UNITS
P _{PM}	600	W
I _{FSM}	100	A
T _J , T _{stg}	-65 to +150	°C

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$)

TYPE NO.	BREAKDOWN VOLTAGE				WORKING PEAK REVERSE VOLTAGE	MAXIMUM REVERSE LEAKAGE @ V _{RWM}	MAXIMUM REVERSE SURGE CURRENT	MAXIMUM REVERSE VOLTAGE @ I _{RSM}	MAXIMUM TEMP. COEFFICIENT of V _{BR}	MARKING CODE
	V _{BR}			@ I _T						
	VOLTS									
	MIN	NOM	MAX	mA						
P6SMB6.8A	6.45	6.8	7.14	10	5.8	1000	57	10.5	0.057	C6V8A
P6SMB7.5A	7.13	7.5	7.88	10	6.4	500	53	11.3	0.061	C7V5A
P6SMB8.2A	7.79	8.2	8.61	10	7.02	200	50	12.1	0.065	C8V2A
P6SMB9.1A	8.65	9.1	9.55	1	7.78	50	45	13.4	0.068	C9V1A
P6SMB10A	9.5	10	10.5	1	8.55	10	41	14.5	0.073	C10A
P6SMB11A	10.5	11	11.6	1	9.4	5	38	15.6	0.075	C11A
P6SMB12A	11.4	12	12.6	1	10.2	5	36	16.7	0.078	C12A
P6SMB13A	12.4	13	13.7	1	11.1	5	33	18.2	0.081	C13A
P6SMB15A	14.3	15	15.8	1	12.8	5	28	21.2	0.084	C15A
P6SMB16A	15.2	16	16.8	1	13.6	5	27	22.5	0.086	C16A
P6SMB18A	17.1	18	18.9	1	15.3	5	24	25.2	0.088	C18A
P6SMB20A	19.0	20	21.0	1	17.1	5	22	27.7	0.090	C20A

TYPE NO.	BREAKDOWN VOLTAGE				WORKING PEAK REVERSE VOLTAGE	MAXIMUM REVERSE LEAKAGE @ V_{RWM}	MAXIMUM REVERSE SURGE CURRENT	MAXIMUM REVERSE VOLTAGE @ I_{RSM}	MAXIMUM TEMP. COEFFICIENT of V_{BR}	MARKING CODE
	V_{BR}			@ I_T						
	VOLTS									
	MIN	NOM	MAX							
				mA	VOLTS	μA	A	VOLTS	%/°C	
P6SMB22A	20.9	22	23.1	1	18.8	5	20	30.6	0.092	C22A
P6SMB24A	22.8	24	25.2	1	20.5	5	18	33.2	0.094	C24A
P6SMB27A	25.7	27	28.4	1	23.1	5	16	37.5	0.096	C27A
P6SMB30A	28.5	30	31.5	1	25.6	5	14.4	41.4	0.097	C30A
P6SMB33A	31.4	33	34.7	1	28.2	5	13.2	45.7	0.098	C33A
P6SMB36A	34.2	36	37.8	1	30.8	5	12.0	49.9	0.099	C36A
P6SMB39A	37.1	39	41.0	1	33.3	5	11.2	53.9	0.100	C39A
P6SMB43A	40.9	43	45.2	1	36.8	5	10.1	59.3	0.101	C43A
P6SMB47A	44.7	47	49.4	1	40.2	5	9.3	64.8	0.101	C47A
P6SMB51A	48.5	51	53.6	1	43.6	5	8.6	70.1	0.102	C51A
P6SMB56A	53.2	56	58.8	1	47.8	5	7.8	77	0.103	C56A
P6SMB62A	58.9	62	65.1	1	53.0	5	7.1	85	0.104	C62A
P6SMB68A	64.6	68	71.4	1	58.1	5	6.5	92	0.104	C68A
P6SMB75A	71.3	75	78.8	1	64.1	5	5.8	103	0.105	C75A
P6SMB82A	77.9	82	86.1	1	70.1	5	5.3	113	0.105	C82A
P6SMB91A	86.5	91	95.5	1	77.8	5	4.8	125	0.106	C91A
P6SMB100A	95.0	100	105	1	85.5	5	4.4	137	0.106	C100A
P6SMB110A	104.5	110	115.5	1	94.0	5	4.0	152	0.107	C110A
P6SMB120A	114	120	126	1	102	5	3.6	165	0.107	C120A
P6SMB130A	123.5	130	136.5	1	111	5	3.3	179	0.107	C130A
P6SMB150A	142.5	150	157.5	1	128	5	2.9	207	0.108	C150A
P6SMB160A	152	160	168	1	136	5	2.7	219	0.108	C160A
P6SMB170A	161.5	170	178.5	1	145	5	2.6	234	0.108	C170A
P6SMB180A	171	180	189	1	154	5	2.4	246	0.108	C180A
P6SMB200A	190	200	210	1	171	5	2.2	274	0.108	C200A

All Dimensions in Inches (mm).



DATA SHEETS

P6SMB6.8CA
THRU
P6SMB200CA



BI-DIRECTIONAL
GLASS PASSIVATED JUNCTION
TRANSIENT VOLTAGE SUPPRESSOR
600 WATTS, 6.8 THRU 200 VOLTS



SMB CASE

Specified by
**BREAKDOWN
VOLTAGE**

CentralTM
Semiconductor Corp.

DESCRIPTION

The CENTRAL SEMICONDUCTOR P6SMB6.8CA Series types are Surface Mount Bi-Directional Glass Passivated Junction Transient Voltage Suppressors designed to protect voltage sensitive components from high voltage transients. **THIS DEVICE IS MANUFACTURED WITH A GLASS PASSIVATED CHIP FOR OPTIMUM RELIABILITY.**

Note: For Uni-directional devices, please refer to the P6SMB6.8A Series data sheet.

MAXIMUM RATINGS (T_A=25°C)

Peak Power Dissipation
Peak Forward Surge Current (JEDEC Method)
Operating and Storage
Junction Temperature

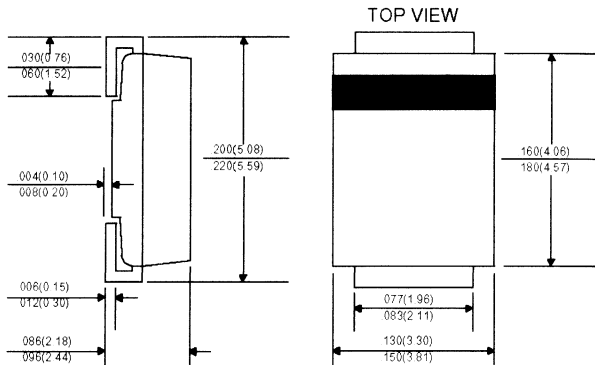
	SYMBOL	UNITS
Peak Power Dissipation	P _{PM}	600 W
Peak Forward Surge Current (JEDEC Method)	I _{FSM}	100 A
Operating and Storage Junction Temperature	T _J , T _{stg}	-65 to +150 °C

ELECTRICAL CHARACTERISTICS (T_A=25°C)

TYPE NO.	BREAKDOWN VOLTAGE				WORKING PEAK REVERSE VOLTAGE V _{RWM} VOLTS	MAXIMUM REVERSE LEAKAGE @ V _{RWM} I _R μA	MAXIMUM REVERSE SURGE CURRENT I _{RSM} A	MAXIMUM REVERSE VOLTAGE @ I _{RSM} V _{RSM} VOLTS	MAXIMUM TEMP. COEFFICIENT of V _{BR} %/°C	MARKING CODE
	V _{BR}			@ I _T mA						
	VOLTS									
	MIN	NOM	MAX							
P6SMB6.8CA	6.45	6.8	7.14	10	5.8	1000	57	10.5	0.057	C6V8C
P6SMB7.5CA	7.13	7.5	7.88	10	6.4	500	53	11.3	0.061	C7V5C
P6SMB8.2CA	7.79	8.2	8.61	10	7.02	200	50	12.1	0.065	C8V2C
P6SMB9.1CA	8.65	9.1	9.55	1	7.78	50	45	13.4	0.068	C9V1C
P6SMB10CA	9.5	10	10.5	1	8.55	10	41	14.5	0.073	C10C
P6SMB11CA	10.5	11	11.6	1	9.4	5	38	15.6	0.075	C11C
P6SMB12CA	11.4	12	12.6	1	10.2	5	36	16.7	0.078	C12C
P6SMB13CA	12.4	13	13.7	1	11.1	5	33	18.2	0.081	C13C
P6SMB15CA	14.3	15	15.8	1	12.8	5	28	21.2	0.084	C15C
P6SMB16CA	15.2	16	16.8	1	13.6	5	27	22.5	0.086	C16C
P6SMB18CA	17.1	18	18.9	1	15.3	5	24	25.2	0.088	C18C
P6SMB20CA	19.0	20	21.0	1	17.1	5	22	27.7	0.090	C20C

TYPE NO.	BREAKDOWN VOLTAGE				WORKING PEAK REVERSE VOLTAGE	MAXIMUM REVERSE LEAKAGE @ V_{RWM}	MAXIMUM REVERSE SURGE CURRENT	MAXIMUM REVERSE VOLTAGE @ I_{RSM}	MAXIMUM TEMP. COEFFICIENT of V_{BR}	MARKING CODE
	V_{BR}			@ I_T						
	VOLTS									
	MIN	NOM	MAX							
P6SMB22CA	20.9	22	23.1	1	18.8	5	20	30.6	0.092	C22C
P6SMB24CA	22.8	24	25.2	1	20.5	5	18	33.2	0.094	C24C
P6SMB27CA	25.7	27	28.4	1	23.1	5	16	37.5	0.096	C27C
P6SMB30CA	28.5	30	31.5	1	25.6	5	14.4	41.4	0.097	C30C
P6SMB33CA	31.4	33	34.7	1	28.2	5	13.2	45.7	0.098	C33C
P6SMB36CA	34.2	36	37.8	1	30.8	5	12.0	49.9	0.099	C36C
P6SMB39CA	37.1	39	41.0	1	33.3	5	11.2	53.9	0.100	C39C
P6SMB43CA	40.9	43	45.2	1	36.8	5	10.1	59.3	0.101	C43C
P6SMB47CA	44.7	47	49.4	1	40.2	5	9.3	64.8	0.101	C47C
P6SMB51CA	48.5	51	53.6	1	43.6	5	8.6	70.1	0.102	C51C
P6SMB56CA	53.2	56	58.8	1	47.8	5	7.8	77	0.103	C56C
P6SMB62CA	58.9	62	65.1	1	53.0	5	7.1	85	0.104	C62C
P6SMB68CA	64.6	68	71.4	1	58.1	5	6.5	92	0.104	C68C
P6SMB75CA	71.3	75	78.8	1	64.1	5	5.8	103	0.105	C75C
P6SMB82CA	77.9	82	86.1	1	70.1	5	5.3	113	0.105	C82C
P6SMB91CA	86.5	91	95.5	1	77.8	5	4.8	125	0.106	C91C
P6SMB100CA	95.0	100	105	1	85.5	5	4.4	137	0.106	C100C
P6SMB110CA	104.5	110	115.5	1	94.0	5	4.0	152	0.107	C110C
P6SMB120CA	114	120	126	1	102	5	3.6	165	0.107	C120C
P6SMB130CA	123.5	130	136.5	1	111	5	3.3	179	0.107	C130C
P6SMB150CA	142.5	150	157.5	1	128	5	2.9	207	0.108	C150C
P6SMB160CA	152	160	168	1	136	5	2.7	219	0.108	C160C
P6SMB170CA	161.5	170	178.5	1	145	5	2.6	234	0.108	C170C
P6SMB180CA	171	180	189	1	154	5	2.4	246	0.108	C180C
P6SMB200CA	190	200	210	1	171	5	2.2	274	0.108	C200C

All Dimensions in Inches (mm).



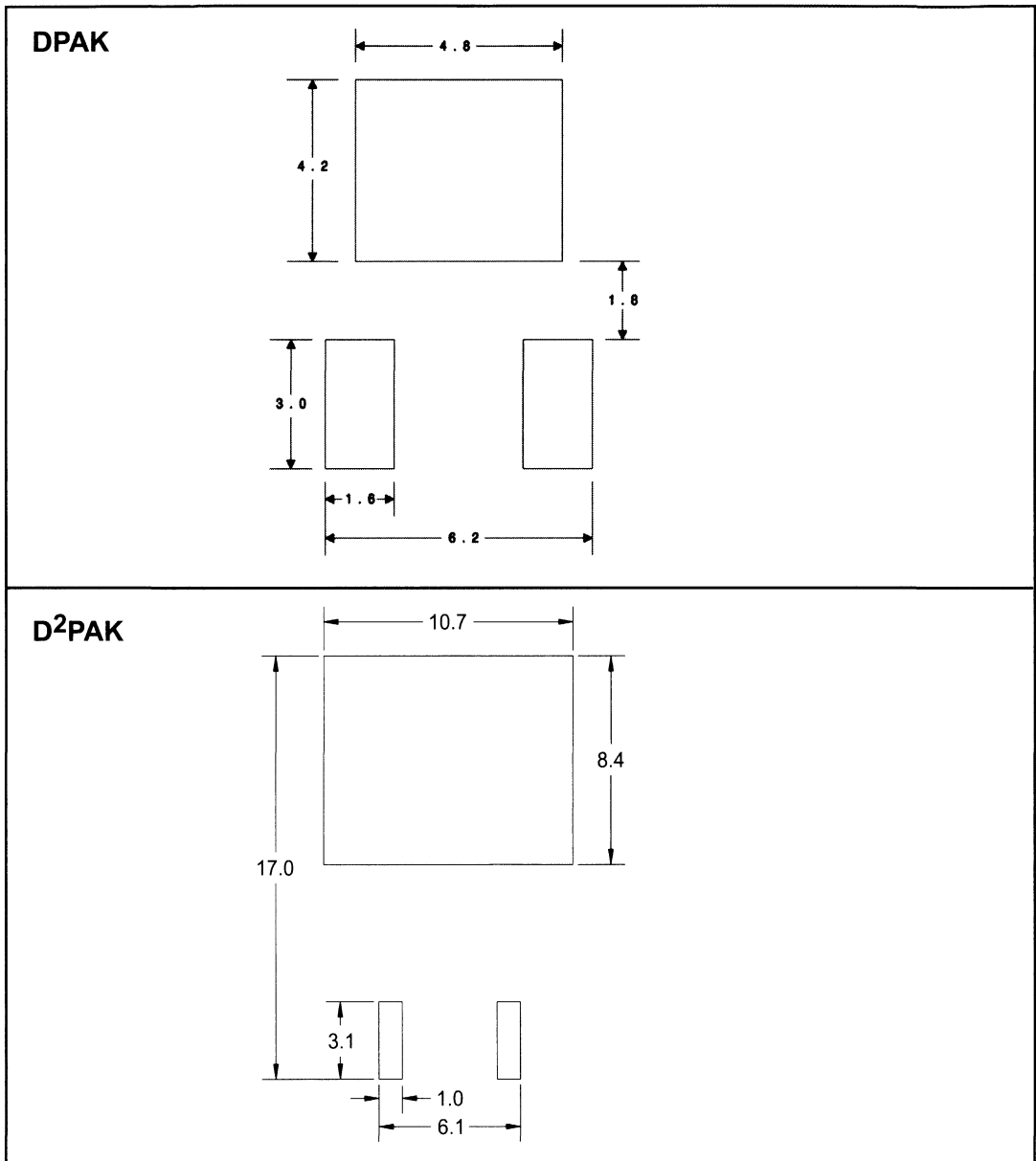
Mounting Pad Geometries

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Mounting Pad Geometries

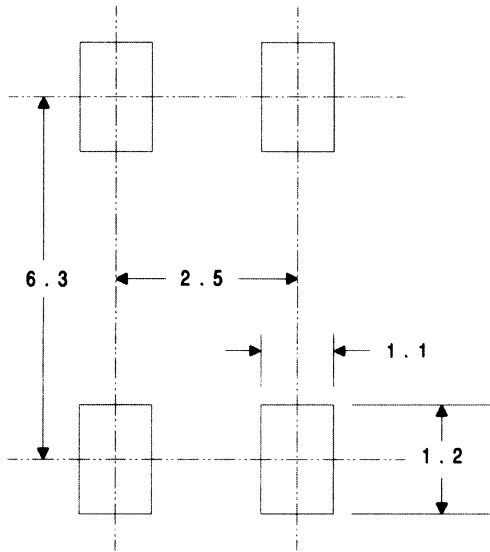
(Dimensions in mm)



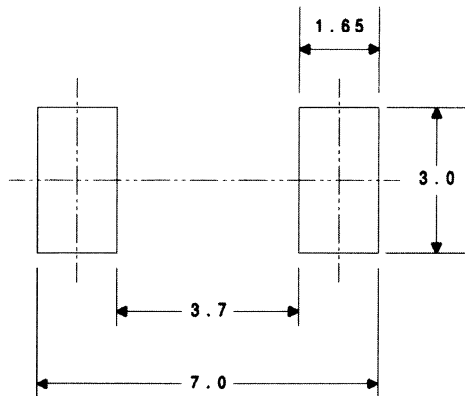
Mounting Pad Geometries

(Dimensions in mm)

HD DIP



MELF

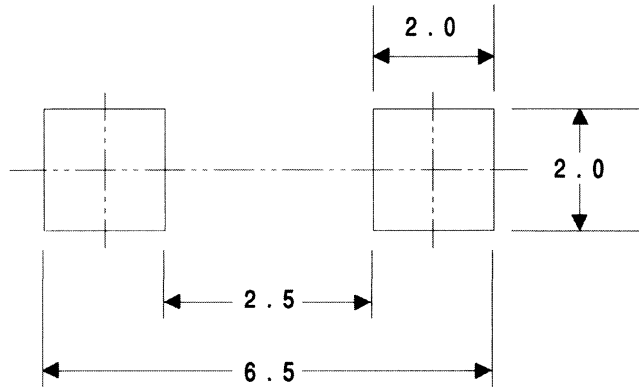


PAD
GEOM

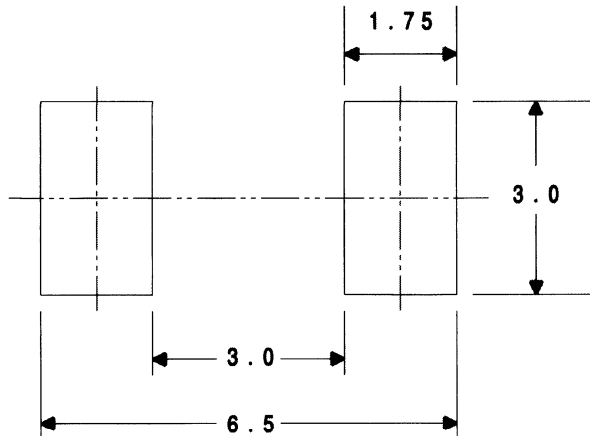
Mounting Pad Geometries

(Dimensions in mm)

SMA



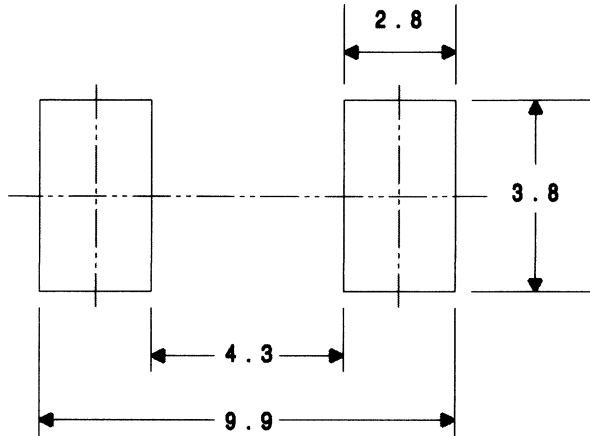
SMB



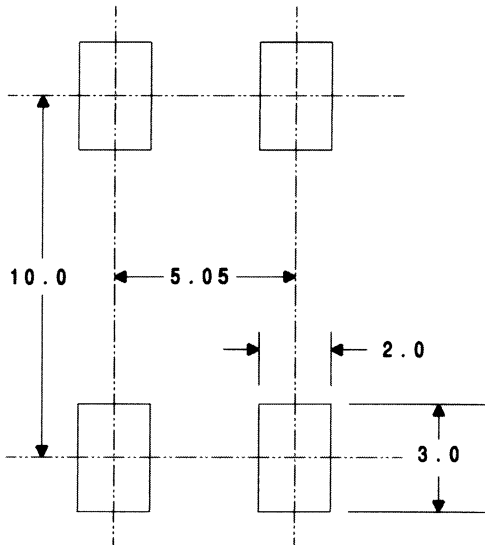
Mounting Pad Geometries

(Dimensions in mm)

SMC



SMDIP

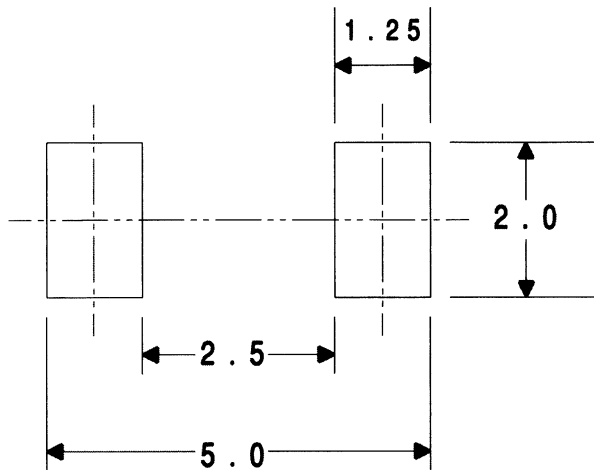


PAD
GEOM

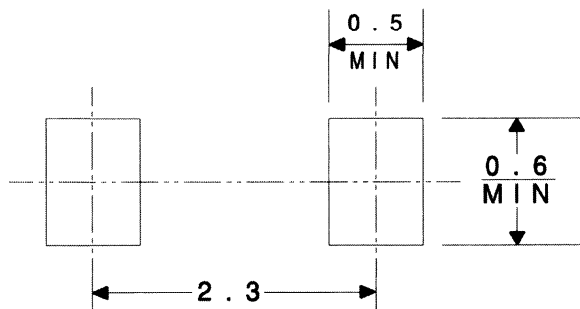
Mounting Pad Geometries

(Dimensions in mm)

SOD-80



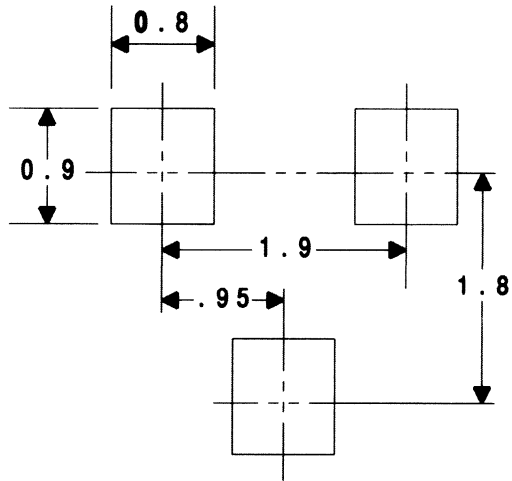
SOD-323



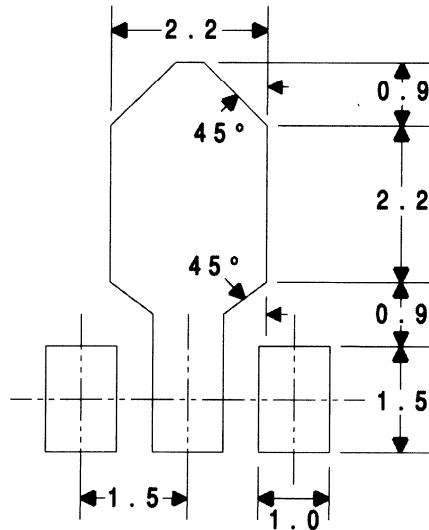
Mounting Pad Geometries

(Dimensions in mm)

SOT-23



SOT-89

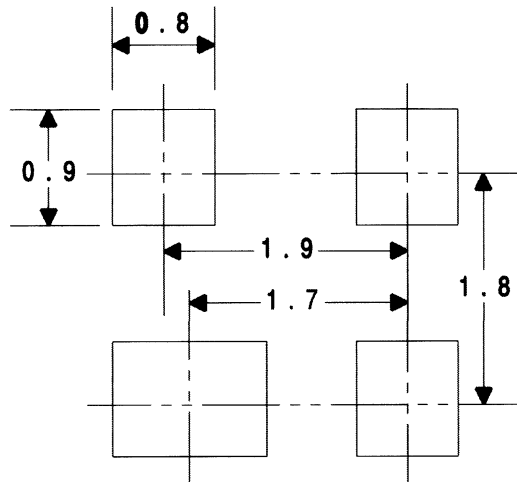


PAD
GEOM

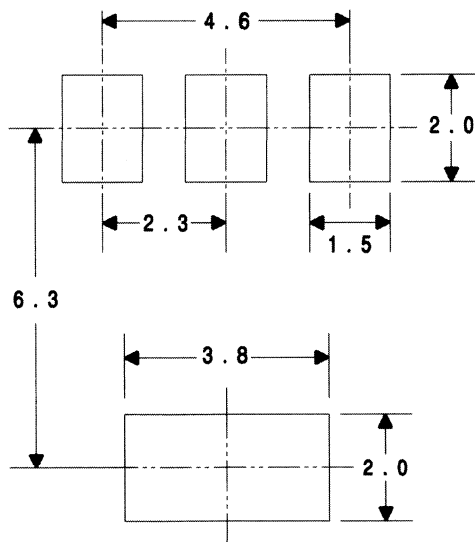
Mounting Pad Geometries

(Dimensions in mm)

SOT-143



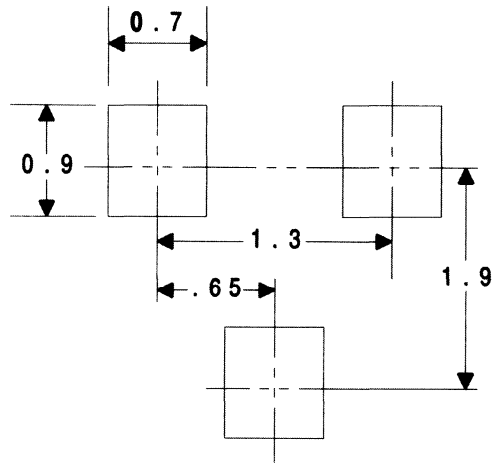
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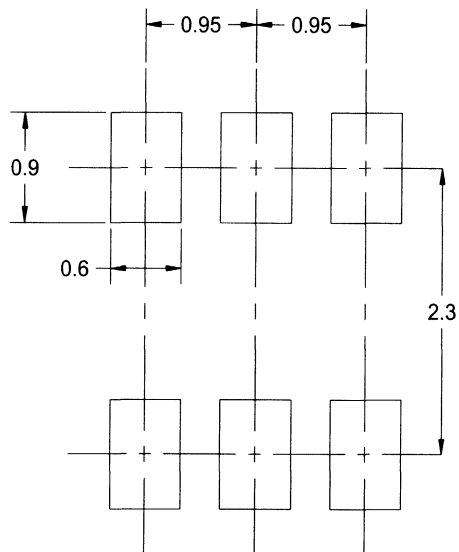
Mounting Pad Geometries

(Dimensions in mm)

SOT-323



SOT-26

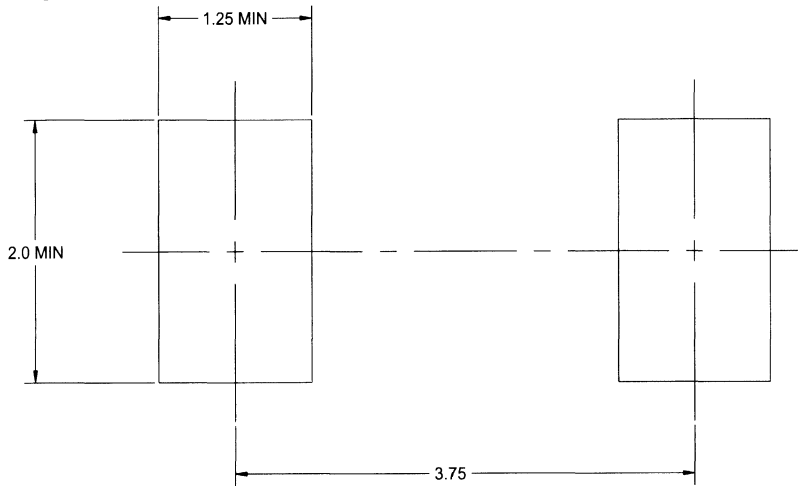


PAD
GEOM

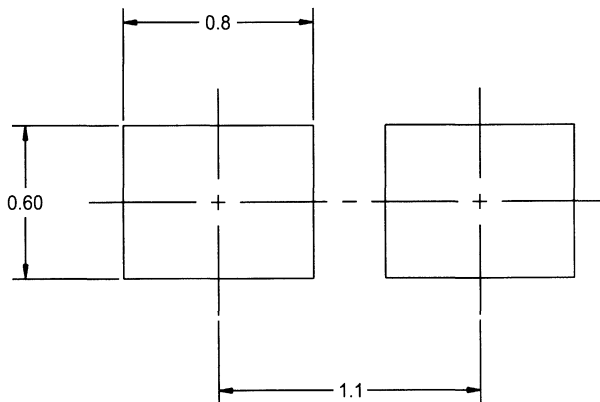
Mounting Pad Geometries

(Dimensions in mm)

SOD-123



SOD- 523



Mounting Pad Geometries

(Dimensions in mm)

SOT- 523

Please consult factory.

**PAD
GEOM**

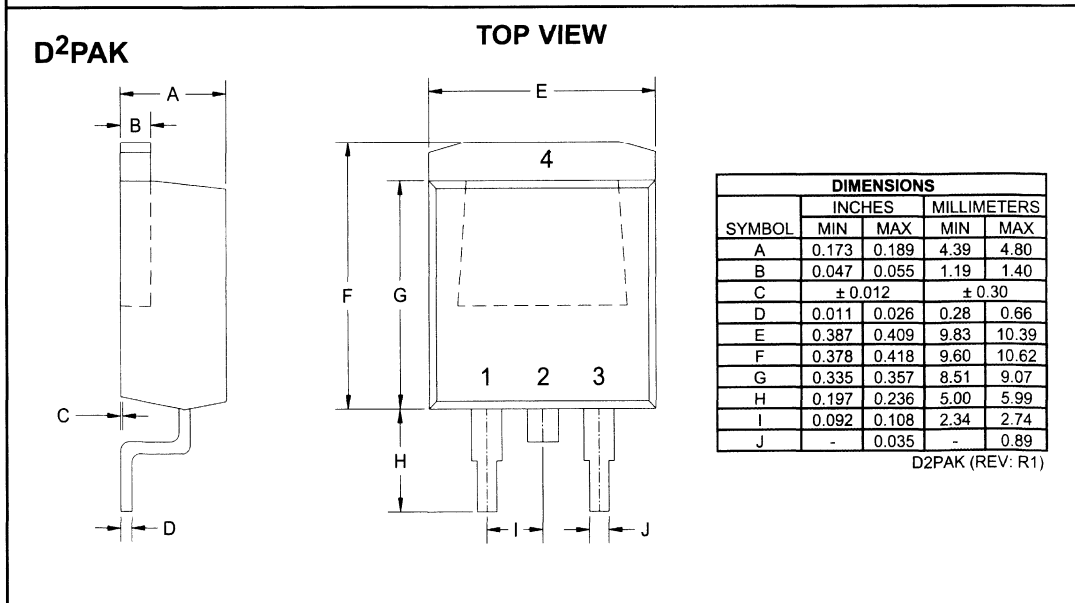
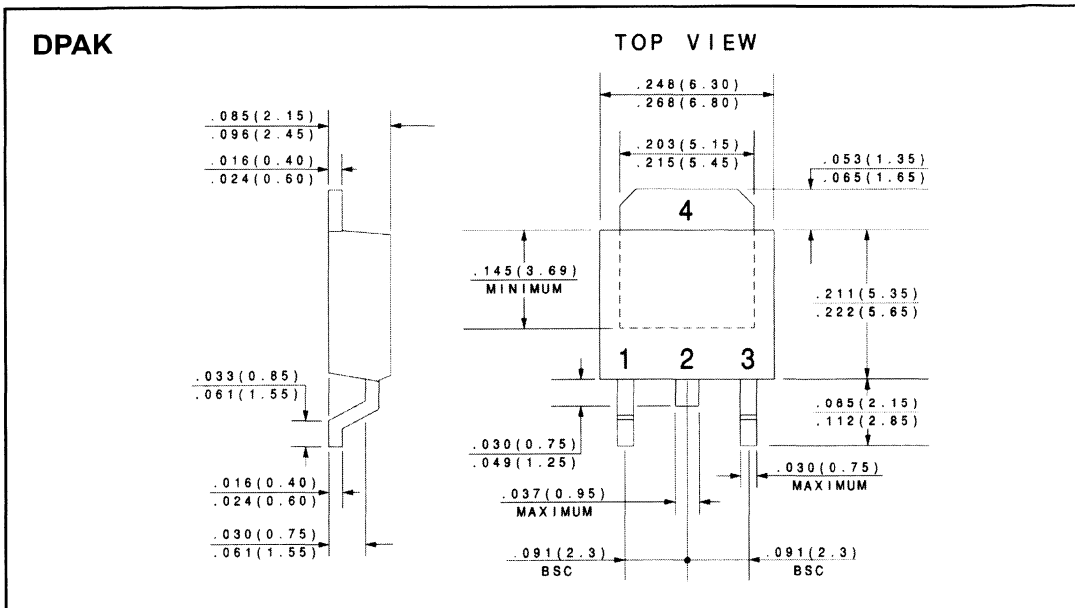
Mechanical Drawings

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Mechanical Drawings

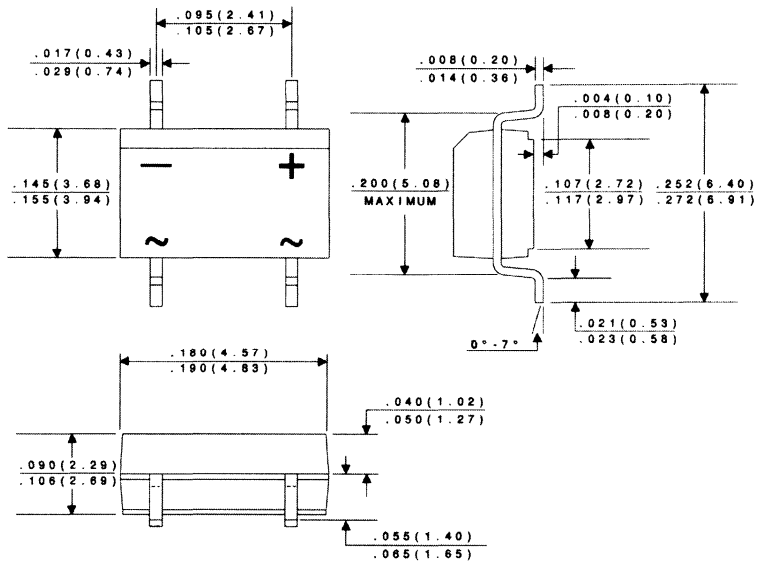
Dimensions in inches (mm).



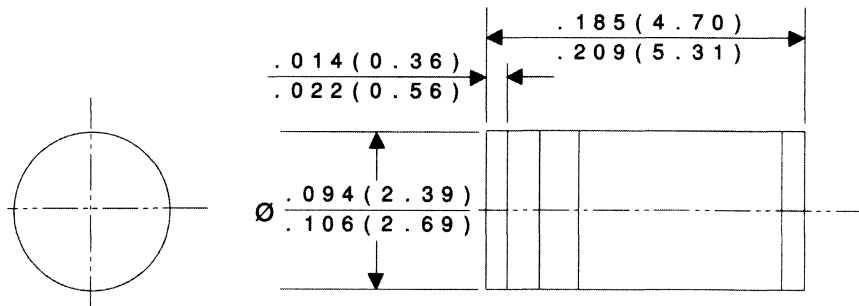
Mechanical Drawings

Dimensions in inches (mm).

HD DIP



MELF

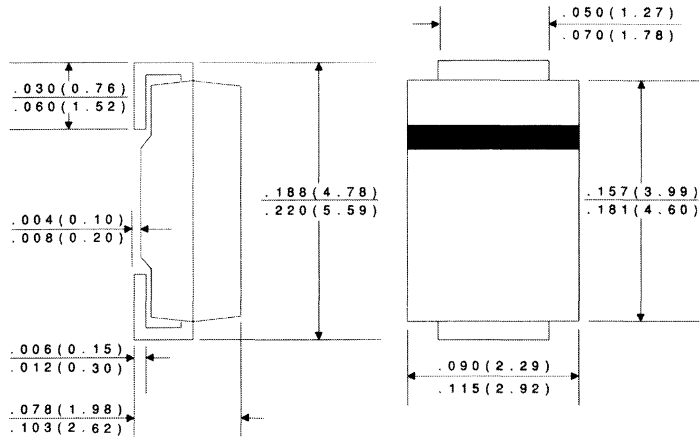


DWGs

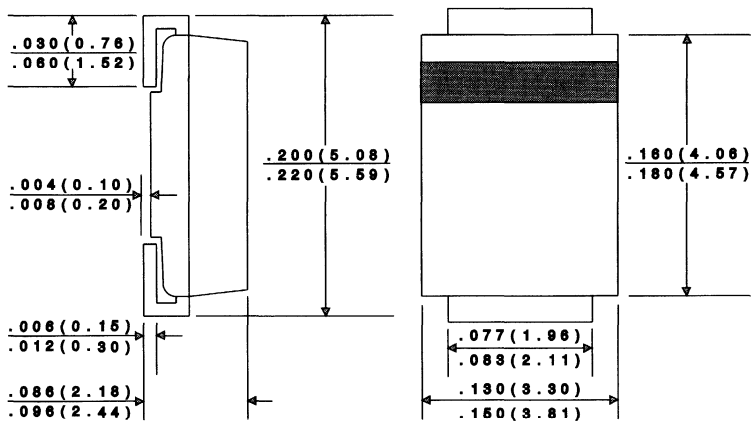
Mechanical Drawings

Dimensions in inches (mm).

SMA

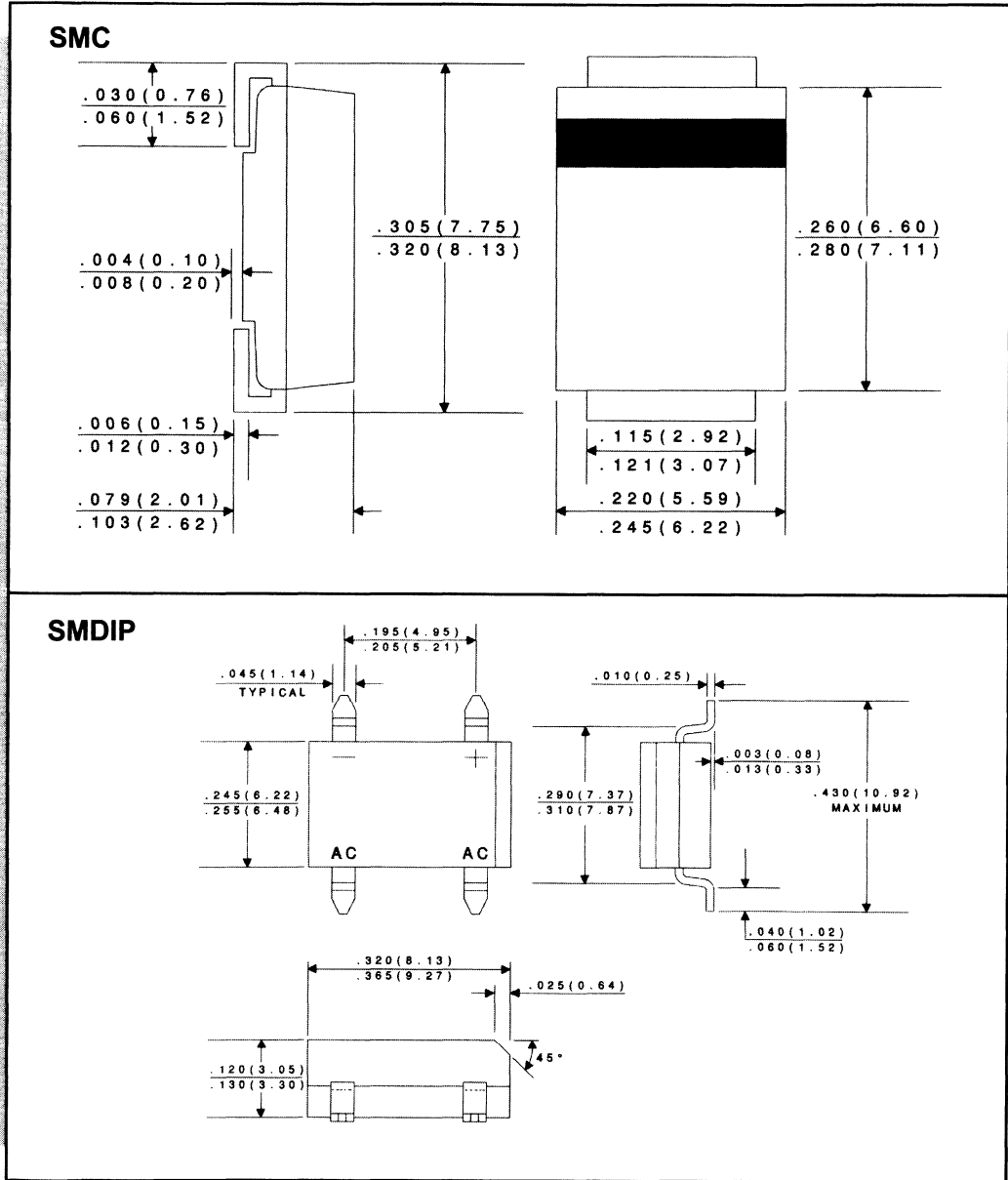


SMB



Mechanical Drawings

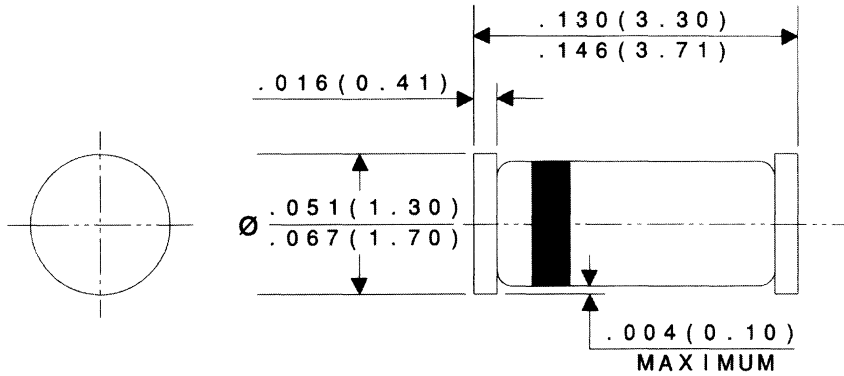
Dimensions in inches (mm).



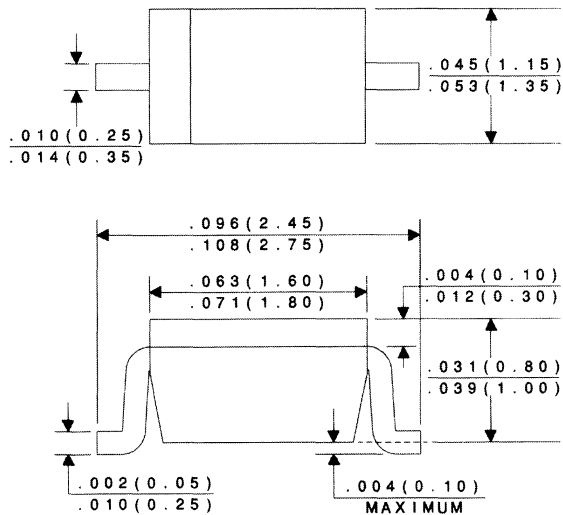
Mechanical Drawings

Dimensions in inches (mm).

SOD-80

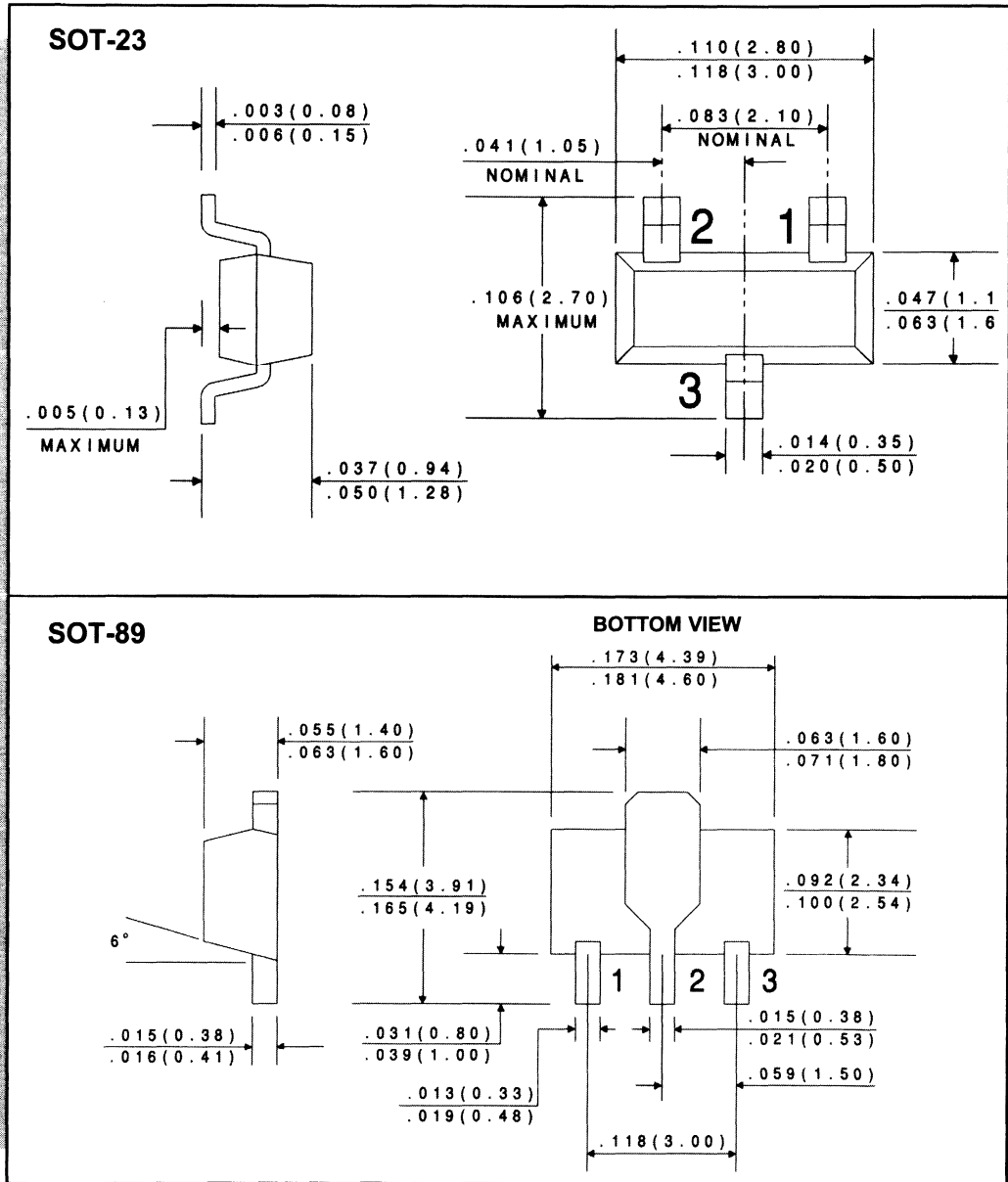


SOD-323



Mechanical Drawings

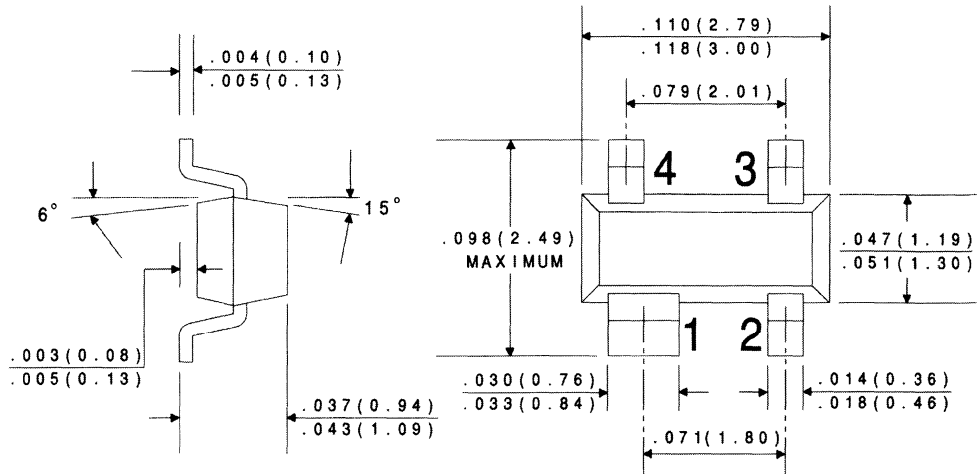
Dimensions in inches (mm).



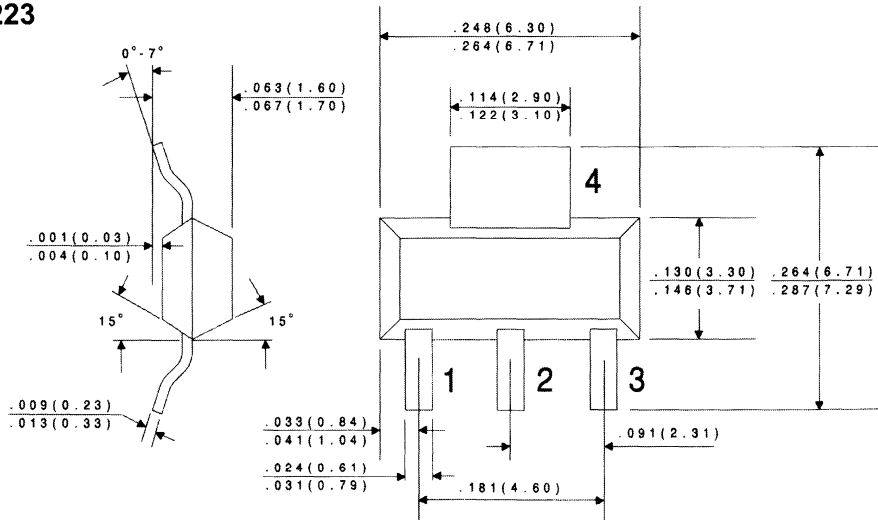
Mechanical Drawings

Dimensions in inches (mm).

SOT-143



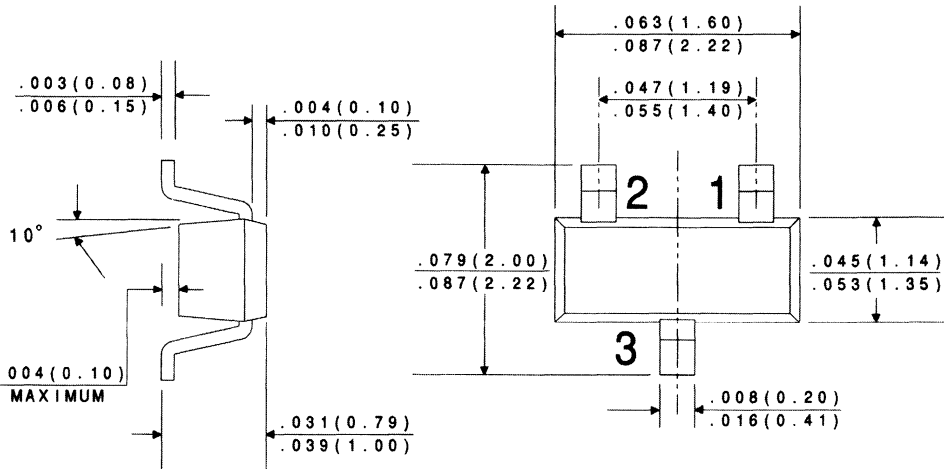
SOT-223



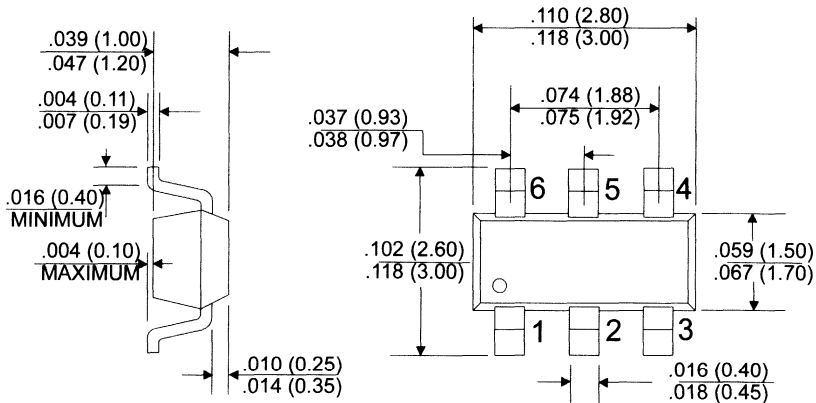
Mechanical Drawings

Dimensions in inches (mm).

SOT-323



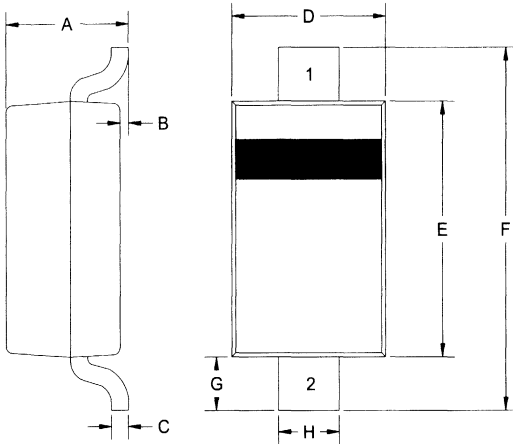
SOT-26



Mechanical Drawings

Dimensions in inches (mm).

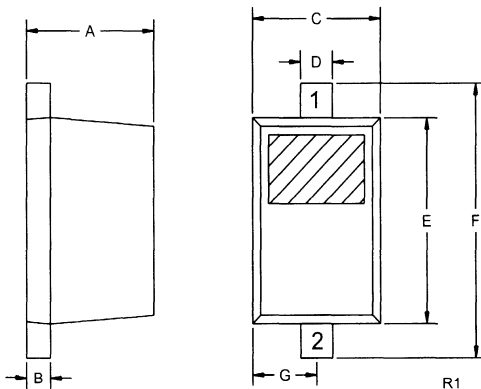
SOD-123



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.037	0.053	0.95	1.35
B	-	0.004	-	0.10
C	-	0.008	-	0.20
D	0.055	0.071	1.40	1.80
E	0.098	0.112	2.50	2.84
F	0.140	0.154	3.56	3.90
G	0.010	-	0.25	-
H	0.020	0.028	0.50	0.70

SOD-123 (REV: R2)

SOD-523



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.020	0.031	0.50	0.80
B	0.004	0.008	0.10	0.20
C	0.028	0.035	0.70	0.90
D	0.008	0.011	0.20	0.28
E	0.039	0.055	1.00	1.40
F	0.055	0.071	1.40	1.80
G	0.016		0.40	

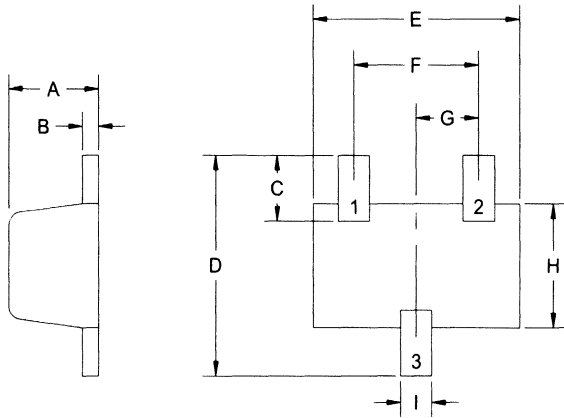
SOD-523 (REV: R1)

Mechanical Drawings

Dimensions in inches (mm).

SOT-523

BOTTOM VIEW



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.025	0.029	0.63	0.73
B	0.004	0.005	0.10	0.13
C	0.015	0.019	0.39	0.49
D	0.061	0.065	1.55	1.65
E	0.061	0.065	1.55	1.65
F	0.039	0.040	0.98	1.02
G	0.019	0.020	0.48	0.52
H	0.033	0.037	0.83	0.93
I	0.009	0.010	0.23	0.25

SOT-523 (REV: R1)

R1



Engineering Specifications

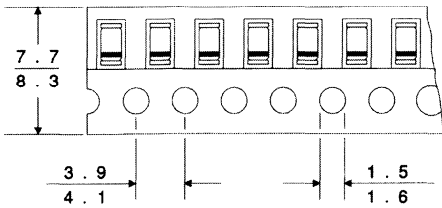
	Page
Tape and Reel Dimensions and Orientation	490
Reel Labeling Information	494
Standard Packaging Base	494
Device Marking Information	494
Reel Packaging Details	495
Package Labeling	496
Bar Code Identification	497



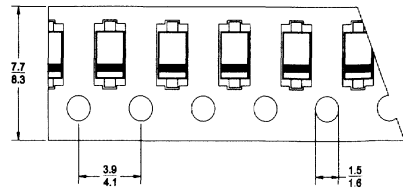
Tape Dimensions and Orientation (Dimensions in mm.)

8 mm

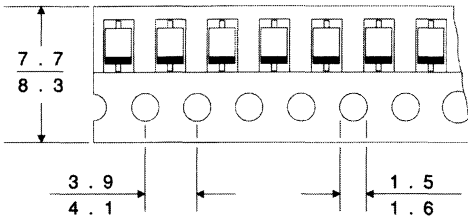
SOD-80



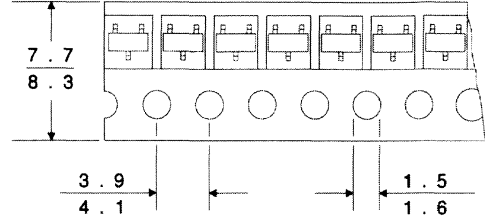
SOD-123



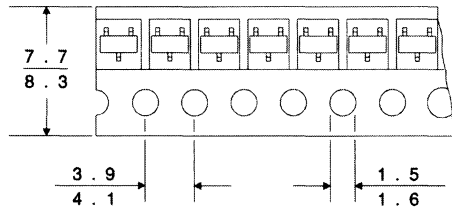
SOD-323



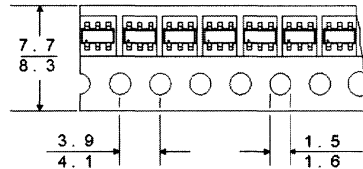
SOT-323



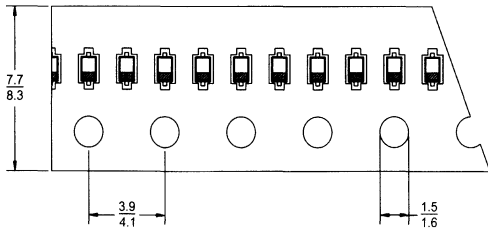
SOT-23



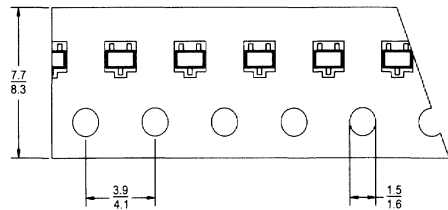
SOT-26



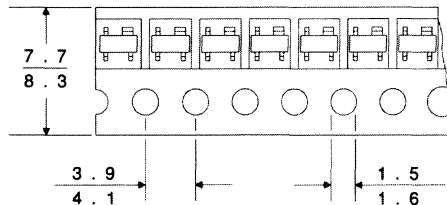
SOD-523



SOT-523



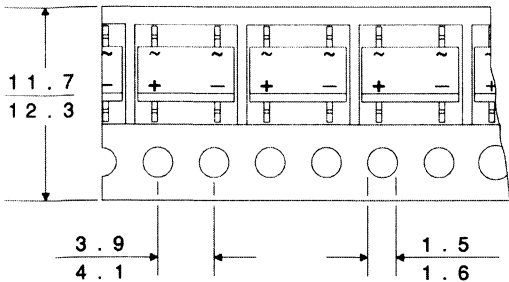
SOT-143



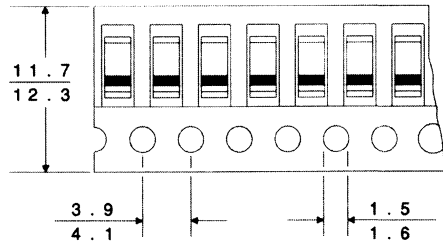
Tape Dimensions and Orientation (Dimensions in mm.)

12 mm

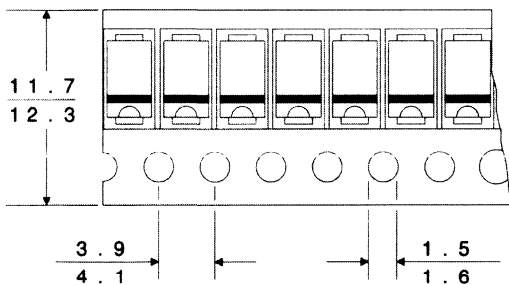
HD DIP



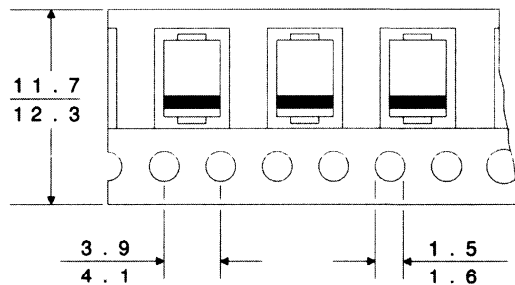
MELF



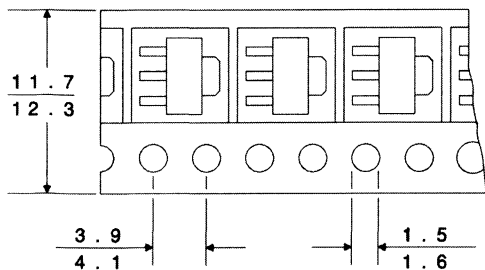
SMA



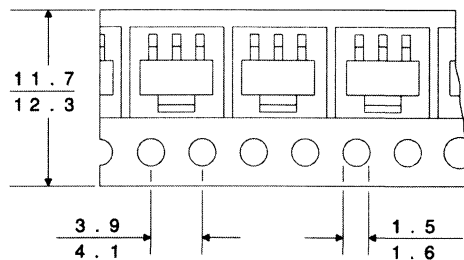
SMB



SOT-89



SOT-223

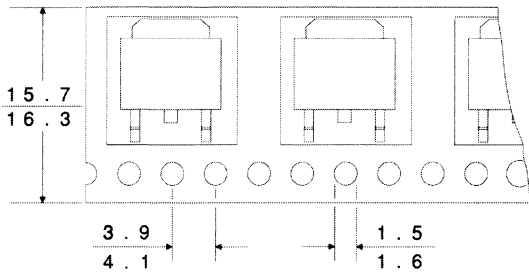


SPECs

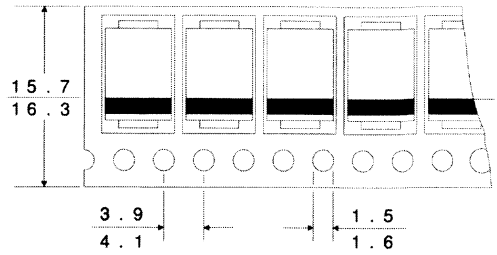
Tape Dimensions and Orientation (Dimensions in mm.)

16 mm

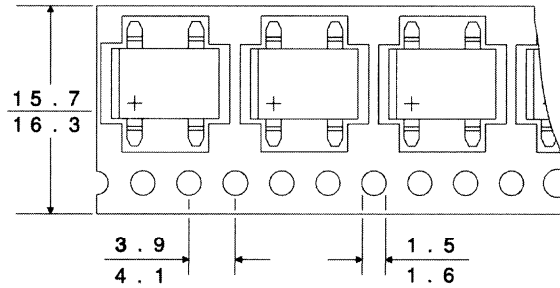
DPAK



SMC



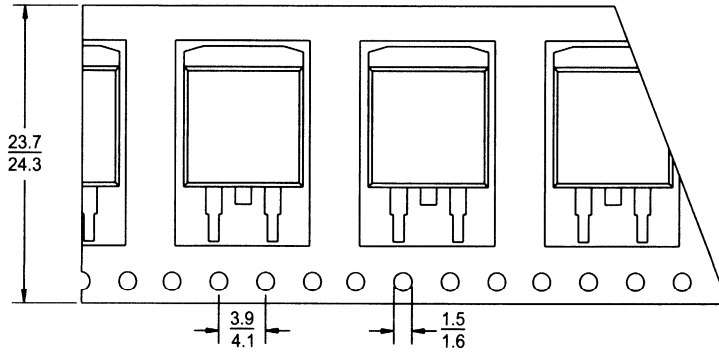
SMDIP



Tape Dimensions and Orientation (Dimensions in mm.)

24 mm

D²PAK



SPECs

Reel Labeling Information

Each reel is labeled with the following information:

Central Part Number
 Customer Part Number
 Purchase Order Number
 Quantity
 Lot Number
 Date Code
 Ship Date
 Marking Code *

* Applies to SOT-23, SOT-26, SOT-143, SOD-123, SOT-323, SOD-323, SOD-523, SOT-523, HD DIP, SMA, SMB & SMC devices only.

Taped & Reeled Packaging Base

PACKAGE	TAPE WIDTH (mm)	REEL SIZE (INCH)	QUANTITY PER REEL
DKPAK*	16	13	2,500
D ² PAK*	24	13	800
HD DIP*	12	13	3,000
MELF	12	7	1,500
		13	5,000
SMA*	12	13	5,000
SMB*	12	13	3,000
SMC*	16	13	3,000
SMDIP*	16	13	1,000
SOD-80	8	7	2,500
		13	10,000
SOD-123	8	7	3,000
		13	10,000
SOD-323	8	7	3,000
		13	10,000
SOT-23	8	7	3,000
		13	10,000
SOT-26	8	7	2,500
		13	10,000
SOT-89	12	7	1,000
		13	4,000
SOT-143	8	7	3,000
		13	10,000
SOT-223	12	7	1,000
		13	4,000
SOT-323	8	7	3,000
		13	10,000
SOD-523	8	7	3,000
		13	10,000
SOD-523	8	7	3,000
		13	10,000

* Available in 13" reels only.

Device Marking Information

Case	Marking Details
DKPAK	Full Part Number
D ² PAK	Full Part Number
HD DIP	4 Digit Code
MELF	Cathode Band
SMA	4-5 Digit Code
SMB	3-4 Digit Code
SMC	3-4 Digit Code
SMDIP	Full Part Number
SOD-80	Cathode Band
SOD-123	3 Digit Code
SOD-323	2 Digit Code
SOT-23	2-3 Digit Code
SOT-26	3 Digit Code
SOT-89	Full Part Number
SOT-143	2-3 Digit Code
SOT-223	Full Part Number
SOT-323	2-3 Digit Code
SOD-523	2-3 Digit Code
SOT-523	2-3 Digit Code

Bulk Packed Packaging Base

PACKAGE	QUANTITY
DKPAK	100 / Vial
D ² PAK	50 / Vial
HD DIP	100 / Sleeve
MELF	1K / Vial
SMA	1K / Vial
SMB	500 / Vial
SMC	100 / Vial
SMDIP	50 / Sleeve
SOD-80	1K / Vial
SOD-123	1K / Vial
SOD-323	1K / Vial
SOT-23	1K / Vial
SOT-26	1K / Vial
SOT-89	1K / Vial
SOT-143	1K / Vial
SOT-223	250 / Vial
SOT-323	1K / Vial
SOD-523	1K / Vial
SOT-523	1K / Vial

Reel Packing Details

DEVICE	QUANTITY PER BOX	NUMBER OF REELS PER BOX	BOX DIMENSIONS		SHIPPING WEIGHT	
			INCH	CM	LB	KG
DPAK TR13	13K	13 Reels	14x14x8	36x36x20	22	10
D2PAK TR13	5.6K	7 Reels	14x14x8	36x36x20	25	12
HD DIP TR13	39K	13 Reels	14x14x8	36x36x20	31	14
MELF TR	10.5K	7 Reels	8x8x4	20x20x10	5	3
	70K	14 Reels	8x8x8	20x20x20	9	5
SMA TR13	55K	11 Reels	14x14x8	36x36x20	22	10
SMB TR13	33K	11 Reels	14x14x8	36x36x20	22	10
SMC TR13	39K	13 Reels	14x14x8	36x36x20	22	10
SMDIP TR13	13K	13 Reels	14x14x8	36x36x20	22	10
SOD-80 TR	25K	10 Reels	8x8x4	20x20x10	4	2
	47.5K	19 Reels	8x8x8	20x20x20	7	4
SOD-123	30K	10 Reels	8x8x4	20x20x10	3	2
	57K	19 Reels	8x8x8	20x20x20	5	3
SOD-323 TR	30K	10 Reels	8x8x4	20x20x10	3	2
	57K	19 Reels	8x8x8	20x20x20	5	3
SOT-23 TR	30K	10 Reels	8x8x4	20x20x10	3	2
	57K	19 Reels	8x8x8	20x20x20	5	3
SOT-26	25K	10 Reels	8x8x4	20x20x10	4	2
	47.5K	19 Reels	8x8x8	20x20x20	7	4
SOT-89 TR	7K	7 Reels	8x8x4	20x20x10	3	2
	14K	14 Reels	8x8x8	20x20x20	6	3
SOT-143 TR	30K	10 Reels	8x8x4	20x20x10	3	2
	57K	19 Reels	8x8x8	20x20x20	5	3
SOT-223 TR	7K	7 Reels	8x8x4	20x20x10	4	2
	14K	14 Reels	8x8x8	20x20x20	7	3
SOT-323 TR	30K	10 Reels	8x8x4	20x20x10	3	2
	57K	19 Reels	8x8x8	20x20x20	5	3
SOD-523 TR	30K	10 Reels	8x8x4	20x20x10	3	2
	57K	19 Reels	8x8x8	20x20x20	5	3
SOT-523 TR	30K	10 Reels	8x8x4	20x20x10	3	2
	57K	19 Reels	8x8x8	20x20x20	5	3

ORDERING INFO:

- For devices taped and reeled on 7" reels, add TR suffix to part number.
- For devices taped and reeled on 13" reels, add TR13 suffix to part number.
- For devices bulk packed, add BK suffix to part number.
- All SMDs are available bulk packed, for prototype and manual placement applications.
- Bulk SMDs are shipped in black plastic, antistatic vials.



1.0 Purpose: This Specification defines the layout and identification of the Inner Carton/Reel Label used by Central Semiconductor Corp.

1.1 This label must be affixed to each inner carton/reel in the shipment.

1.2 Label Information and Layout:







- | | |
|------------------|---|
| 1) CENTRAL P/N: | Line 1) Central Part Number
(Up to 25 Characters) |
| 2) CUSTER P/N: | Line 2) Customer's Part Number
(Up to 25 Characters) |
| 3) PURCHASE O/N: | Line 3) Customer's Purchase Order Number
(Up to 25 Characters) |
| 4) QUANTITY: | Line 4) Quantity of Devices.
(Up to 15 Characters) |
| 5) LOT NUMBER: | Line 5) Lot Number of the Devices.
(Up to 25 Characters) |
| 6) DATE CODE: | Line 6) Date Code of the Devices.
(Up to 5 Characters) |
| 7) SHIP DATE: | Line 7) Ship Date - The day cartons are shipped from Central.
(Month-Day-Year) |
| 8) MARKING CODE: | Line 8) Marking of the Device.
(Applies to HD DIP, SOT-23, SOT-26, SOT-123,
SOT-143, SOT-323, SOD-323, SOD-523, SOT-523,
SMA, SMB and SMC Devices only.) |

Bar Code Identification Label

Note: Bar Code Label Available
Upon Request.

1.0 Purpose: This Specification defines the layout and identification of the standard Bar Code Shipping Label used by Central Semiconductor Corp.

- 1.1 This label must be affixed to each carton in the shipment and to the reverse side of the packing slip.
- 1.2 Bar codes are type 3-of-9 (Code39) Symbology.
- 1.3 Label Size: 4" x 6"
- 1.4 Label Information and Layout:

FROM: CENTRAL SEMICONDUCTOR CORP. 145 ADAMS AVENUE HAUPPAUGE, NY 11788	TO: YOUR COMPANY SHIPPING ADDRESS CITY, ST ZIPCODE	1
(P) CUSTOMER PART NO: ABCDE12345678901234567890 		2
(Q) QUANTITY: 12345678 	DATE CODE: YYWW 	3
(K) PO NUMBER: 123456789 	LOT NUMBER: M12345 	4
PACKING SLIP NO: 123456789 	BOX XX OF XX WEIGHT: XX LBS.	5
		6

- Field 1: Ship to Address (Up to 30 Characters per line) **8, 9, 10**
- Field 2: Customer Part No: (Up to 25 Characters)
- Field 3: Quantity: Total Quantity in Shipment (Up to 8 Characters)
- Field 4: Date Code: The Date cartons are shipped from Central (YYWW)
- Field 5: PO Number: Customer Purchase Order Number (Up to 9 Characters)
- Field 6: Lot Number: Central's Lot Number: (Up to 6 Characters)
- Field 7: Packing Slip No: Central's Packing Slip ID: (Up to 9 Characters)
- Field 8: Box No: Individual Box Number: (Up to 2 Characters)
- Field 9: Total Number of Boxes in Shipment: (Up to 2 Characters)
- Field 10: Weight in Pounds: (Up to 2 Characters)



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QUALITY POLICY

- Our definition of quality is **Complete Customer Satisfaction**.
 - We are dedicated to manufacturing **Competitively Priced, Quality Products** delivered on time and professionally serviced.
 - We define **Excellence** as surpassing our customers' expectations.
 - Our perpetual challenge is the pursuit of **Achieving Excellence** in everything we do, and we strive to accomplish this by utilizing Ongoing Training for Continuous Improvement in all areas.
 - We recognize that customer satisfaction results in **Repeat Business**.
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