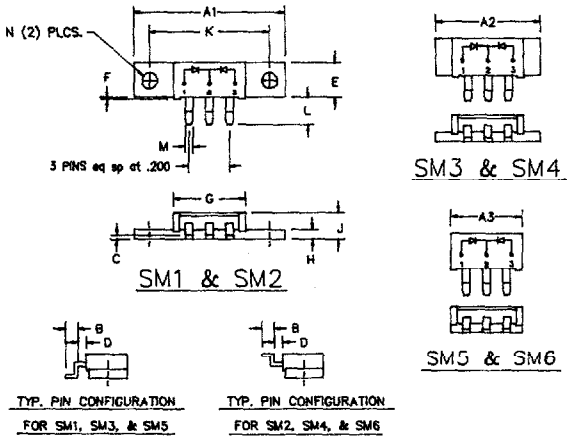
Schottky Power Surface Mount
FST71SM1–SM6 Series



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

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

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

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

Electrical Characteristics

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

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

Thermal and Mechanical Characteristics

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

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Microsemi Corp.
Colorado

FST71SM1 – SM6

Figure 1
Maximum Forward Characteristics – Per Leg

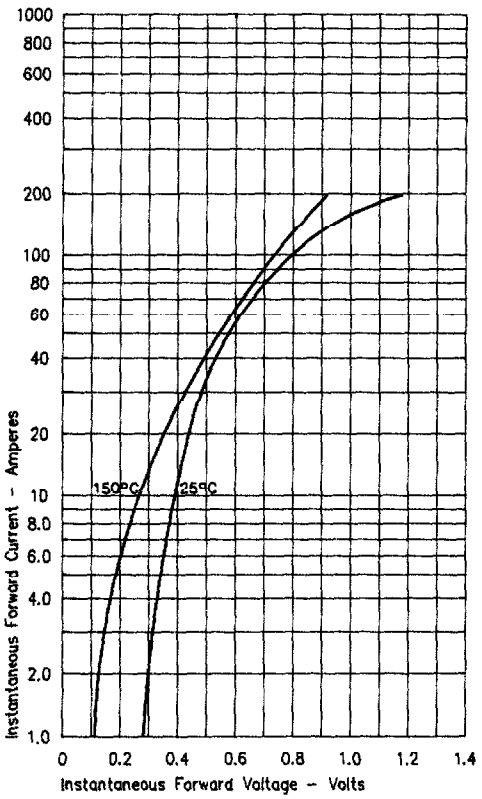

Figure 2
Typical Reverse Characteristics – Per Leg

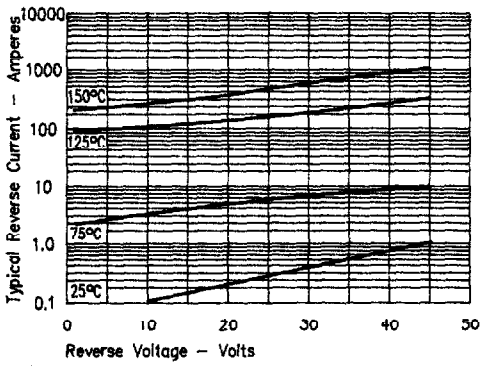

Figure 3
Typical Junction Capacitance – Per Leg

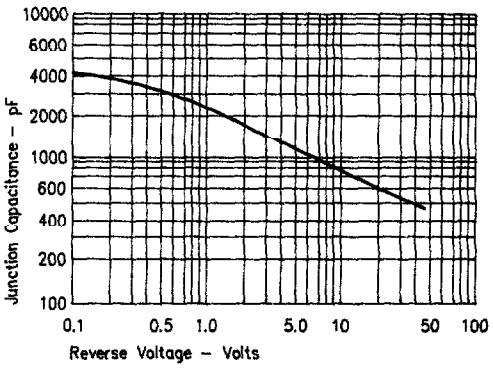

Figure 4
Forward Current Derating – Per Leg

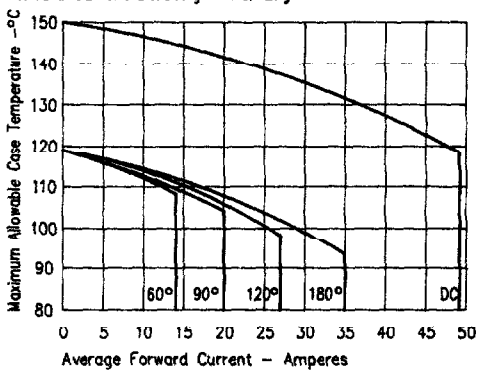

Figure 5
Maximum Forward Power Dissipation – Per Leg