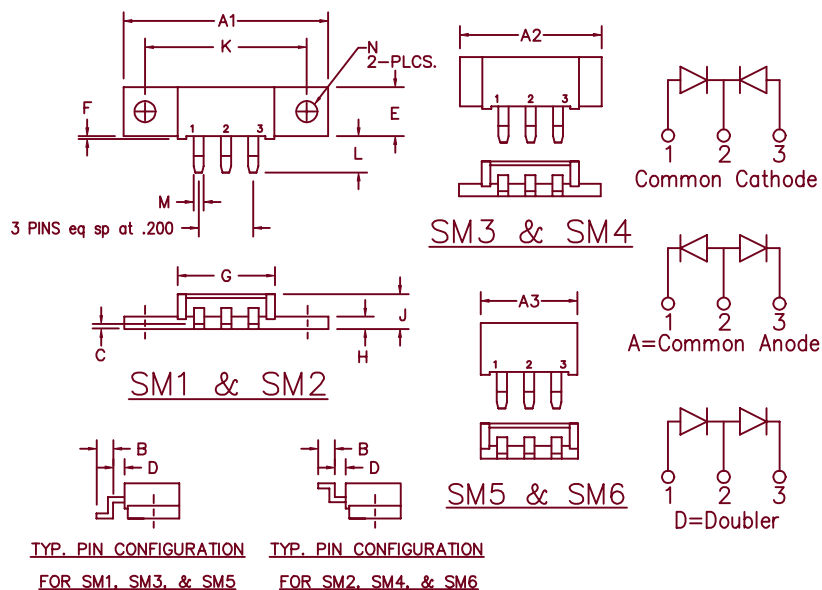


Schottky Power Surface Mount FST81SM1—SM6 Series



Note: Baseplate Common with Pin 2

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

Microsemi Catalog
Catalog Number

Working Peak
Reverse Voltage
V_{RRM}

Repetitive Peak
Reverse Voltage
V_{RRM}

FST8130SM ①②
FST8135SM —
FST8140SM —
FST8145SM —

30V
35V
40V
45V

30V
35V
40V
45V

Note: ① Specify (1–6) to identify package desired

② Specify C—Common Cathode, A—Common Anode, D—Doubler

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

Electrical Characteristics

Average forward current per pkg	I _{F(AV)} 80 Amps	TC = 110°C, Square wave, R _{θJC} = 0.5°C/W
Average forward current per leg	I _{F(AV)} 40 Amps	TC = 110°C, Square wave, R _{θJC} = 1.0°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} 0.47 volts	I _{FM} = 40A: T _J = 150°C*
Max peak forward voltage per leg	V _{FM} 0.53 volts	I _{FM} = 40A: T _J = 25°C*
Max peak reverse current per leg	I _{RM} 500 mA	V _{RRM} , T _C = 125°C*
Max peak reverse current per leg	I _{RM} 3.0 mA	V _{RRM} , T _J = 25°C
Typical junction capacitance per leg	C _J 2100 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}	–55°C to 175°C
Operating junction temp range	T _J	–55°C to 150°C
Max thermal resistance per leg	R _{θJC}	1.0°C/W Junction to case
Max thermal resistance per pkg.	R _{θJC}	0.5°C/W Junction to case
Typical thermal resistance (greased)	R _{θCS}	0.3°C/W Case to sink
Mounting Base Torque		10 inch pounds maximum (SM1, 2)
Weight		SM1–2 0.3 ounce (8.4 grams) typical
		SM3–4 0.24 ounce (6.7 grams) typical
		SM5–6 0.18 ounce (5.2 grams) typical

FST81SM1 — SM6

Figure 1
Typical Forward Characteristics — Per Leg

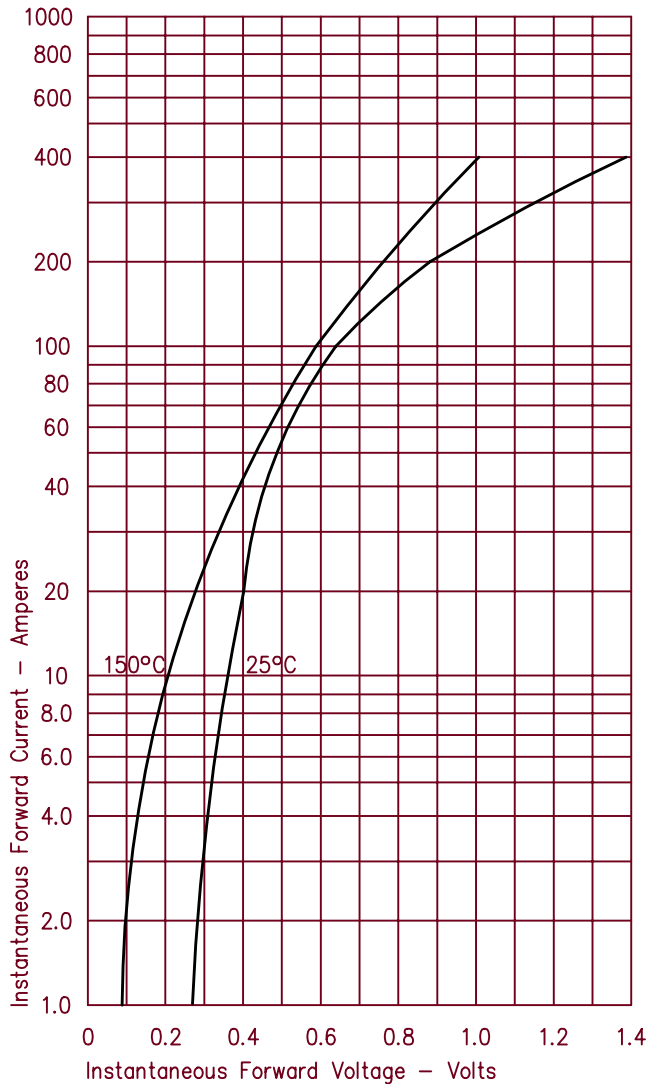


Figure 3
Typical Junction Capacitance — Per Leg

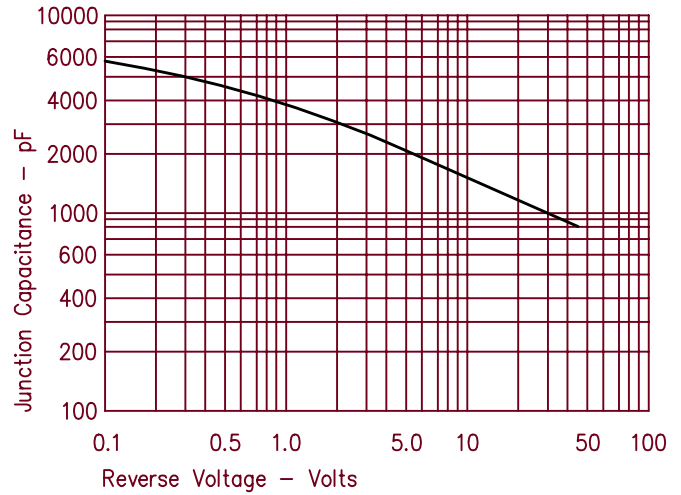


Figure 4
Forward Current Derating — Per Leg

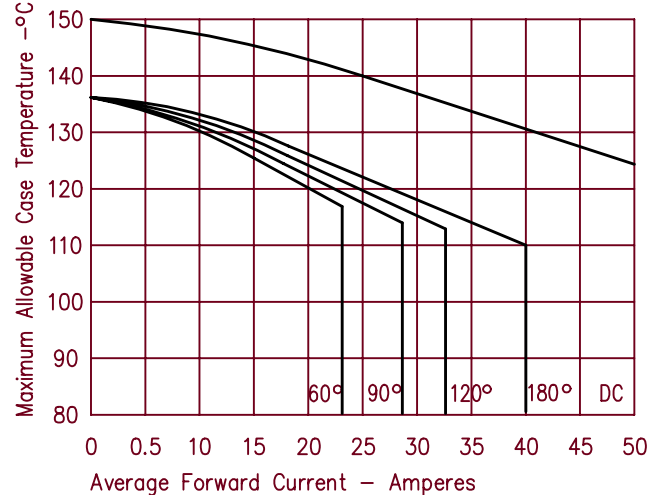


Figure 2
Typical Reverse Characteristics — Per Leg

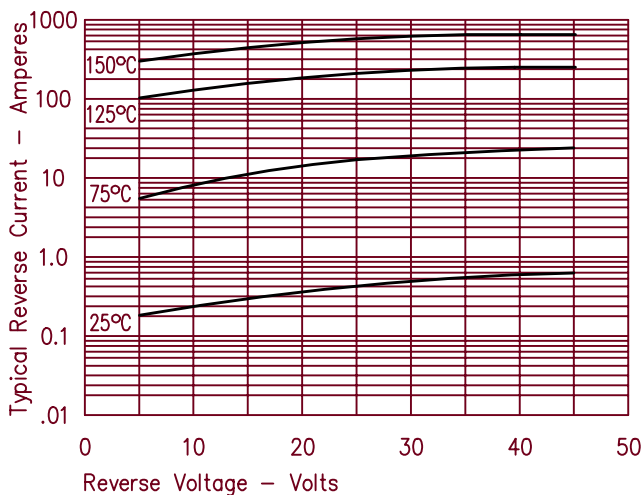


Figure 5
Maximum Forward Power Dissipation — Per Leg

