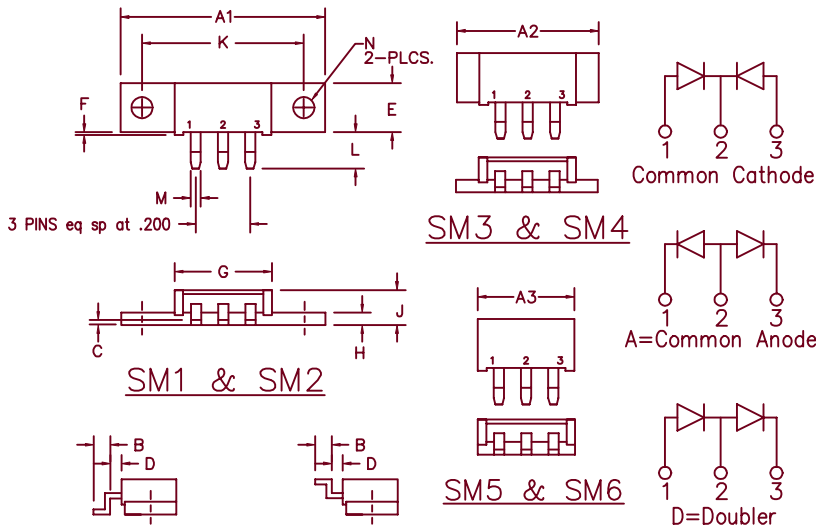


Schottky Power Surface Mount FST81SM1—SM6 Series



TYP. PIN CONFIGURATION FOR SM1, SM3, & SM5
TYP. PIN CONFIGURATION FOR SM2, SM4, & SM6

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

FST8130SM ①②
FST8135SM — —
FST8140SM — —
FST8145SM — —

Working Peak
Reverse Voltage
 V_{RWM}

30V
35V
40V
45V

Repetitive Peak
Reverse Voltage
 V_{RRM}

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	$T_C = 110^\circ C$, Square wave, $R_{\theta JC} = 0.5^\circ C/W$
Average forward current per leg	$I_F(AV)$ 40 Amps	$T_C = 110^\circ C$, Square wave, $R_{\theta JC} = 1.0^\circ C/W$
Maximum surge current per leg	I_{FSM} 800 Amps	8.3 ms, half sine, $T_J = 150^\circ C$
Max repetitive peak reverse current per leg	$I_R(OV)$ 2 Amps	$f = 1$ KHZ, $25^\circ C$, 1 usec square wave
Max peak forward voltage per leg	V_{FM} 0.47 volts	$I_{FM} = 40A$; $T_J = 150^\circ C^*$
Max peak forward voltage per leg	V_{FM} 0.53 volts	$I_{FM} = 40A$; $T_J = 25^\circ C^*$
Max peak reverse current per leg	I_{RM} 500 mA	V_{RRM} , $T_C = 125^\circ C^*$
Max peak reverse current per leg	I_{RM} 3.0 mA	V_{RRM} , $T_J = 25^\circ C$
Typical junction capacitance per leg	C_J 2100 pF	$V_R = 5.0V$, $T_C = 25^\circ C$

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

Thermal and Mechanical Characteristics

Storage temp range	TSTG	-55°C to 175°C
Operating junction temp range	T_J	-55°C to 150°C
Max thermal resistance per leg	$R_{\theta JC}$	1.0°C/W Junction to case
Max thermal resistance per pkg.	$R_{\theta JC}$	0.5°C/W Junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	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

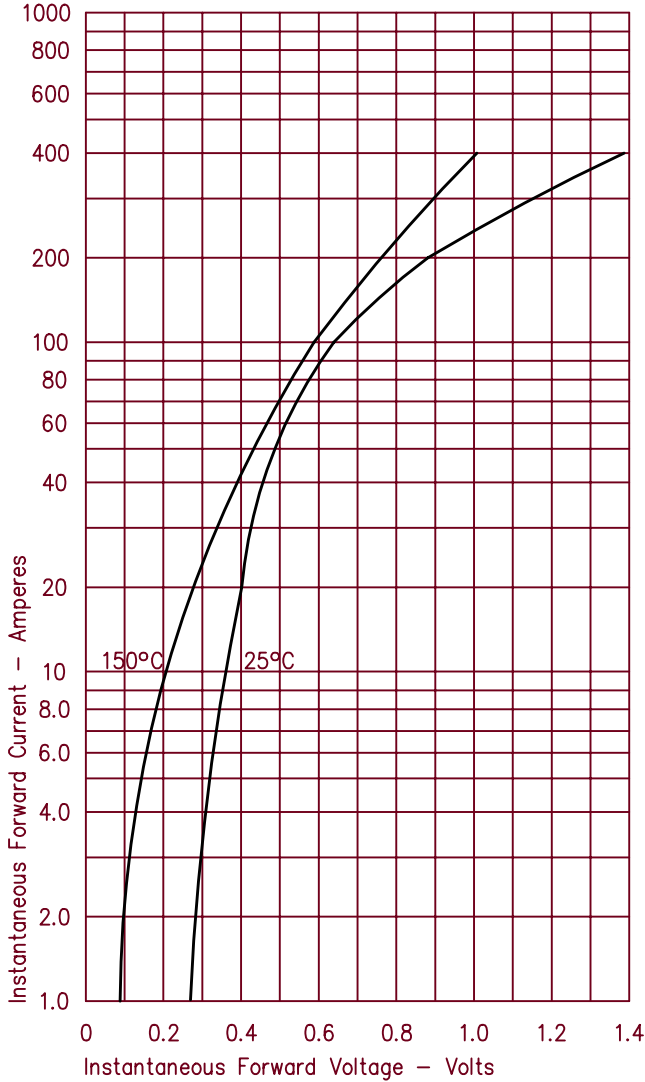


Figure 3
Typical Junction Capacitance — Per Leg

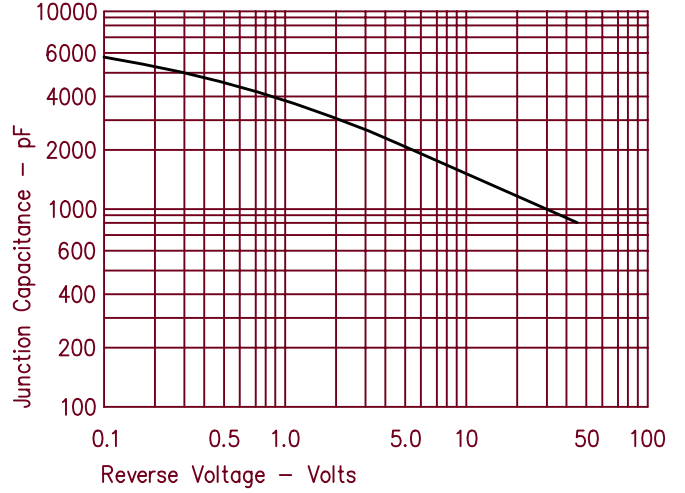


Figure 4
Forward Current Derating — Per Leg

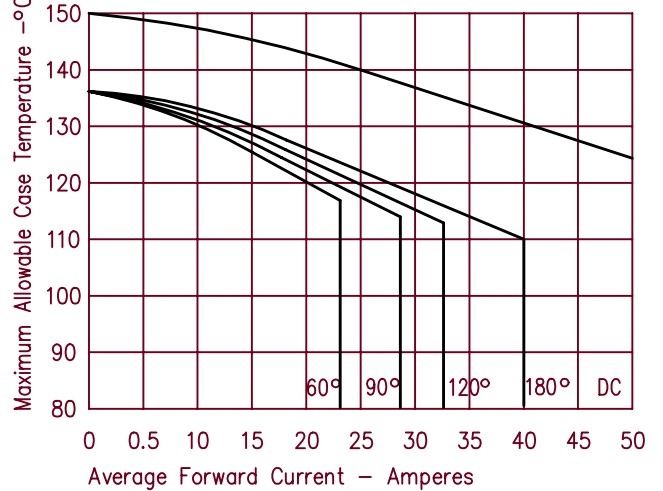


Figure 2
Typical Reverse Characteristics — Per Leg

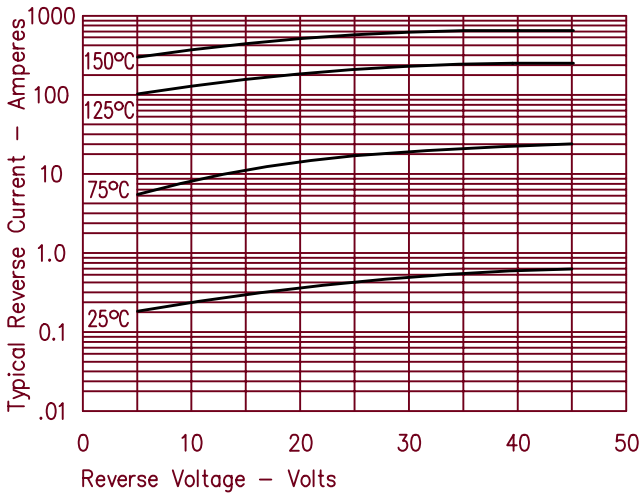


Figure 5
Maximum Forward Power Dissipation — Per Leg

