

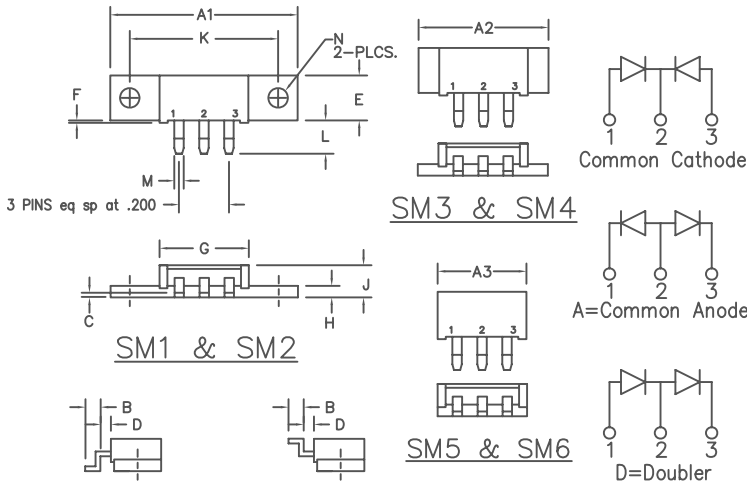
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Schottky Power Surface Mount FST80150SM1-SM6 Series



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	Industry Part Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST80150SM ①②	89CNQ150ASL 89CNQ150ASM	150V	150V

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
- 2 X 40 Amperes Avg.
- 175°C Junction Temperature
- Reverse Energy Tested
- V_{RRM} - 150 Volts

Electrical Characteristics

Average forward current per pkg	I _{F(AV)} 80 Amps	T _C = 144°C, Square wave, R _{θJC} = 0.5°C/W
Average forward current per leg	I _{F(AV)} 40 Amps	T _C = 144°C, Square wave, R _{θJC} = 1.0°C/W
Maximum surge current per leg	I _{FSM} 1000 Amps	8.3 ms, half sine, T _J = 175°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} 0.86 volts	I _{FM} = 40A: T _J = 25°C*
Max peak reverse current per leg	I _{RM} 10 mA	V _{RRM} , T _C = 125°C*
Max peak reverse current per leg	I _{RM} 2.0 mA	V _{RRM} , T _J = 25°C
Typical junction capacitance per leg	C _J 970 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 175°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



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05-23-07 Rev. 2

FST80150SM1 – SM6

Figure 1
Typical Forward Characteristics

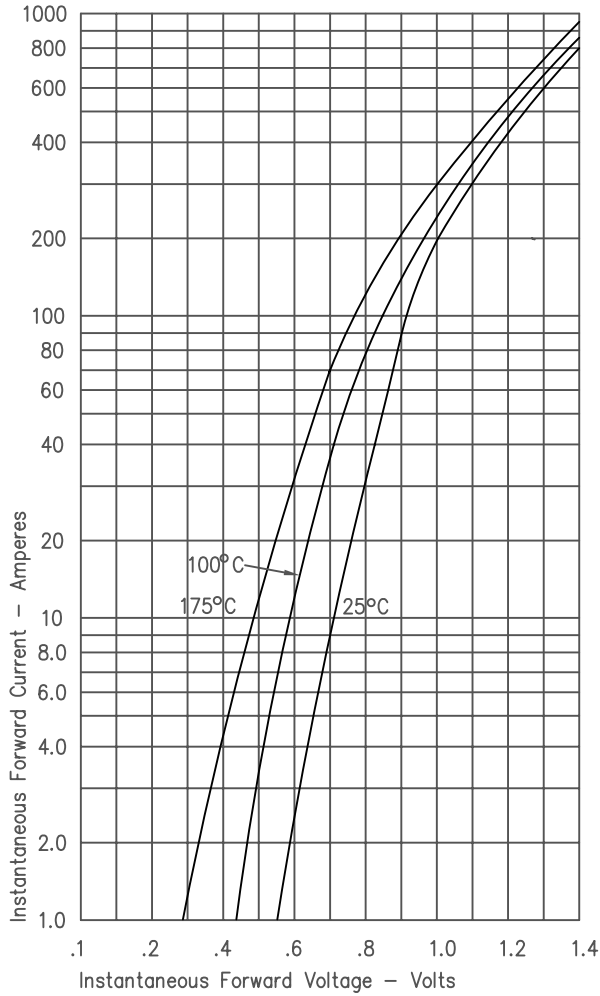


Figure 3
Typical Junction Capacitance

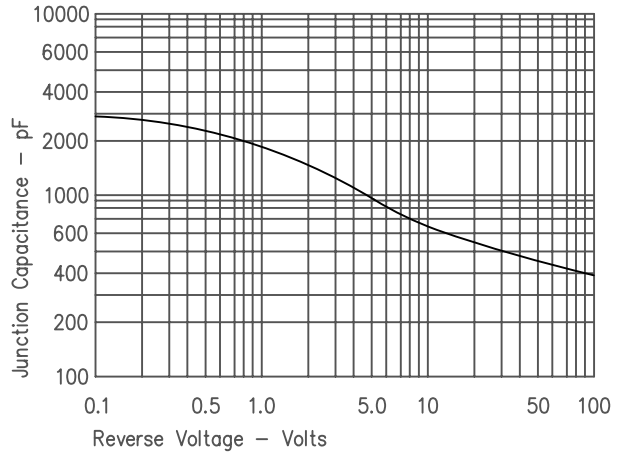


Figure 4
Forward Current Derating – Per Leg

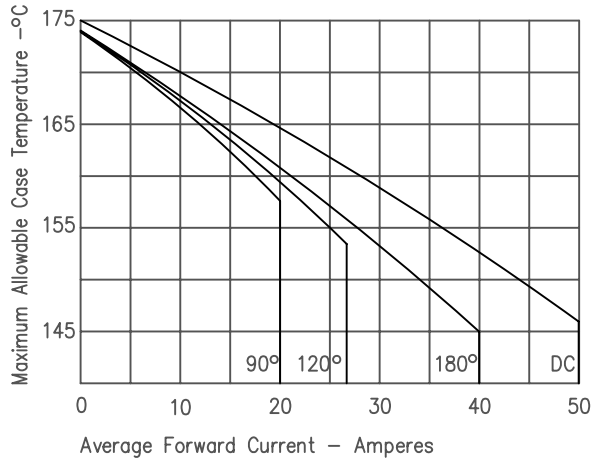


Figure 2
Typical Reverse Characteristics

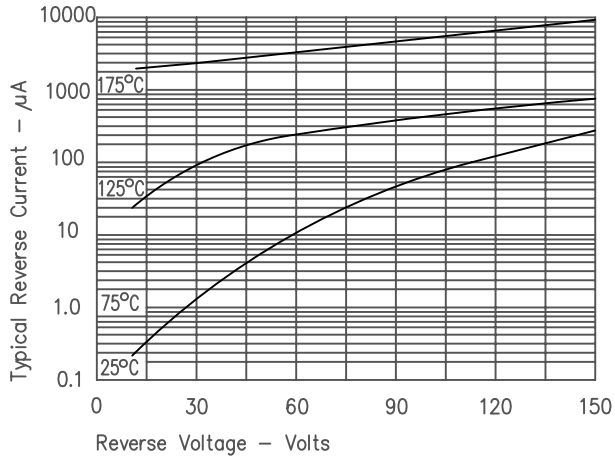


Figure 5
Maximum Forward Power Dissipation

