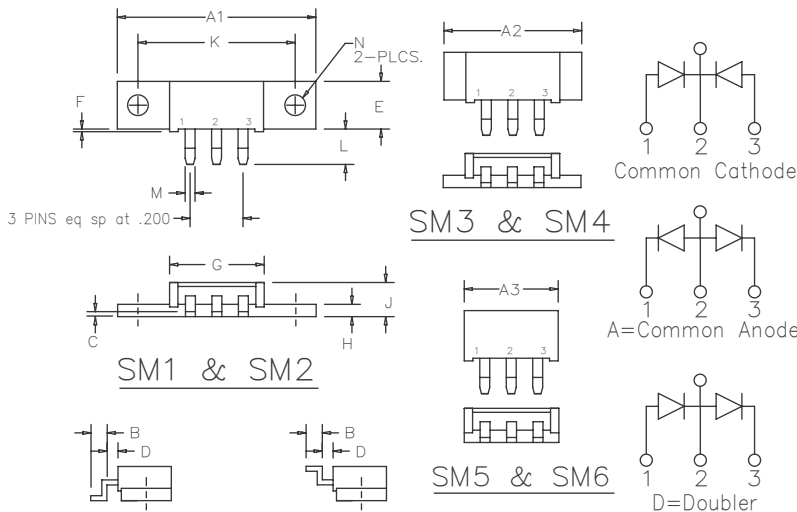


Schottky Power Surface Mount FST80150SM1–SM6 Series



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
- VRRM – 150 Volts
- ROHS Compliant

Electrical Characteristics

Average forward current per pkg	I _{F(AV)} 80 Amps	TC = 144°C, Square wave, R _{θJC} = 0.5°C/W
Average forward current per leg	I _{F(AV)} 40 Amps	TC = 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, 1μsec 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 300μsec, 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

FST80150SM1 – SM6

Figure 1
Typical Forward Characteristics

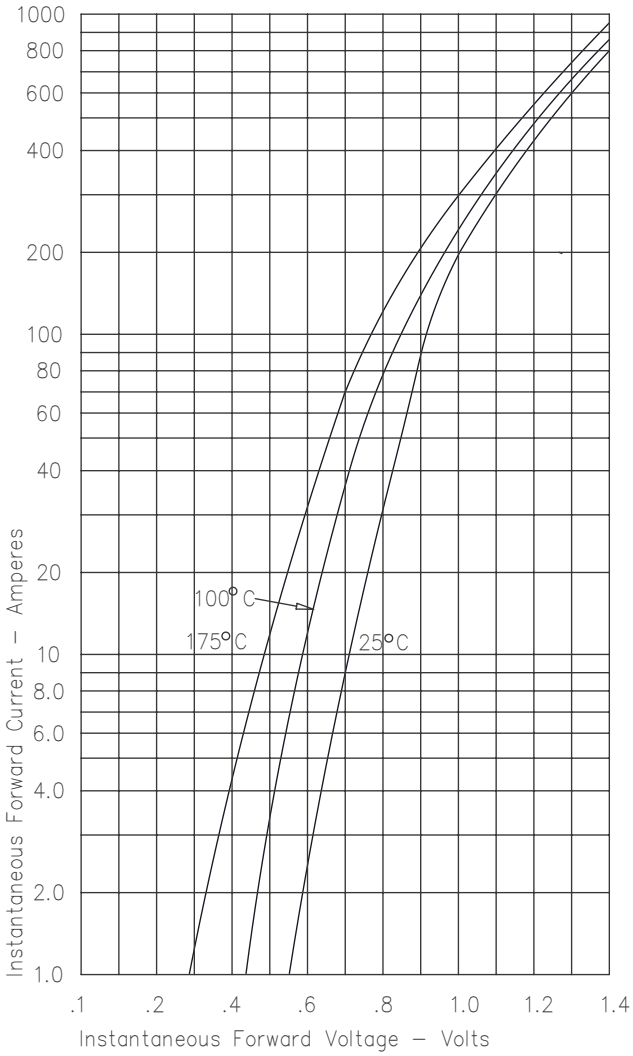


Figure 3
Typical Junction Capacitance

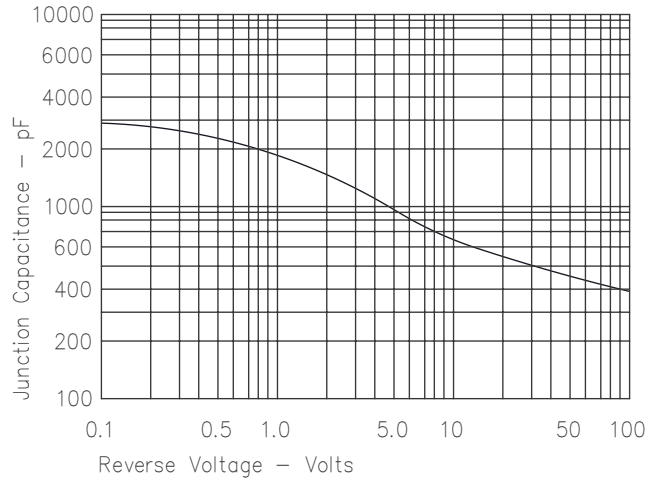


Figure 4
Forward Current Derating – Per Leg

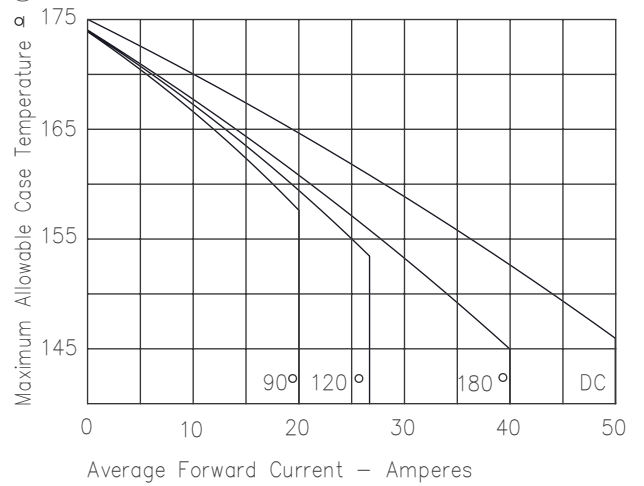


Figure 2
Typical Reverse Characteristics

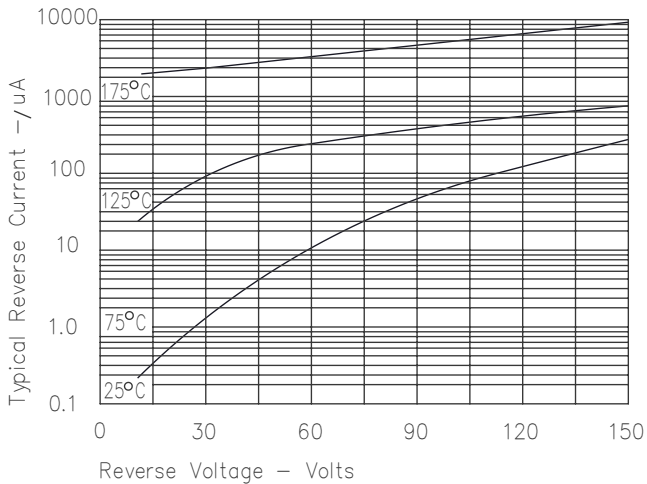


Figure 5
Maximum Forward Power Dissipation

