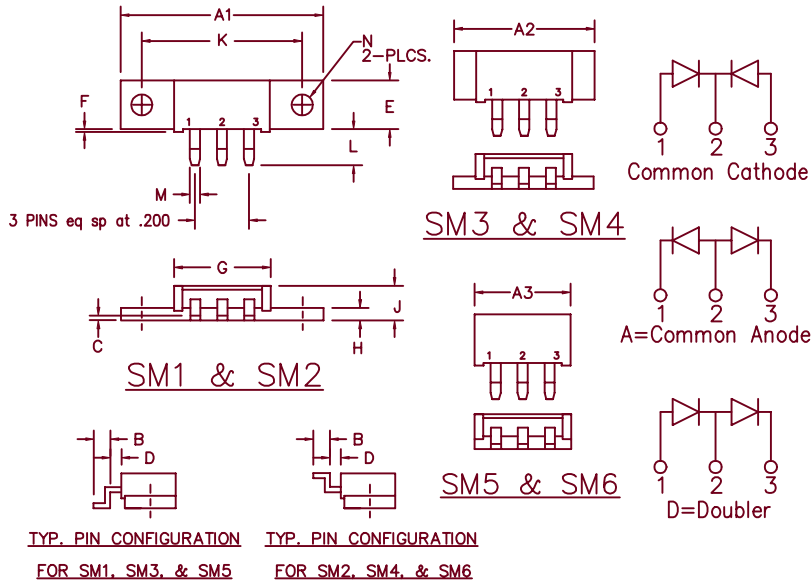


Schottky Power Surface Mount FST80150SM1—SM6 Series



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	Industry	Working Peak	Repetitive Peak
Catalog Number	Part Number	Reverse Voltage	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	$T_C = 144^\circ C$, Square wave, $R_{\theta JC} = 0.5^\circ C/W$
Average forward current per leg	$I_F(AV)$ 40 Amps	$T_C = 144^\circ C$, Square wave, $R_{\theta JC} = 1.0^\circ C/W$
Maximum surge current per leg	I_{FSM} 1000 Amps	8.3 ms, half sine, $T_J = 175^\circ C$
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} 0.86 volts	$I_{FM} = 40A$: $T_J = 25^\circ C^*$
Max peak reverse current per leg	I_{RM} 10 mA	V_{RRM} , $T_C = 125^\circ C^*$
Max peak reverse current per leg	I_{RM} 2.0 mA	V_{RRM} , $T_J = 25^\circ C$
Typical junction capacitance per leg	C_J 970 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	T_{STG}	$-55^\circ C$ to $175^\circ C$
Operating junction temp range	T_J	$-55^\circ C$ to $175^\circ C$
Max thermal resistance per leg	$R_{\theta JC}$	$1.0^\circ C/W$ Junction to case
Max thermal resistance per pkg.	$R_{\theta JC}$	$0.5^\circ C/W$ Junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	$0.3^\circ C/W$ 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

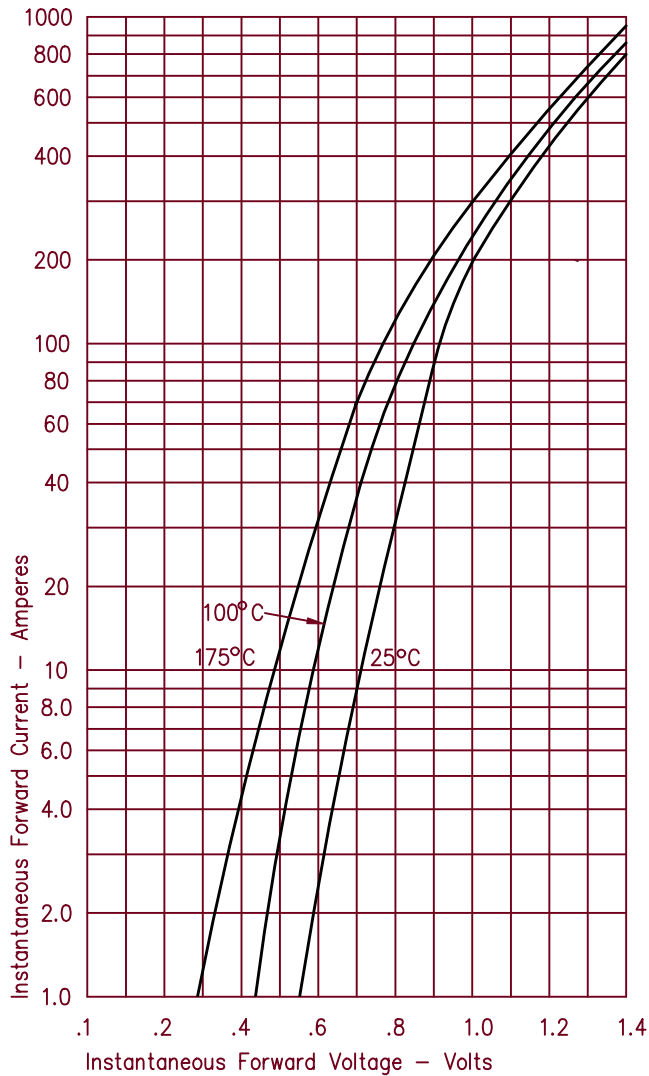


Figure 3
Typical Junction Capacitance

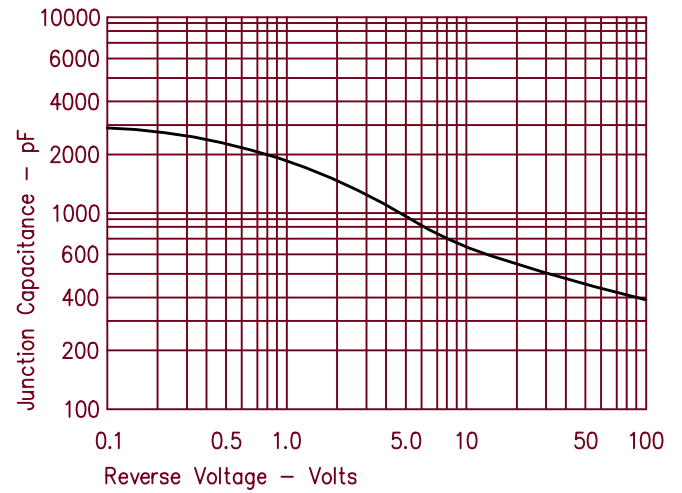


Figure 4
Forward Current Derating - Per Leg

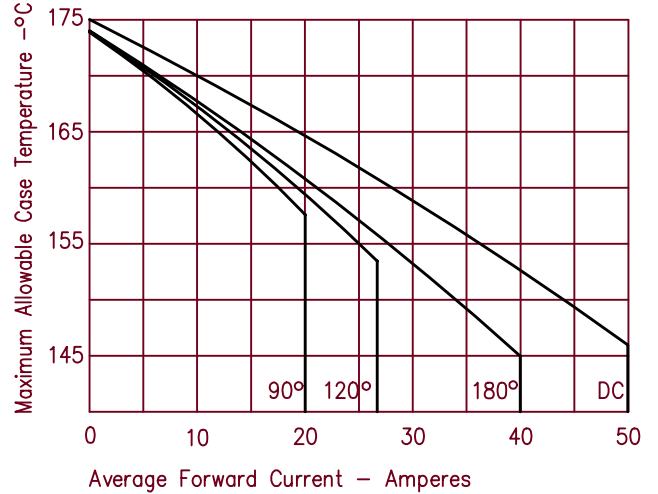


Figure 2
Typical Reverse Characteristics

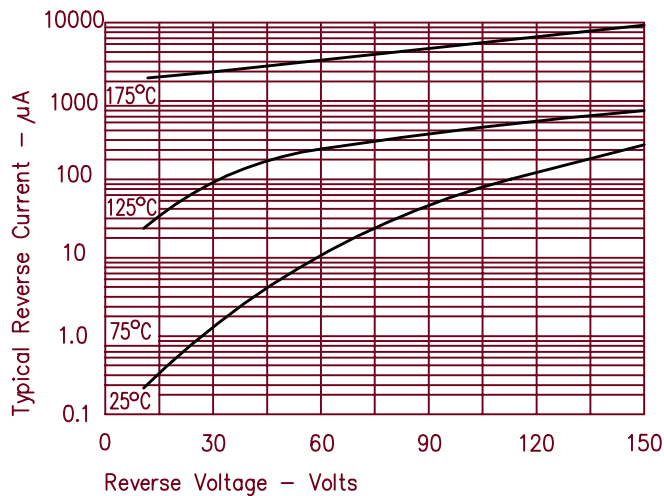


Figure 5
Maximum Forward Power Dissipation

