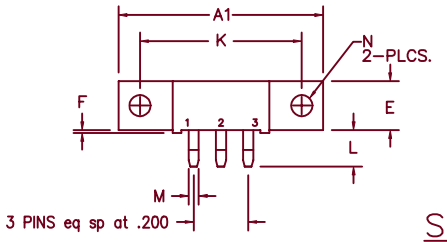
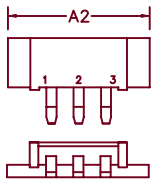
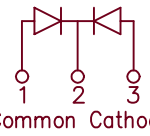
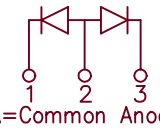
Schottky Power Surface Mount
FST81SM1–SM6 Series

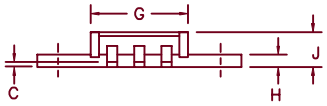




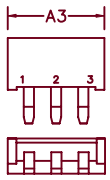
SM3 & SM4



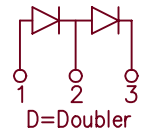


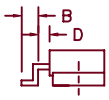


SM1 & SM2

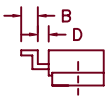


SM5 & SM6





TYP. PIN CONFIGURATION FOR SM1, SM3, & SM5



TYP. PIN CONFIGURATION FOR SM2, SM4, & SM6

Note: Baseplate Common with Pin 2

Dim.	Inches		Millimeter		
	Minimum	Maximum	Minimum	Maximum	Notes
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_{RWM}	Repetitive Peak Reverse Voltage V_{RRM}
FST8130SM ①②	30V	30V
FST8135SM __	35V	35V
FST8140SM __	40V	40V
FST8145SM __	45V	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°C, Square wave, $R_{\theta JC}$ = 0.5°C/W
Average forward current per leg	$I_{F(AV)}$ 40 Amps	T_C = 110°C, Square wave, $R_{\theta JC}$ = 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	$R_{\theta JC}$	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

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2–28–00 Rev. 1

FST81SM1 – SM6

Figure 1
Typical Forward Characteristics – Per Leg

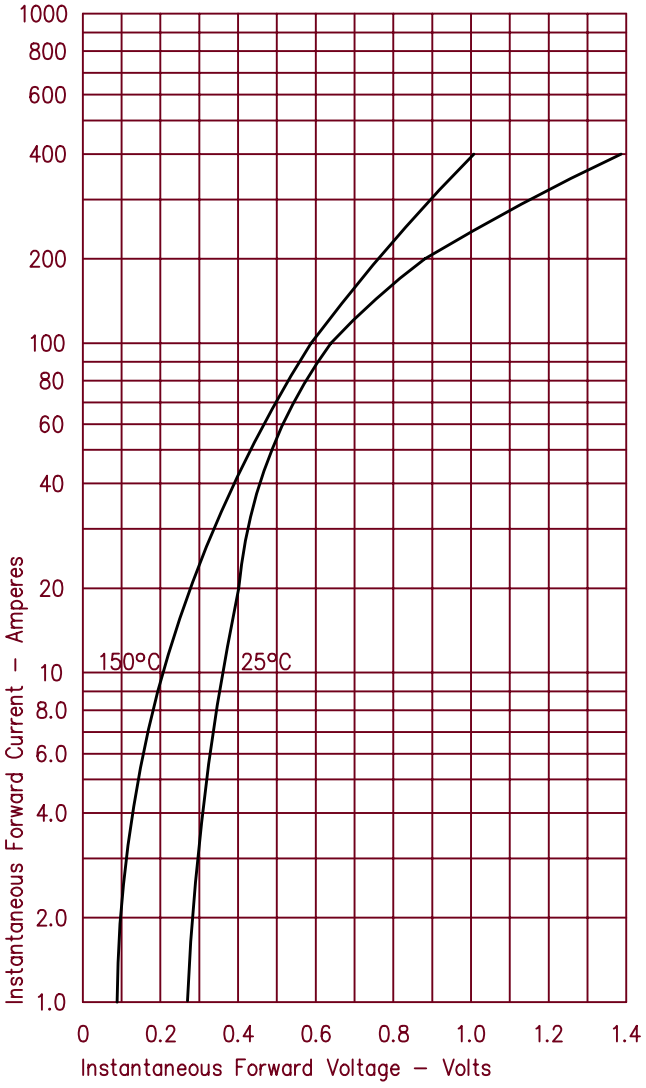


Figure 2
Typical Reverse Characteristics – Per Leg

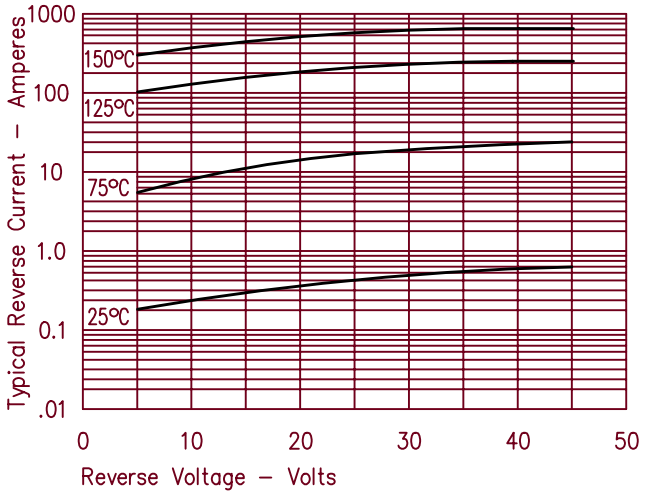


Figure 3
Typical Junction Capacitance – Per Leg

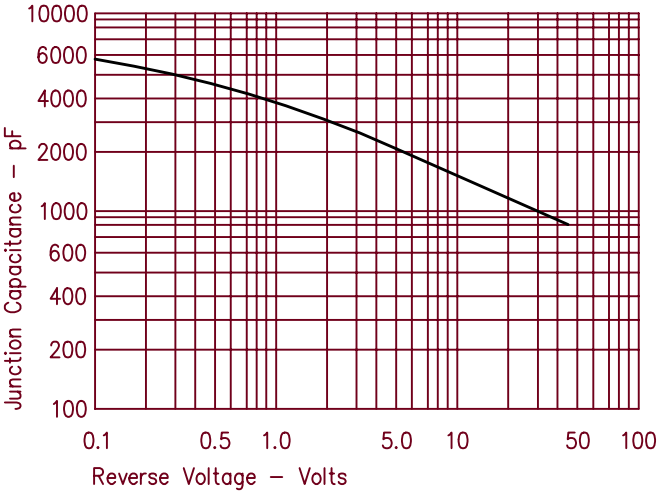


Figure 4
Forward Current Derating – Per Leg

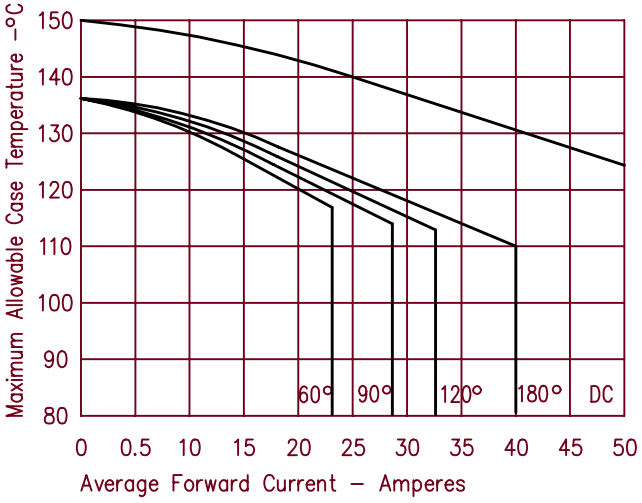


Figure 5
Maximum Forward Power Dissipation – Per Leg

