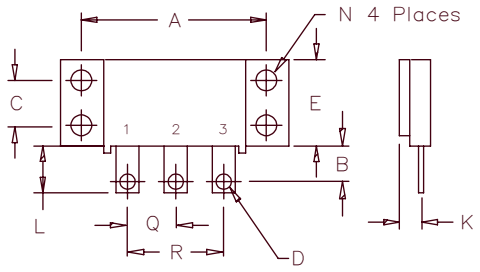
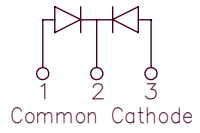
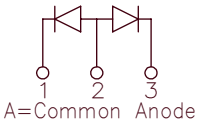
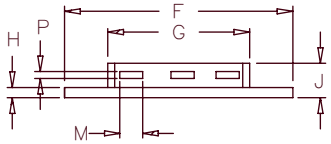
Schottky PowerMod

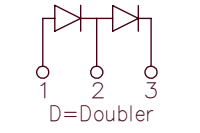
FST10030 – FST10045











Notes:
Baseplate: Nickel plated copper; electrically isolated
Pins: Nickel plated copper

Dim.	Inches		Millimeters		
	Min.	Max.	Min.	Max.	Notes
A	1.995	2.005	50.67	50.93	
B	0.300	0.325	7.62	8.26	
C	0.495	0.505	12.57	12.83	
D	0.182	0.192	4.62	4.88	Dia.
E	0.990	1.010	25.15	25.65	
F	2.390	2.410	60.71	61.21	
G	1.500	1.525	38.10	38.70	
H	0.120	0.130	3.05	3.30	
J	---	0.400	---	10.16	
K	0.240	0.260	6.10	6.60	to Lead ℄
L	0.490	0.510	12.45	12.95	
M	0.330	0.350	8.38	6.90	
N	0.175	0.195	4.45	4.95	Dia.
P	0.035	0.045	0.89	1.14	
Q	0.445	0.455	11.30	11.56	
R	0.890	0.910	22.61	23.11	

TO–249

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST10030*	30V	30V
FST10035*	35V	35V
FST10040*	40V	40V
FST10045*	45V	45V

*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring for Reverse Protection
- Low forward voltage
- V_{RRM} 30 to 45 Volts
- Electrically isolated base
- Reverse Energy Tested
- Center tap
- ROHS Compliant

Electrical Characteristics

Average forward current per pkg	$I_{F(AV)}$	100 Amps	T_C = 85°C, Square wave, $R_{\theta JC}$ = 0.5°C/W
Average forward current per leg	$I_{F(AV)}$	50 Amps	T_C = 85°C, Square wave, $R_{\theta JC}$ = 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}	.48 Volts	I_{FM} = 50A; T_J = 125°C*
Max peak forward voltage per leg	V_{FM}	.53 Volts	I_{FM} = 50A; T_J = 25°C*
Max peak reverse current per leg	I_{RM}	600 mA	V_{RRM}, T_J = 125°C*
Max peak reverse current per leg	I_{RM}	2 mA	V_{RRM}, T_J = 25°C
Typical junction capacitance per leg	C_J	2700 pF	V_R = 5.0V, T_J = 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 125°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)	$R_{\theta CS}$	0.1°C/W Case to sink
Mounting torque		15–20 inch pounds
Weight		2.5 ounces (71 grams) typical

FST10030 – FST10045

Figure 1
Typical Forward Characteristics – Per Leg

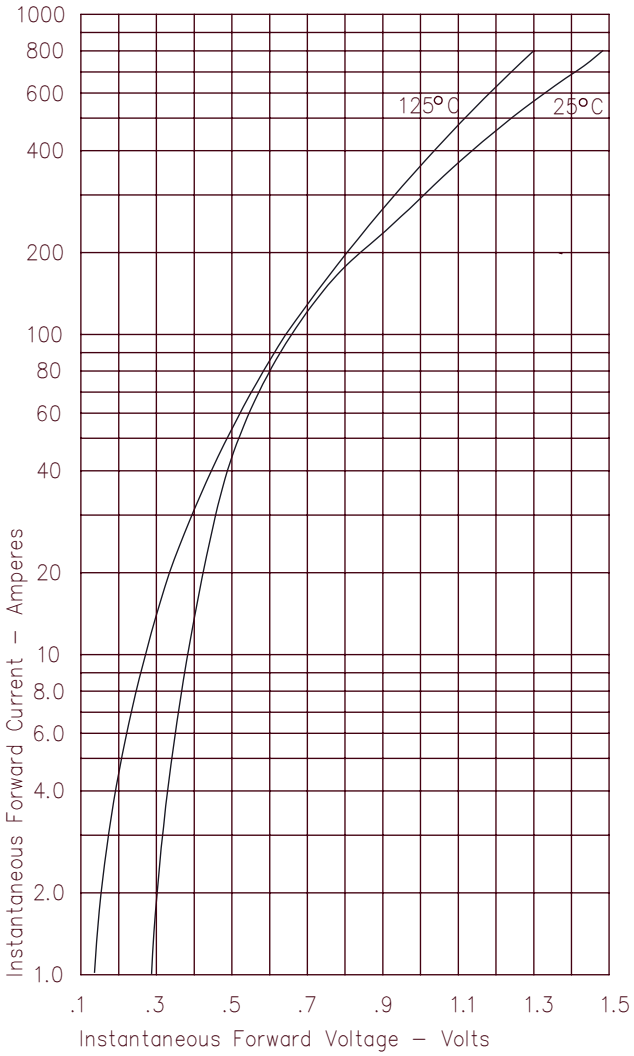


Figure 2
Typical Reverse Characteristics – Per Leg

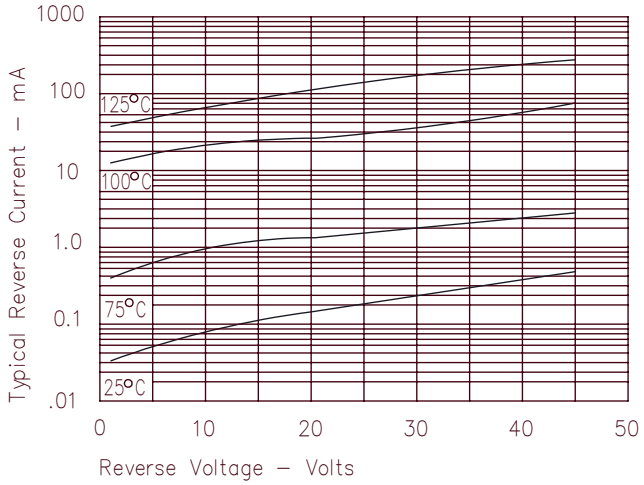


Figure 3
Typical Junction Capacitance – Per Leg

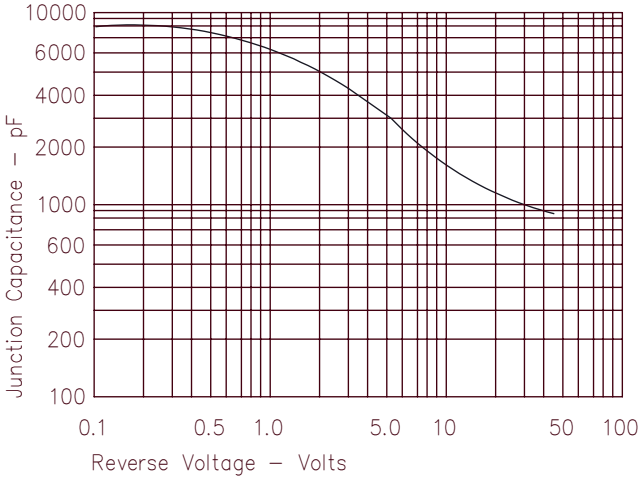


Figure 4
Forward Current Derating – Per Leg

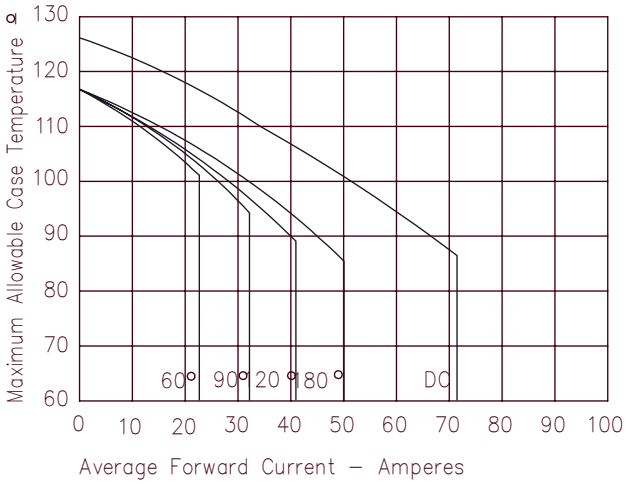


Figure 5
Maximum Forward Power Dissipation – Per Leg