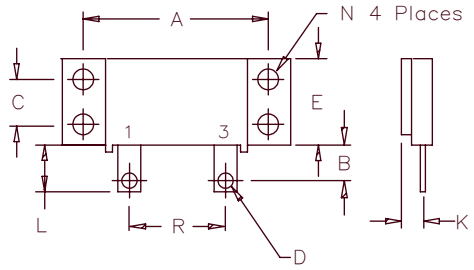
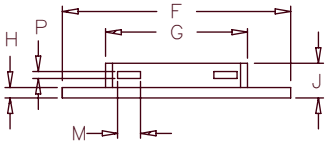
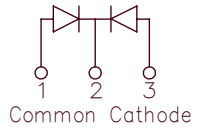
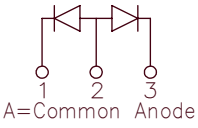
Schottky PowerMod

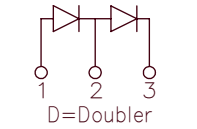
FST17140 – FST17150











Notes:
Baseplate: Nickel plated copper
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	1.490	1.510	37.85	38.35	
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	8.90	
N	0.175	0.195	4.45	4.95	Dia.
P	0.035	0.045	0.89	1.14	
R	0.890	0.910	22.61	23.11	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST17140*	40V	40V
FST17145*	45V	45V
FST17150*	50V	50V

*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring for Reverse Protection
- High Surge Capacity
- V_{RRM} – 40 to 50 Volts
- Reverse Energy Tested
- ROHS Compliant

Electrical Characteristics

Average forward current per pkg	$I_{F(AV)}$	170 Amps	T_C = 120°C, Square wave, $R_{\theta JC}$ = 0.425°C/W
Average forward current per leg	$I_{F(AV)}$	85 Amps	T_C = 115°C, Square wave, $R_{\theta JC}$ = 0.85°C/W
Maximum surge current per leg	I_{FSM}	1200 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}	.58 Volts	I_{FM} = 80A: T_J = 175°C*
Max peak forward voltage per leg	V_{FM}	.74 Volts	I_{FM} = 80A: T_J = 25°C*
Max peak reverse current per leg	I_{RM}	60 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	2300 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 175°C
Max thermal resistance per leg	$R_{\theta JC}$	0.85°C/W Junction to case
Max thermal resistance per pkg.	$R_{\theta JC}$	0.425°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

FST17140 – FST17150

Figure 1
Typical Forward Characteristics – Per Leg

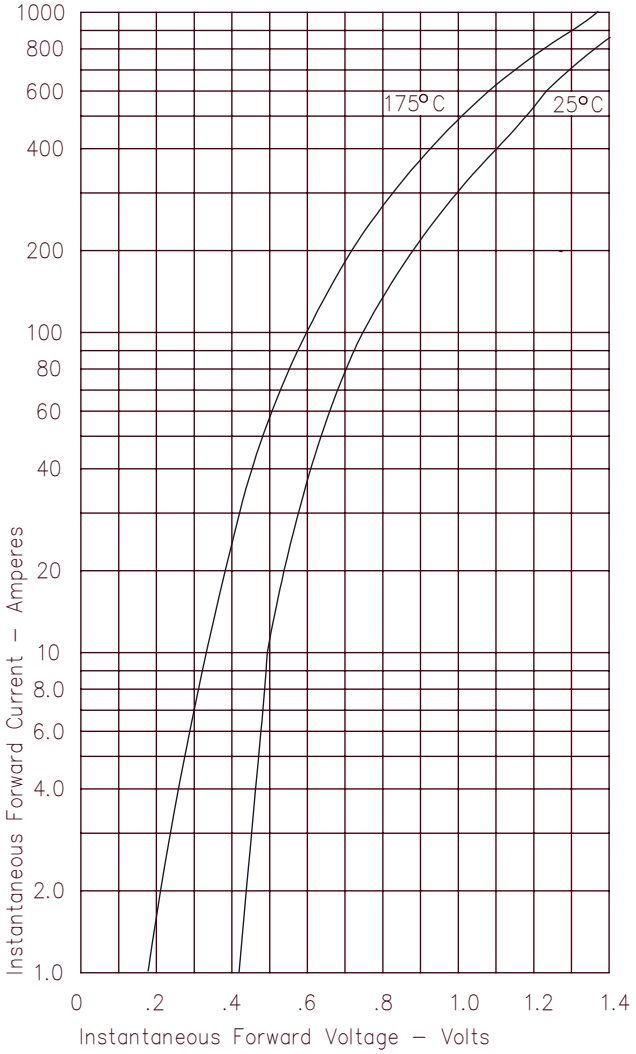


Figure 2
Typical Reverse Characteristics – Per Leg

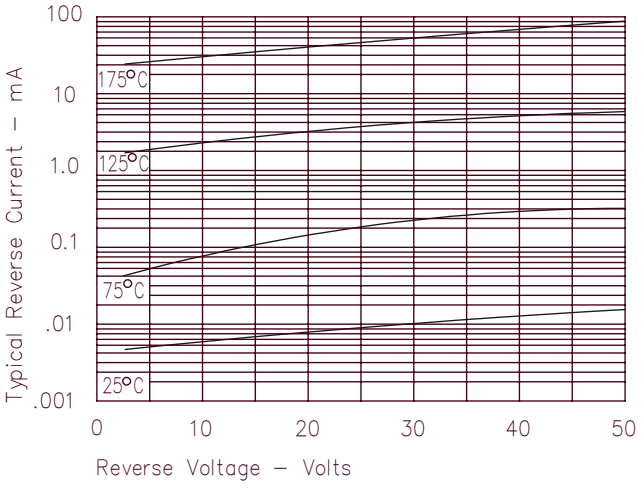


Figure 3
Typical Junction Capacitance – Per Leg

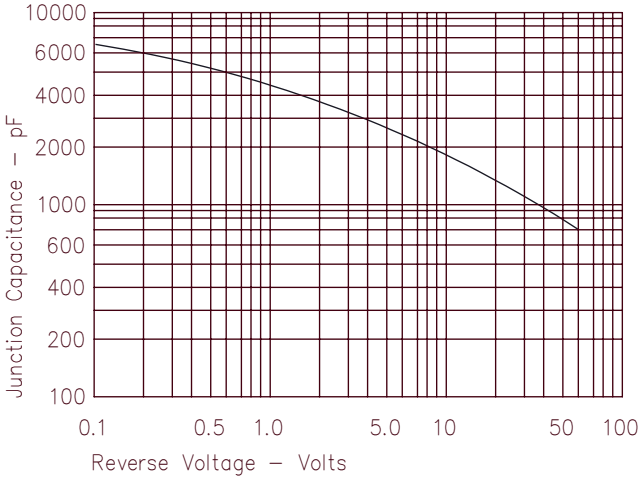


Figure 4
Forward Current Derating – Per Leg

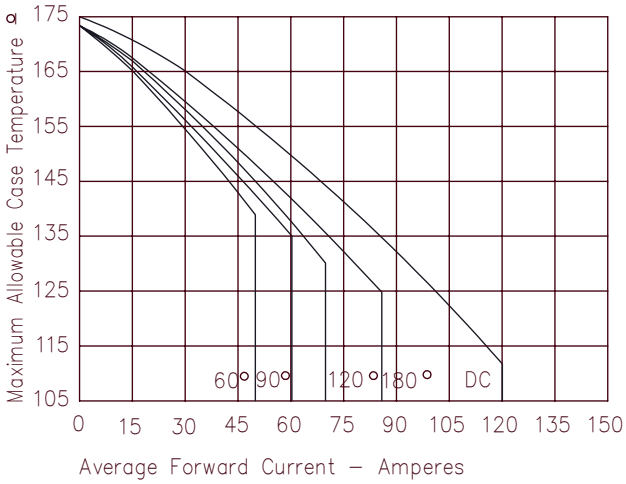
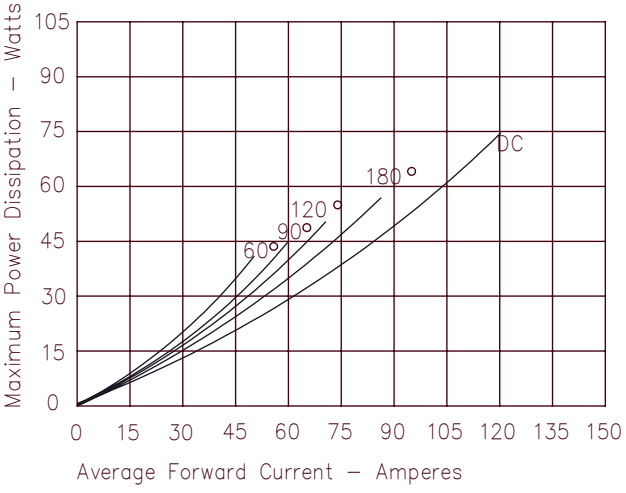



Figure 5
Maximum Forward Power Dissipation – Per Leg