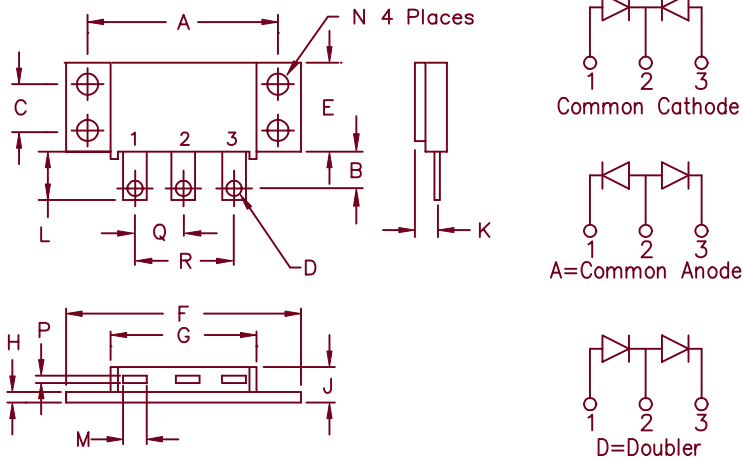


# Schottky Powermod FST16090 — FST160100



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

Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
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 Cl
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
FST16090*	90V	90V
FST160100*	100V	100V

\*Add the Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring for Reverse Protection
- VRRM – 90 to 100 Volts
- High Surge Capacity
- Reverse Energy Tested

## Electrical Characteristics

Average forward current per pkg	$I_{F(AV)}$ 160 Amps	$T_C = 120^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.5^\circ\text{C/W}$
Average forward current per leg	$I_{F(AV)}$ 80 Amps	$T_C = 120^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.9^\circ\text{C/W}$
Maximum surge current per leg	$I_{FSM}$ 1200 Amps	8.3 ms, half sine $T_J = 175^\circ\text{C}$
Max repetitive peak reverse current per leg	$I_{R(OV)}$ 2 Amps	$f = 1\text{ KHz}$ , $25^\circ\text{C}$ , 1 $\mu\text{sec}$ Square wave
Max peak forward voltage per leg	$V_{FM}$ .68 Volts	$I_{FM} = 80\text{A}$ : $T_J = 175^\circ\text{C}^*$
Max peak forward voltage per leg	$V_{FM}$ .86 Volts	$I_{FM} = 80\text{A}$ : $T_J = 25^\circ\text{C}^*$
Max peak reverse current per leg	$I_{RM}$ 30 mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}^*$
Max peak reverse current per leg	$I_{RM}$ 2 mA	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical junction capacitance per leg	$C_J$ 1500 pF	$V_R = 5.0\text{V}$ , $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-55^\circ\text{C}$ to $175^\circ\text{C}$
Operating junction temp range	$T_J$	$-55^\circ\text{C}$ to $175^\circ\text{C}$
Maximum thermal resistance per leg	$R_{\theta JC}$	$0.9^\circ\text{C/W}$ Junction to case
Max thermal resistance per pkg.	$R_{\theta JC}$	$0.5^\circ\text{C/W}$ Junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	$0.1^\circ\text{C/W}$ Case to sink
Mounting torque		15 – 20 inch pounds
Weight		2.5 ounces (71 grams) typical

# FST16090 — FST160100

Figure 1  
Typical Forward Characteristics

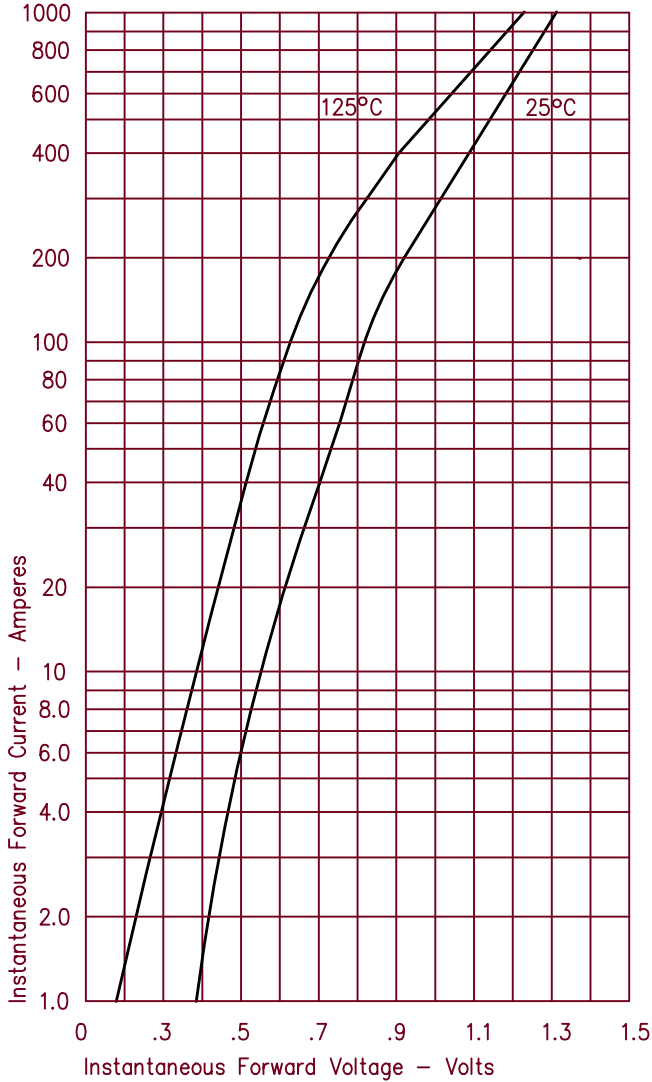


Figure 3  
Typical Junction Capacitance

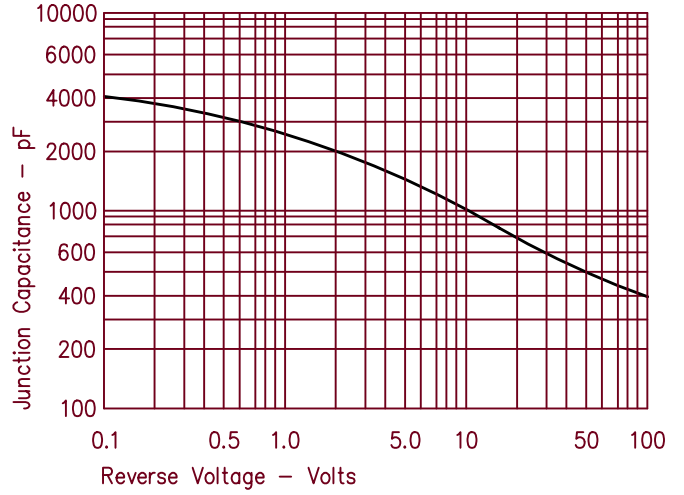


Figure 4  
Forward Current Derating

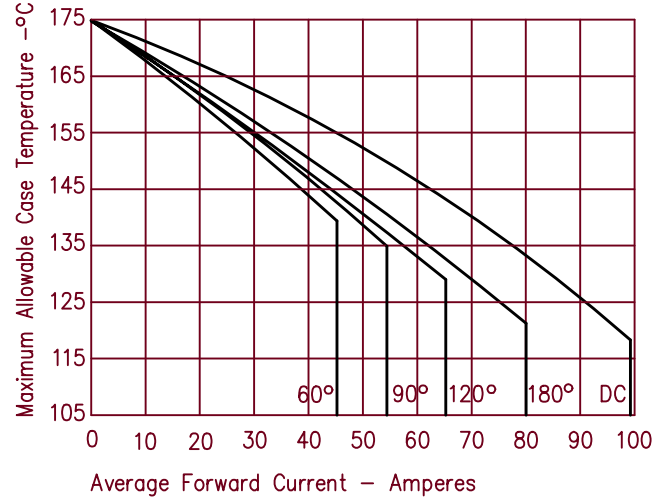


Figure 2  
Typical Reverse Characteristics

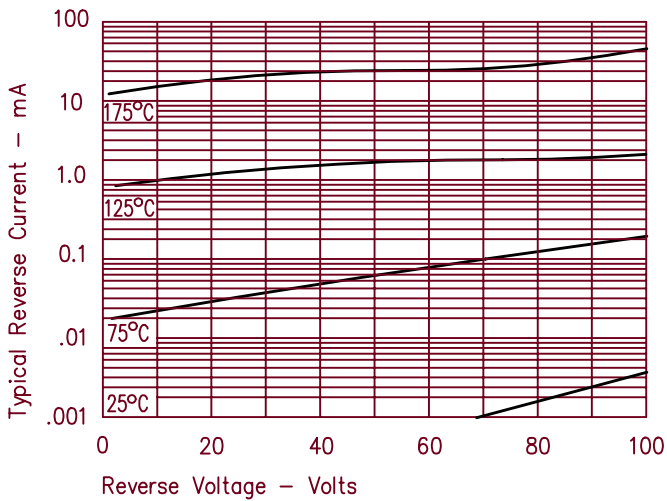


Figure 5  
Maximum Forward Power Dissipation

