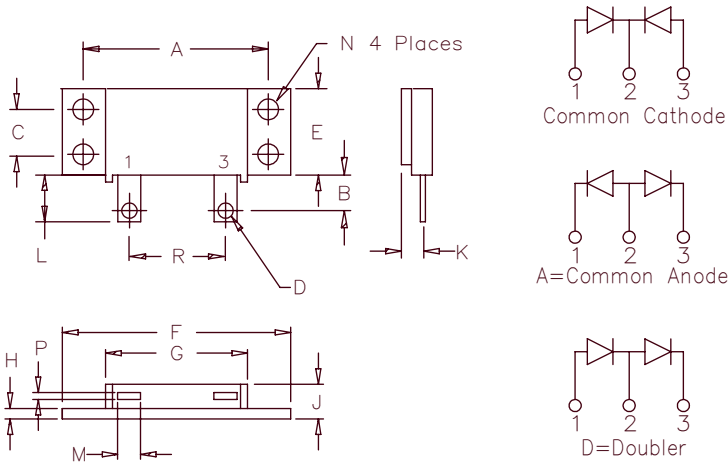


# Schottky PowerMod FST17140 — FST17150



Notes:  
Baseplate: Nickel plated copper  
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	1.490	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 Q
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	$T_C = 120^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.425^\circ\text{C/W}$
Average forward current per leg	$I_{F(AV)}$ 85 Amps	$T_C = 115^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.85^\circ\text{C/W}$
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	$R(OV)$ 2 Amps	$f = 1 \text{ KHz}$ , $25^\circ\text{C}$ , $1\mu\text{sec}$ Square wave
Max peak forward voltage per leg	$V_{FM}$ .58 Volts	$I_{FM} = 80\text{A}$ : $T_J = 175^\circ\text{C}^*$
Max peak forward voltage per leg	$V_{FM}$ .74 Volts	$I_{FM} = 80\text{A}$ : $T_J = 25^\circ\text{C}^*$
Max peak reverse current per leg	$I_{RM}$ 60 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	$C_J$ 2300 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 $175^\circ\text{C}$
Max thermal resistance per leg	$R_{\theta JC}$	$0.85^\circ\text{C/W}$ Junction to case
Max thermal resistance per pkg.	$R_{\theta JC}$	$0.425^\circ\text{C/W}$ 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

# FST17140 – FST17150

Figure 1  
Typical Forward Characteristics – Per Leg

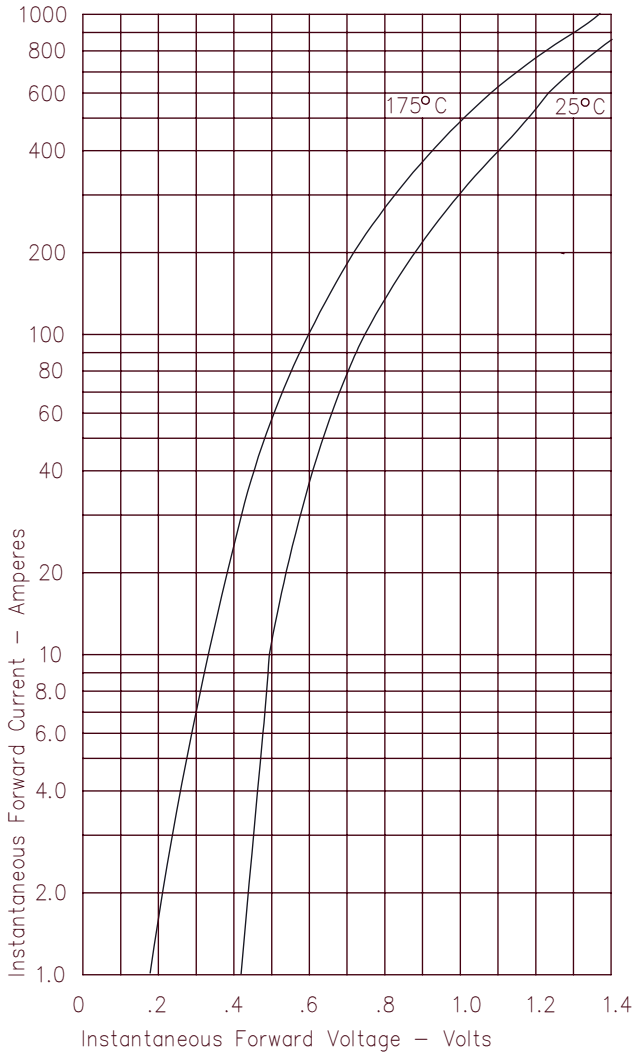


Figure 3  
Typical Junction Capacitance – Per Leg

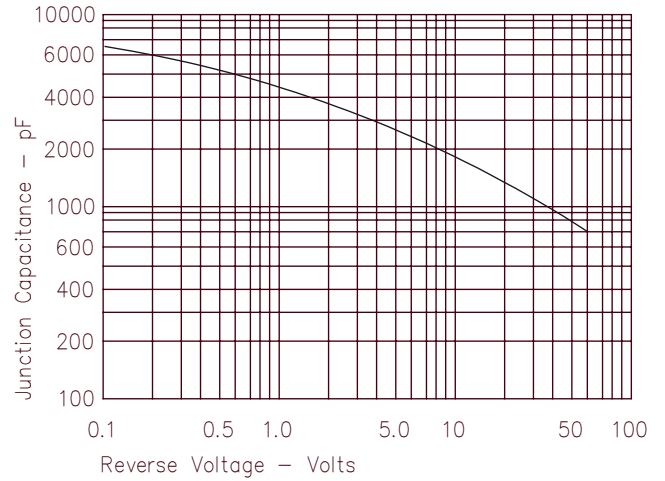


Figure 4  
Forward Current Derating – Per Leg

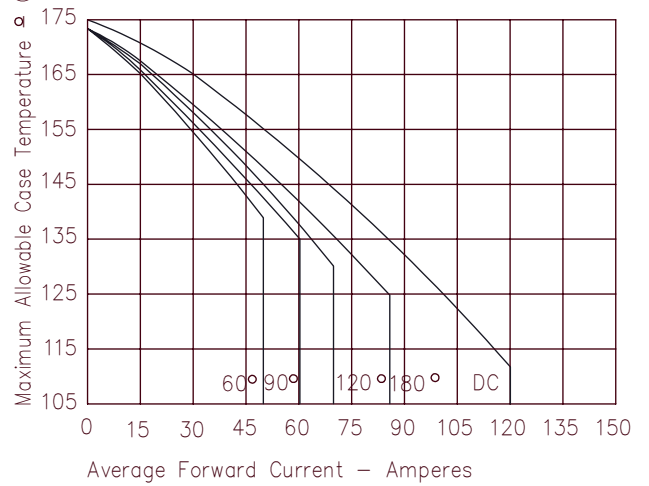


Figure 2  
Typical Reverse Characteristics – Per Leg

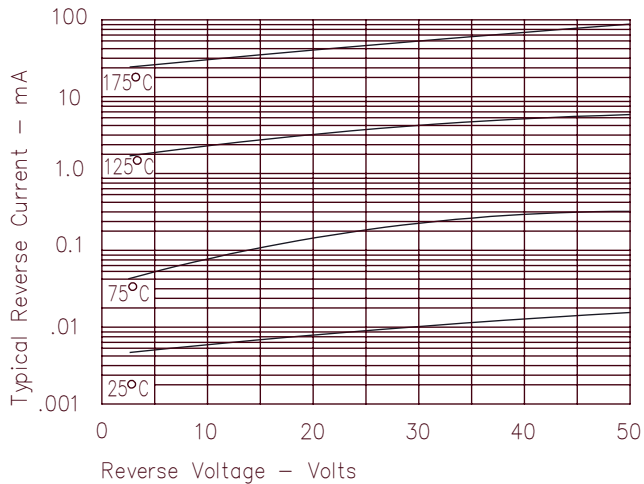


Figure 5  
Maximum Forward Power Dissipation – Per Leg

