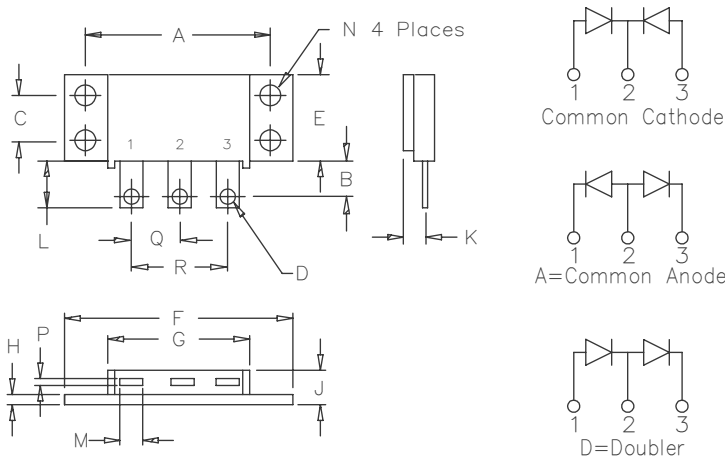


# Schottky PowerMod

## FST16135 — FST16145



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 Q
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	Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST16135*	160CMQ035	35V	35V
FST16140*	160CMQ040	40V	40V
FST16145*	160CMQ045	45V	45V

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

- Schottky Barrier Rectifier
- Guard Ring for Reverse Protection
- Low Forward Voltage
- $V_{RRM}$  35 to 45 Volts
- Electrically Isolated base
- Reverse Energy Tested
- Center top
- ROHS Compliant

### Electrical Characteristics

Average forward current per pkg	$I_F(AV)$ 160 Amps	$T_C = 67^\circ C$ , Square wave, $R_{\theta JC} = 0.5^\circ C/W$
Average forward current per leg	$I_F(AV)$ 80 Amps	$T_C = 67^\circ C$ , Square wave, $R_{\theta JC} = 1.0^\circ C/W$
Maximum surge current per leg	$I_{FSM}$ 1000 Amps	8.3 ms, half sine $T_J = 175^\circ C$
Max repetitive peak reverse current per leg	$R(OV)$ 2 Amps	$f = 1$ KHz, $25^\circ C$ , $1\mu sec$ Square wave
Max peak forward voltage per leg	$V_{FM}$ .61 Volts	$I_{FM} = 80A$ : $T_J = 125^\circ C^*$
Max peak forward voltage per leg	$V_{FM}$ .65 Volts	$I_{FM} = 80A$ : $T_J = 25^\circ C^*$
Max peak reverse current per leg	$I_{RM}$ 500 mA	$V_{RRM}$ , $T_J = 125^\circ C^*$
Max peak reverse current per leg	$I_{RM}$ 2 mA	$V_{RRM}$ , $T_J = 25^\circ C$
Typical junction capacitance per leg	$C_J$ 2700 pF	$V_R = 5.0V$ , $T_J = 25^\circ C$

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

### Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-55^\circ C$ to $175^\circ C$
Operating junction temp range	$T_J$	$-55^\circ C$ to $175^\circ C$
Maximum thermal resistance per leg	$R_{\theta JC}$	$1.0^\circ C/W$ Junction to case
Maximum thermal resistance per pkg.	$R_{\theta JC}$	$0.5^\circ C/W$ Junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	$0.1^\circ C/W$ Case to sink
Mounting torque		15 – 20 inch pounds
Weight		2.5 ounces (71 grams) typical

# FST16135 – FST16145

Figure 1  
Typical Forward Characteristics – Per Leg

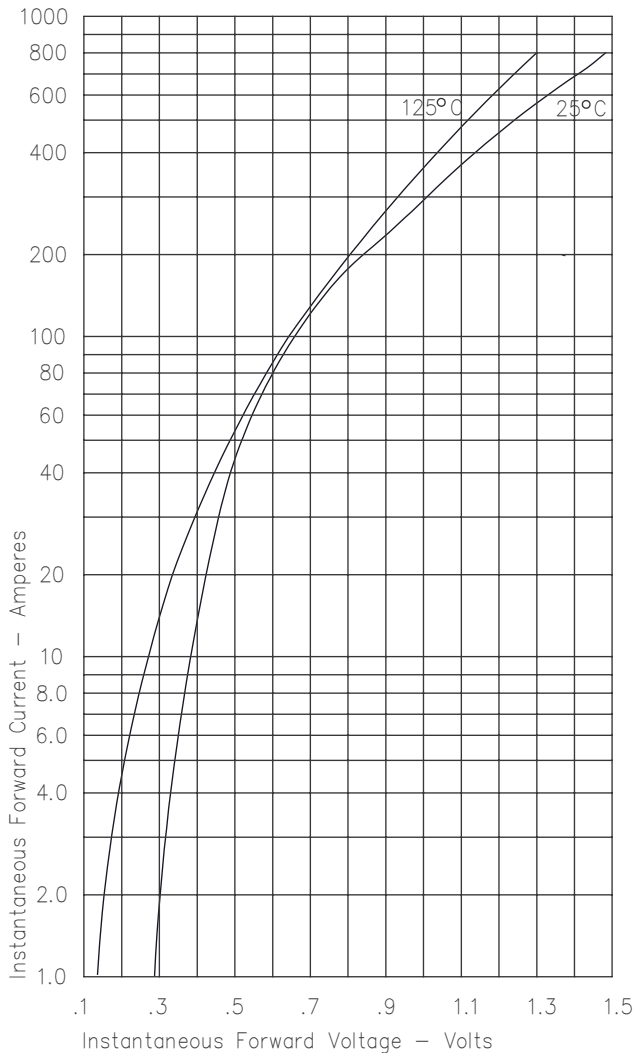


Figure 3  
Typical Junction Capacitance – Per Leg

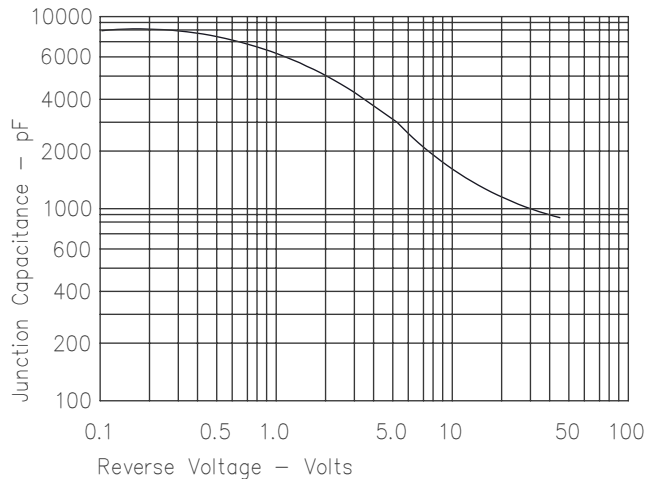


Figure 4  
Forward Current Derating – Per Leg

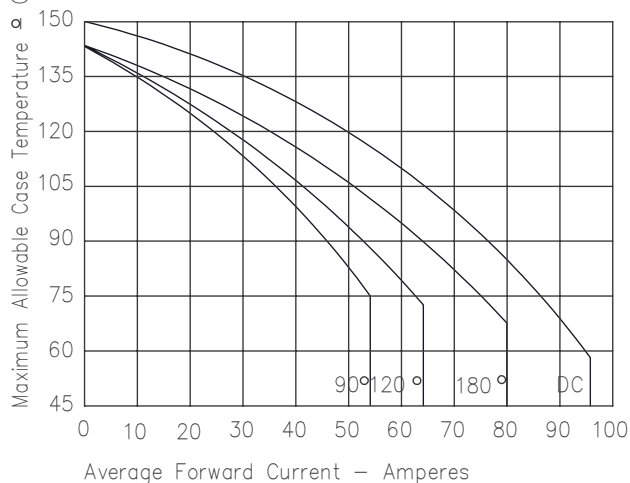


Figure 2  
Typical Reverse Characteristics – Per Leg

