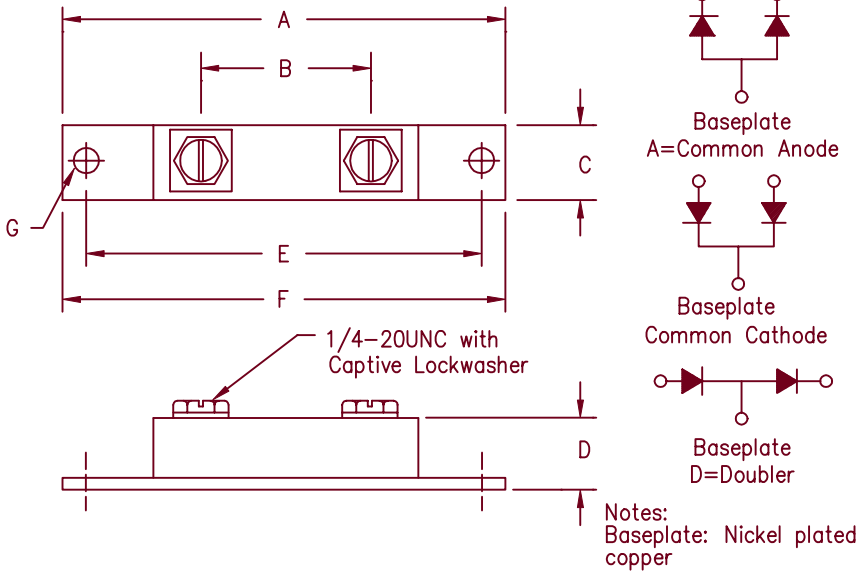


# Schottky PowerMod FST20035 — FST20050



Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	----	2.450	----	62.23	
B	1.350	1.400	34.29	35.56	
C	0.700	0.800	17.78	20.32	
D	----	0.625	----	15.88	
E	3.140	3.160	79.76	80.26	
F	----	3.650	----	92.71	
G	0.280	0.300	7.140	7.670	Dia.

TO-244AB

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST20035*	35V	35V
FST20040*	40V	40V
FST20045*	45V	45V
FST20050*	50V	50V

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

- Schottky Barrier Rectifier
- Guard Ring Protection
- 200 Amperes/35 to 50 Volts
- 175°C Junction Temperature
- Reverse Energy Tested

## Electrical Characteristics

Average forward current per pkg	$I_{F(AV)}$ 200 Amps	$T_C = 143^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.25^\circ\text{C/W}$
Average forward current per leg	$I_{F(AV)}$ 100 Amps	$T_C = 143^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.50^\circ\text{C/W}$
Maximum surge current per leg	$I_{FSM}$ 2000 Amps	8.3ms, half sine, $T_J = 175^\circ\text{C}$
Maximum repetitive 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	$V_{FM}$ 0.80 Volts	$I_{FM} = 200\text{A}$ ; $T_J = 25^\circ\text{C}$ *
Max peak forward voltage per leg	$V_{FM}$ 0.60 Volts	$I_{FM} = 200\text{A}$ ; $T_J = 175^\circ\text{C}$ *
Max peak reverse current per leg	$I_{RM}$ 75 mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}$ *
Max peak reverse current per leg	$I_{RM}$ 4.0 mA	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical junction capacitance per leg	$C_J$ 4600 pF	$V_R = 5.0\text{V}$ , $T_C = 25^\circ\text{C}$

\*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	$R_{\theta JC}$	$0.05^\circ\text{C/W}$ Junction to case
Max thermal resistance per pkg	$R_{\theta JC}$	$0.25^\circ\text{C/W}$ Junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	$0.08^\circ\text{C/W}$ Case to sink
Terminal Torque		35-50 inch pounds
Mounting Base Torque		30-40 inch pounds
Weight		3.4 ounces (95 grams) typical

Figure 1  
Typical Forward Characteristics – Per Leg

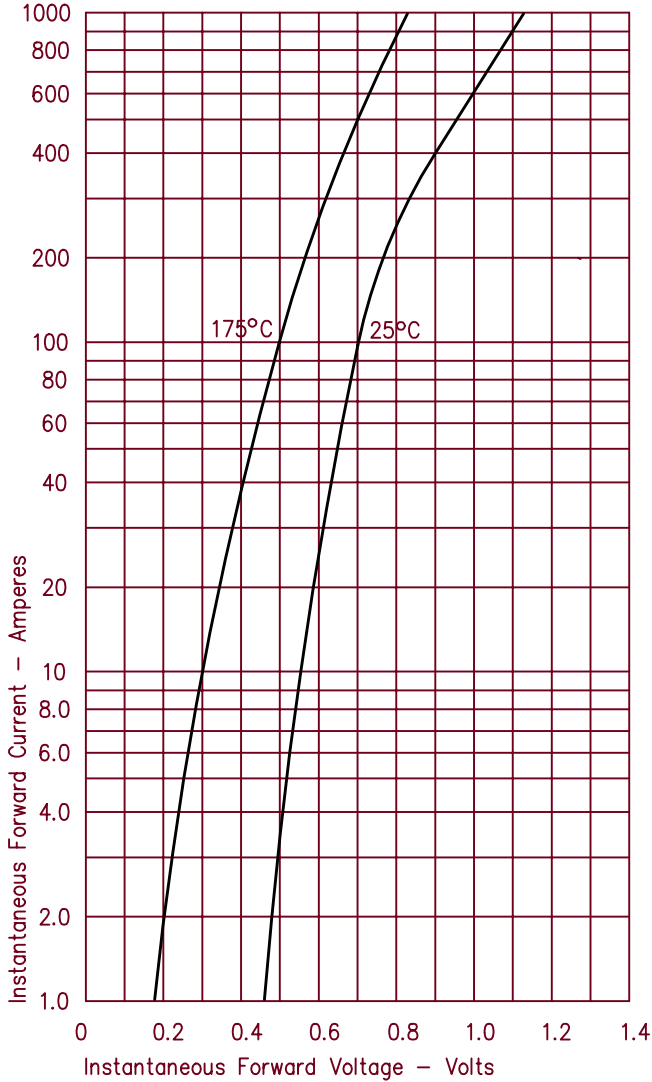


Figure 3  
Typical Junction Capacitance – Per Leg

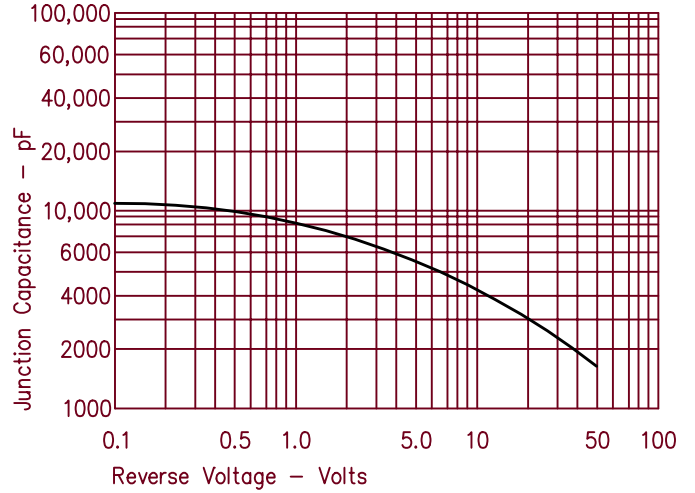


Figure 4  
Forward Current Derating – Per Leg

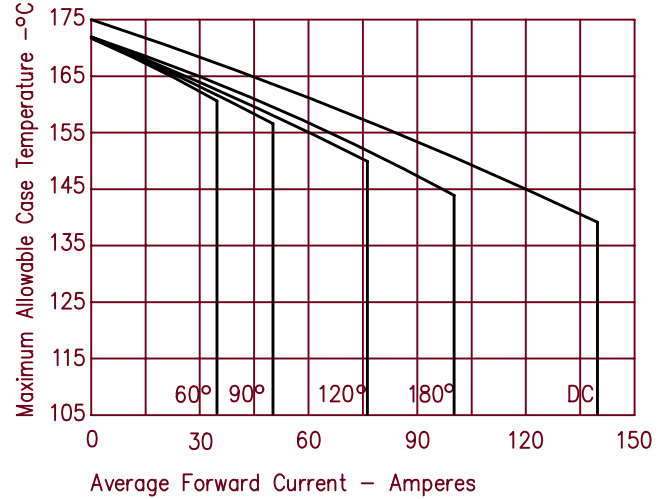


Figure 2  
Typical Reverse Characteristics – Per Leg

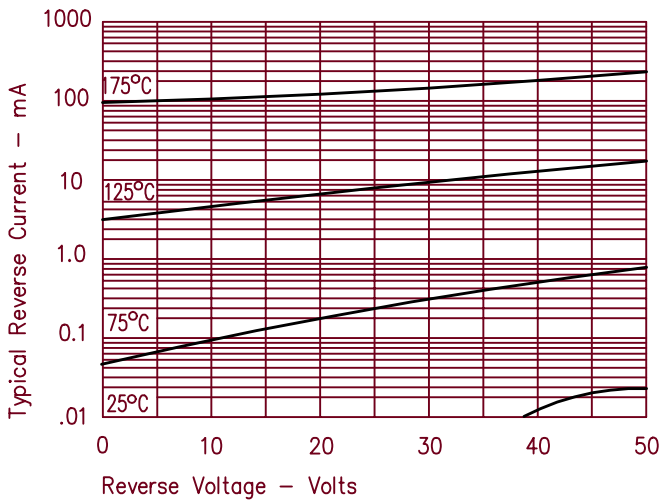


Figure 5  
Maximum Forward Power Dissipation – Per Leg

