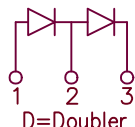
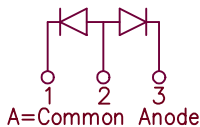
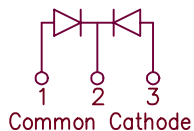
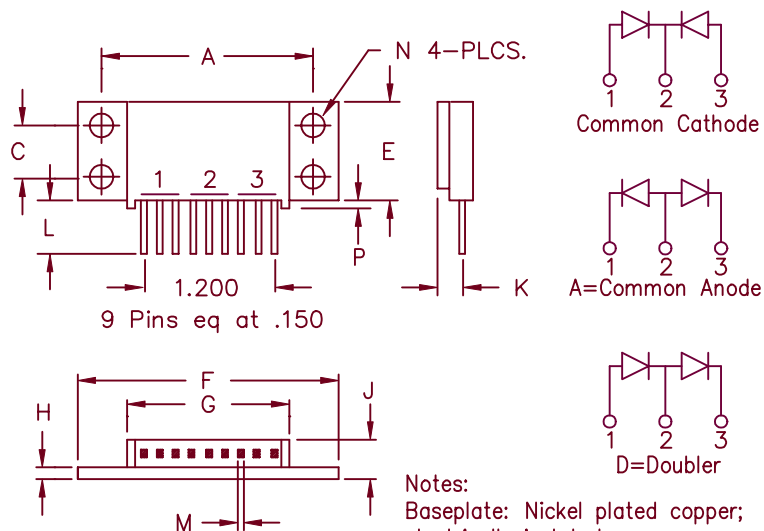


# Schottky PowerMod

## FST10130 — FST10145



| Dim. | Inches  |         | Millimeter |         | Notes          |
|------|---------|---------|------------|---------|----------------|
|      | Minimum | Maximum | Minimum    | Maximum |                |
| A    | 1.995   | 2.005   | 50.67      | 50.93   |                |
| C    | 0.495   | 0.506   | 12.57      | 12.83   |                |
| 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 $\phi$ |
| L    | 0.490   | 0.510   | 12.45      | 12.95   |                |
| M    | 0.040   | .050    | 1.02       | 1.27    | Square         |
| N    | 0.175   | 0.195   | 4.45       | 4.95    | Dia            |
| P    | 0.032   | 0.052   | 0.81       | 1.32    |                |

| Microsemi<br>Catalog Number | Working Peak<br>Reverse Voltage | Repetitive Peak<br>Reverse Voltage |
|-----------------------------|---------------------------------|------------------------------------|
| FST10130*                   | 30V                             | 30V                                |
| FST10135*                   | 35V                             | 35V                                |
| FST10140*                   | 40V                             | 40V                                |
| FST10145*                   | 45V                             | 45V                                |

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

- Schottky Barrier Rectifier
- Guard Ring for Reverse Protection
- Low forward voltage
- $V_{RRM}$  30 to 45 Volts
- Electrically isolated base
- Reverse Energy Tested
- Center tap

### Electrical Characteristics

|                                             |                     |                                                                   |
|---------------------------------------------|---------------------|-------------------------------------------------------------------|
| Average forward current per pkg             | $I_F(AV)$ 100 Amps  | $T_C = 85^\circ C$ , Square wave, $R_{\theta JC} = 0.5^\circ C/W$ |
| Average forward current per leg             | $I_F(AV)$ 50 Amps   | $T_C = 85^\circ C$ , 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 | $I_R(OV)$ 2 Amps    | $f = 1$ KHz, $25^\circ C$ , 1 $\mu sec$ Square wave               |
| Max peak forward voltage per leg            | $V_{FM}$ .48 Volts  | $I_{FM} = 50A$ : $T_J = 125^\circ C^*$                            |
| Max peak forward voltage per leg            | $V_{FM}$ .53 Volts  | $I_{FM} = 50A$ : $T_J = 25^\circ C^*$                             |
| Max peak reverse current per leg            | $I_{RM}$ 600 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 $125^\circ C$   |
| Max thermal resistance per leg       | $R_{\theta JC}$ | $1.0^\circ C/W$ Junction to case |
| Max 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    |

# FST10130 — FST10145

Figure 1  
Typical Forward Characteristics — Per Leg

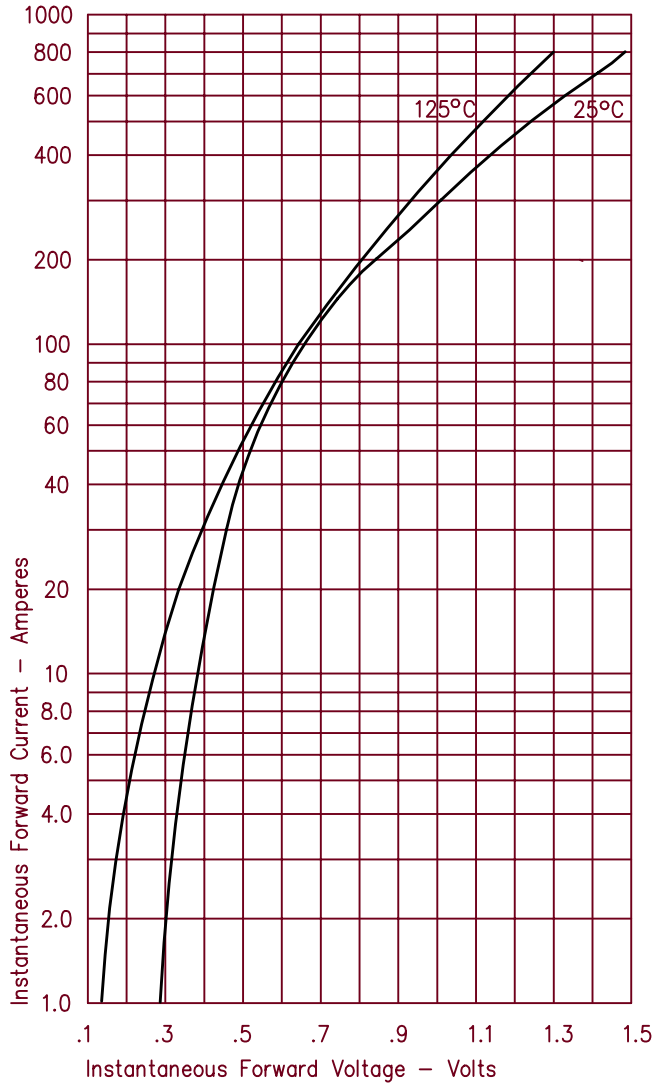


Figure 3  
Typical Junction Capacitance — Per Leg

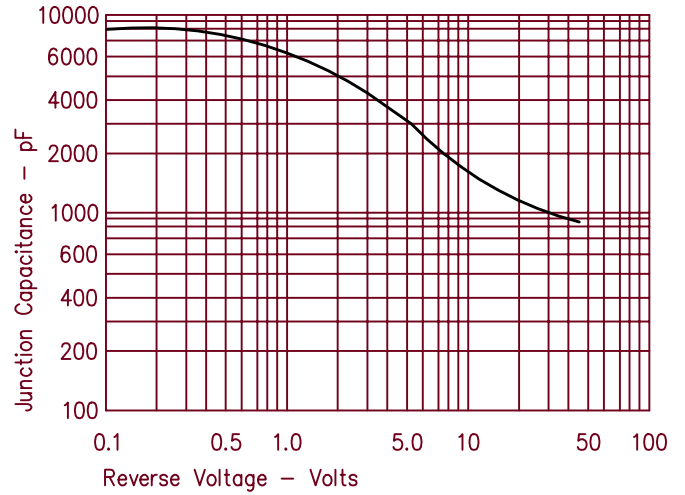


Figure 4  
Forward Current Derating — Per Leg

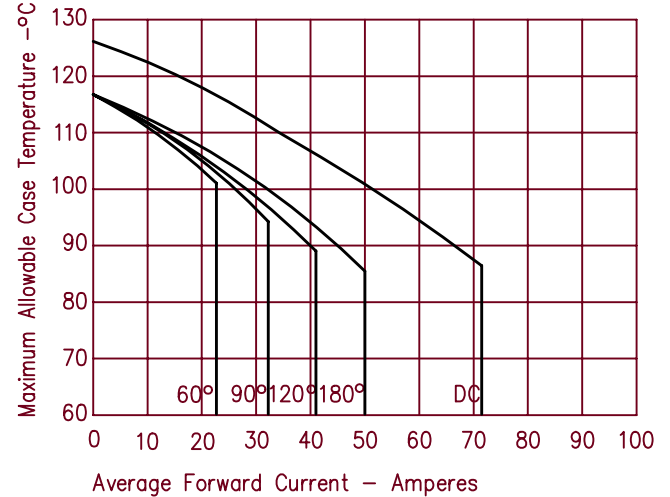


Figure 2  
Typical Reverse Characteristics — Per Leg

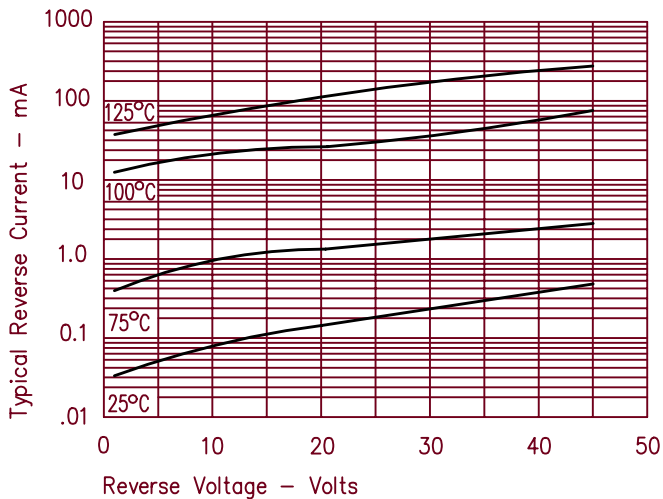


Figure 5  
Maximum Forward Power Dissipation — Per Leg

