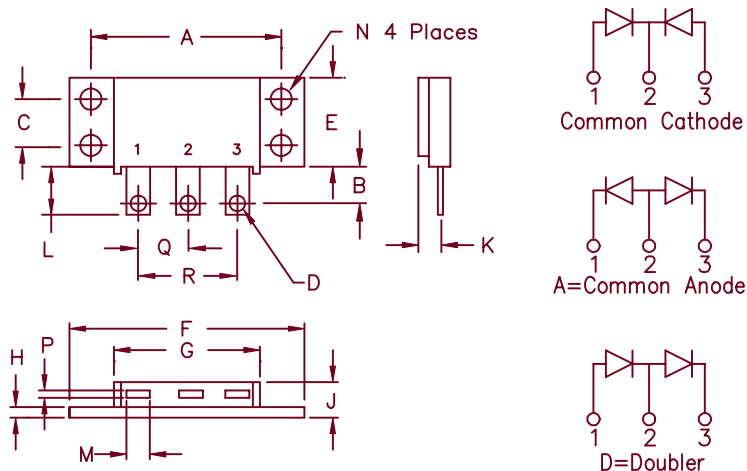


# Schottky Powermod

## FST16035 — FST16050



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  | 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<br>Catalog Number | Working Peak<br>Reverse Voltage | Repetitive Peak<br>Reverse Voltage |
|-----------------------------|---------------------------------|------------------------------------|
| FST16035*                   | 35V                             | 35V                                |
| FST16040*                   | 40V                             | 40V                                |
| FST16045*                   | 45V                             | 45V                                |
| FST16050*                   | 50V                             | 50V                                |

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

- Schottky Barrier Rectifier
- Guard Ring for Reverse Protection
- VRRM – 35 to 50 Volts
- High Surge Capacity
- Reverse Energy Tested

### Electrical Characteristics

|                                             |                     |                                                                    |
|---------------------------------------------|---------------------|--------------------------------------------------------------------|
| Average forward current per pkg             | $I_F(AV)$ 160 Amps  | $T_C = 115^\circ C$ , Square wave, $R_{\theta JC} = 0.5^\circ C/W$ |
| Average forward current per leg             | $I_F(AV)$ 80 Amps   | $T_C = 115^\circ C$ , Square wave, $R_{\theta JC} = 1.0^\circ C/W$ |
| Maximum surge current per leg               | $I_{FSM}$ 1200 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            | $V_{FM}$ .58 Volts  | $I_{FM} = 80A$ : $T_J = 175^\circ C^*$                             |
| Max peak forward voltage per leg            | $V_{FM}$ .74 Volts  | $I_{FM} = 80A$ : $T_J = 25^\circ C^*$                              |
| Max peak reverse current per leg            | $I_{RM}$ 30 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        | $C_J$ 2300 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    |

# FST16035 — FST16050

Figure 1  
Typical Forward Characteristics — Per Leg

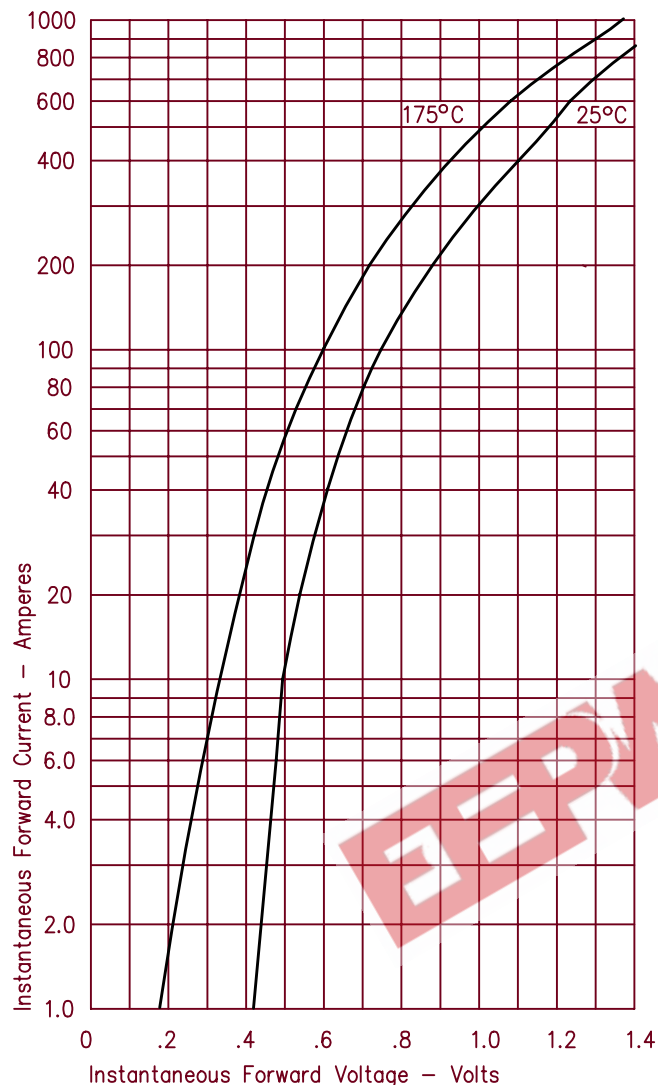


Figure 3  
Typical Junction Capacitance — Per Leg

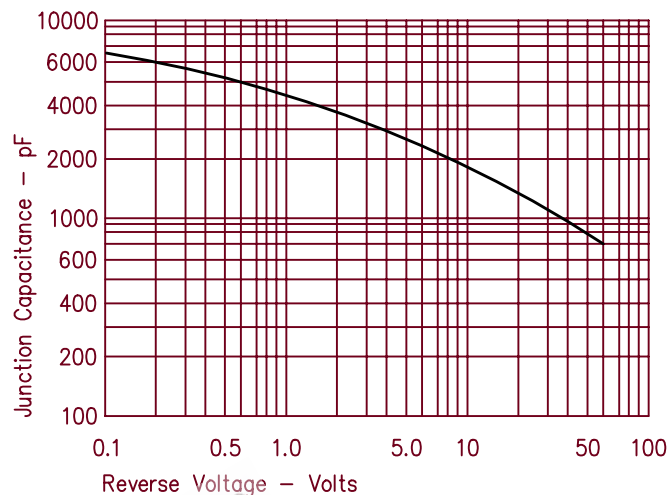


Figure 4  
Forward Current Derating — Per Leg

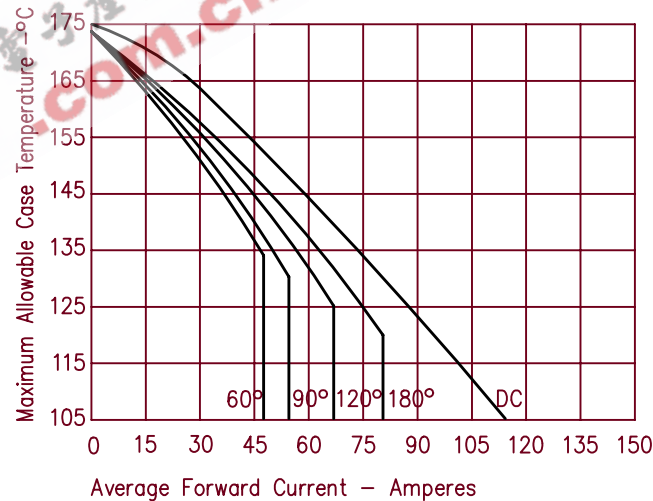


Figure 2  
Typical Reverse Characteristics — Per Leg

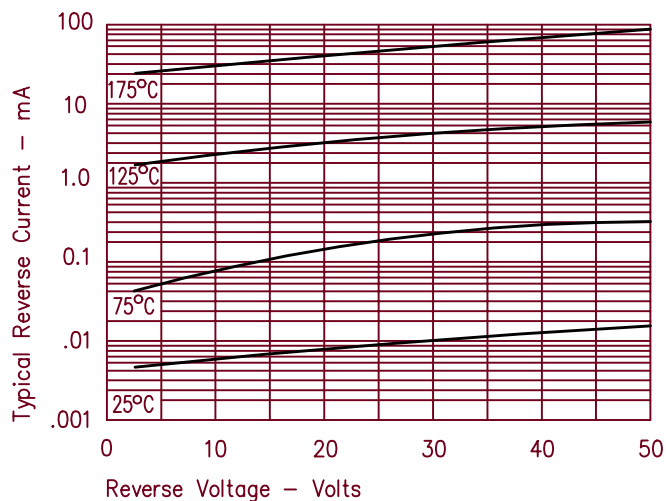


Figure 5  
Maximum Forward Power Dissipation — Per Leg

