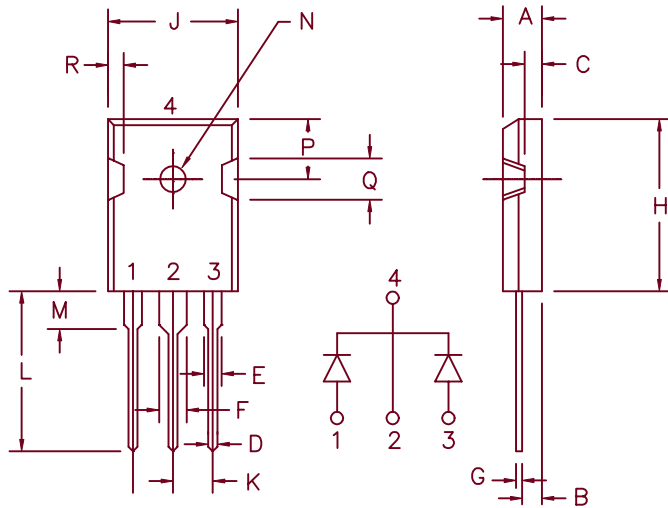


50Amp Schottky Barrier Rectifier FST5035 — FST5050



Similar to TO-247AD

| Dim. | Inches | | Millimeter | | Notes |
|------|---------|---------|------------|---------|-------|
| | Minimum | Maximum | Minimum | Maximum | |
| A | .185 | .209 | 4.70 | 5.31 | |
| B | .087 | .102 | 2.21 | 2.59 | |
| C | .059 | .098 | 1.50 | 2.49 | |
| D | .040 | .055 | 1.02 | 1.40 | |
| E | .079 | .094 | 2.01 | 2.39 | |
| F | .118 | .133 | 3.00 | 3.38 | |
| G | .016 | .031 | .410 | 0.78 | |
| H | .819 | .883 | 20.80 | 22.4 | |
| J | .627 | .650 | 15.93 | 16.5 | |
| K | .215 | — | 5.46 | — | Typ. |
| L | .790 | .810 | 20.07 | 20.6 | |
| M | .157 | .180 | 3.99 | 4.57 | |
| N | .139 | .144 | 3.53 | 3.66 | Dia. |
| P | .255 | .300 | 6.48 | 7.62 | |
| Q | .170 | .210 | 4.32 | 5.33 | |
| R | .080 | .110 | 2.03 | 2.79 | |

Microsemi Catalog
Number

FST5035
FST5040
FST5045
FST5050

Repetitive Peak
Reverse Voltage

35V
40V
45V
50V

Transient Peak
Reverse Voltage

35V
40V
45V
50V

- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- 175°C Junction Temperature
- V_{RRM} 35 to 50 Volts

Electrical Characteristics

| | | |
|--------------------------------------|----------------------------|--|
| Average Forward Current per pkg. | $I_{F(AV)}$ 50 Amps | $T_C = 142^\circ\text{C}$, Square wave, $R_{\theta JC} = 1.0^\circ\text{C/W}$ |
| Average Forward Current per leg | $I_{F(AV)}$ 25 Amps | $T_C = 142^\circ\text{C}$, Square wave, $R_{\theta JC} = 2.0^\circ\text{C/W}$ |
| Maximum Surge Current per leg | I_{FSM} 400 Amps | 8.3ms, half sine, $T_J = 175^\circ\text{C}$ |
| Max. Peak Forward Voltage per leg | V_{FM} .50 Volts | $I_{FM} = 25\text{A}$, $T_J = 175^\circ\text{C}^*$ |
| Max. Peak Forward Voltage per leg | V_{FM} .67 Volts | $I_{FM} = 25\text{A}$, $T_J = 25^\circ\text{C}^*$ |
| Max. Peak Reverse Current per leg | I_{RM} 15 mA | V_{RRM} , $T_J = 125^\circ\text{C}^*$ |
| Max. Peak Reverse Current per leg | I_{RM} 500 μA | V_{RRM} , $T_J = 25^\circ\text{C}$ |
| Typical Junction Capacitance per leg | C_J 1400 pF | $V_R = 5.0\text{V}$, $T_J = 25^\circ\text{C}$ |

*Pulse test: Pulse width 300 usec. Duty Cycle 2%

Thermal and Mechanical Characteristics

| | | |
|---------------------------------|-----------------|---|
| Storage temp range | T_{STG} | -55°C to $+175^\circ\text{C}$ |
| Operating junction temp range | T_J | -55°C to $+175^\circ\text{C}$ |
| Max thermal resistance per leg | $R_{\theta JC}$ | 2.0°C/W |
| Max thermal resistance per pkg. | $R_{\theta JC}$ | 1.0°C/W |
| Weight | | .22 ounces (6.36 grams) typical |

FST5035 — FST5050

Figure 1
Typical Forward Characteristics — Per Leg

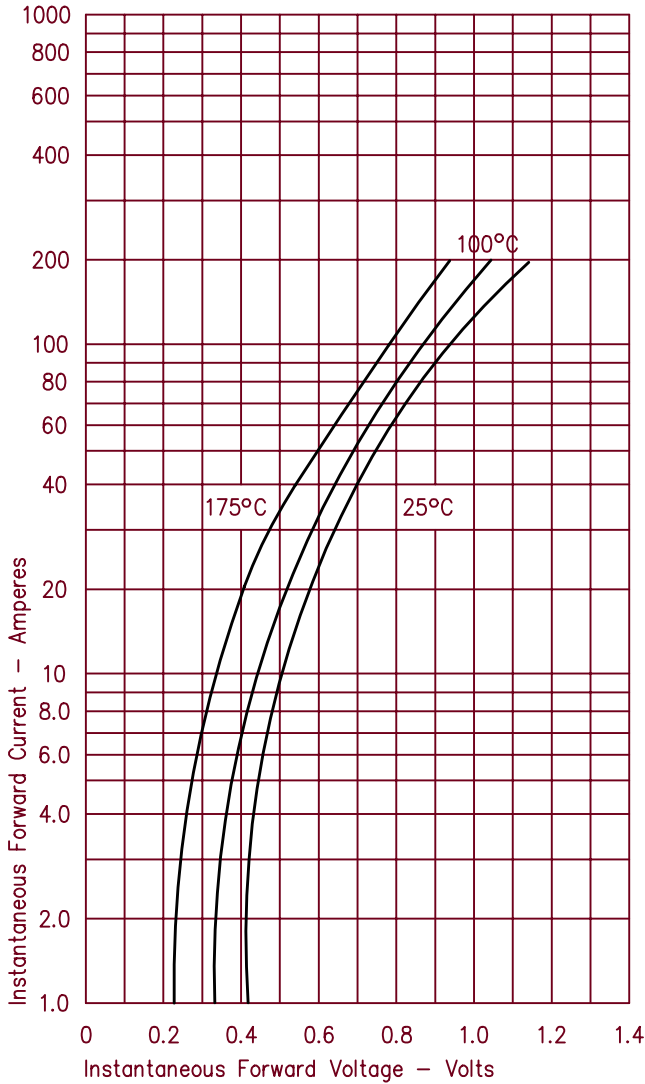


Figure 3
Typical Junction Capacitance — Per Leg

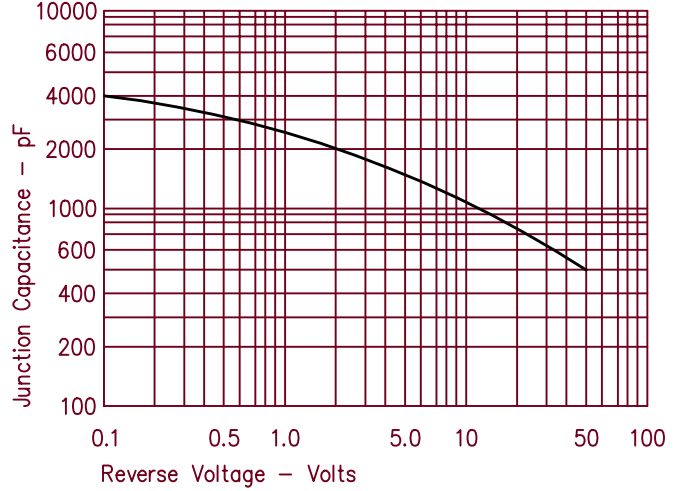


Figure 4
Forward Current Derating — Per Leg

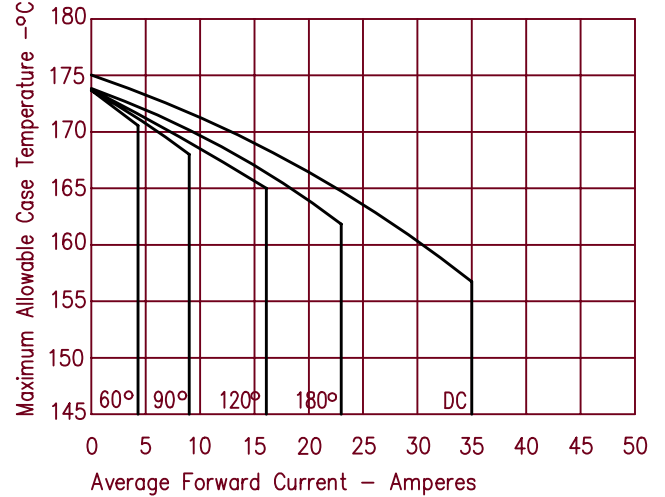


Figure 2
Typical Reverse Characteristics — Per Leg

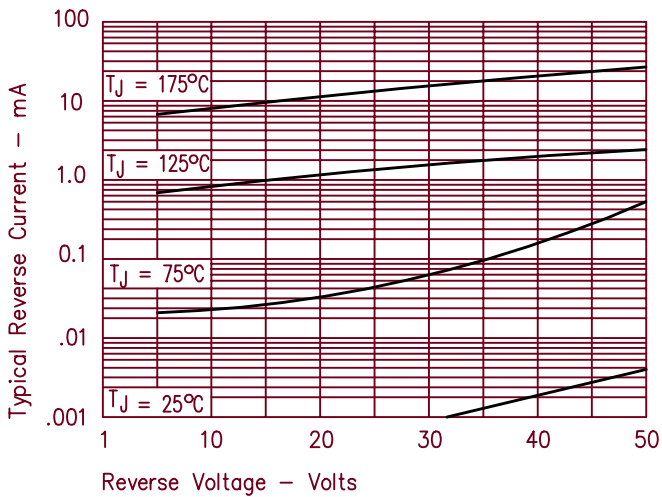


Figure 5
Maximum Forward Power Dissipation — Per Leg

