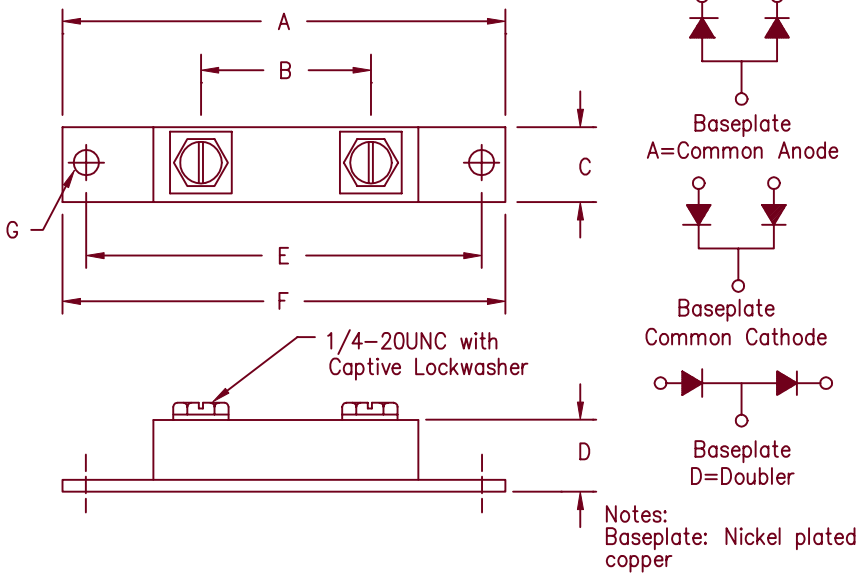


Schottky PowerMod

FST30035 — FST30050



| 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 |
|--------------------------|------------------------------|---------------------------------|
| FST30035* | 35V | 35V |
| FST30040* | 40V | 40V |
| FST30045* | 45V | 45V |
| FST30050* | 50V | 50V |

*Add Suffix A for Common Anode, D for Doubler

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

Electrical Characteristics

| | | |
|--|----------------------|---|
| Average forward current per pkg | $I_{F(AV)}$ 300 Amps | $T_C = 136^\circ\text{C}$, Square wave, $R_{\theta JC} = 0.20^\circ\text{C/W}$ |
| Average forward current per leg | $I_{F(AV)}$ 150 Amps | $T_C = 136^\circ\text{C}$, Square wave, $R_{\theta JC} = 0.40^\circ\text{C/W}$ |
| 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°C |
| Max peak forward voltage per leg | V_{FM} 0.70 Volts | $I_{FM} = 200\text{A}$; $T_J = 125^\circ\text{C}^*$ |
| Max peak forward voltage per leg | V_{FM} 0.76 Volts | $I_{FM} = 200\text{A}$; $T_J = 25^\circ\text{C}^*$ |
| 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 usec, Duty cycle 2%

Thermal and Mechanical Characteristics

| | | |
|--------------------------------------|-----------------|-------------------------------|
| Storage temp range | T_{STG} | -55°C to 175°C |
| Operating junction temp range | T_J | -55°C to 175°C |
| Max thermal resistance per leg | $R_{\theta JC}$ | 0.40°C/W Junction to case |
| Max thermal resistance per pkg | $R_{\theta JC}$ | 0.20°C/W Junction to case |
| Typical thermal resistance (greased) | $R_{\theta CS}$ | 0.08°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 |

FST30035 – FST30050

Figure 1
Typical Forward Characteristics – Per Leg

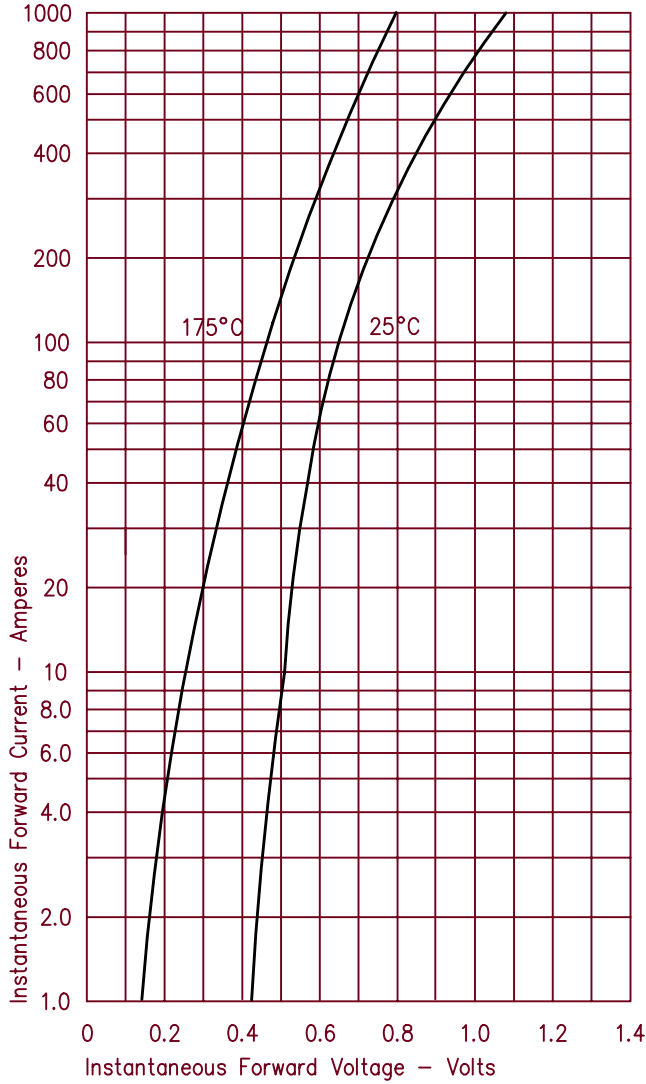


Figure 3
Typical Junction Capacitance – Per Leg

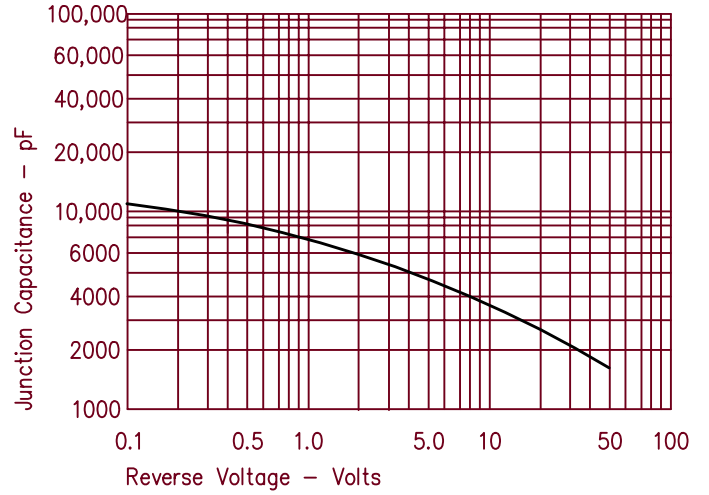


Figure 4
Forward Current Derating – Per Leg

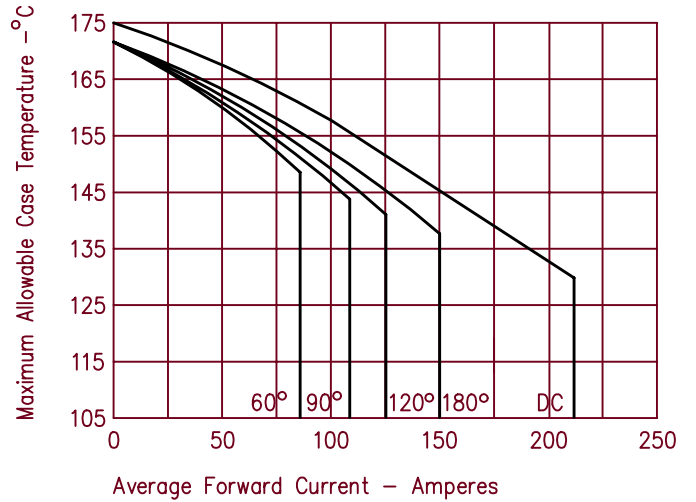


Figure 2
Typical Reverse Characteristics – Per Leg

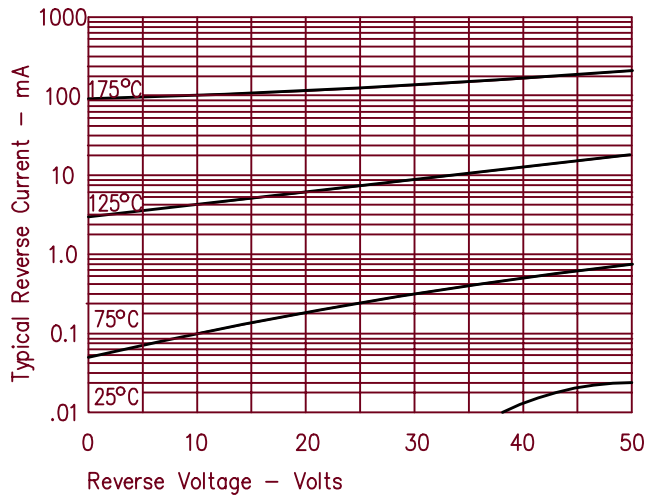


Figure 5
Maximum Forward Power Dissipation – Per Leg

