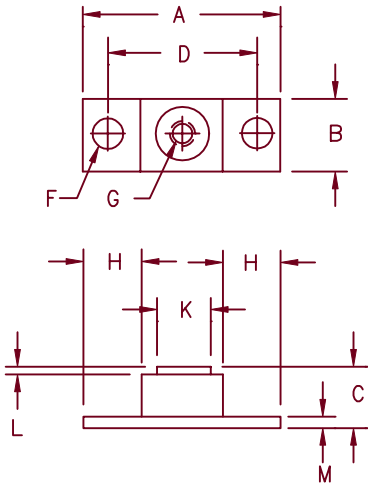


Silicon Power Rectifier SDM300



Standard Polarity:
Base plate is cathode
Reverse Polarity:
Base plate is anode

| Dim. | Inches | | Millimeters | | Notes |
|------|--------|-------|-------------|-------|-------|
| | Min. | Max. | Min. | Max. | |
| A | --- | 2.650 | --- | 67.31 | |
| B | 1.240 | 1.260 | 31.49 | 32.00 | |
| C | --- | .925 | --- | 23.49 | |
| D | 2.00 | BSC | 50.80 | BSC | |
| F | 0.320 | 0.340 | 8.13 | 8.64 | Dia. |
| G | --- | --- | 5/16-18 UNC | --- | |
| H | 0.630 | --- | 16.00 | --- | |
| K | 0.610 | 0.640 | 15.49 | 16.26 | |
| L | --- | .100 | --- | 2.54 | |
| M | 0.182 | 0.192 | 4.62 | 4.88 | |

| Microsemi Catalog Number | Working Peak Reverse Voltage | Repetitive Peak Reverse Voltage |
|-----------------------------|---------------------------------|------------------------------------|
| SDM30002* | 200V | 200V |
| SDM30004* | 400V | 400V |
| SDM30006* | 600V | 600V |
| SDM30008* | 800V | 800V |
| SDM30010* | 1000V | 1000V |
| SDM30012* | 1200V | 1200V |
| SDM30014* | 1400V | 1400V |
| SDM30016* | 1600V | 1600V |

*Change S to R for Reverse Polarity

- Compact Package
- Glass Passivated Die
- 300 Amp Current Rating
- Non-Isolated Baseplate
- Low Profile
- VRRM 200-1600 Volts

Electrical Characteristics

| | | |
|--------------------------|--------------------------------|---|
| Average forward current | $I_F(AV)$ 300 Amps | $T_C = 130^\circ C$, half sine, $R_{\theta JC} = 0.15^\circ C/W$ |
| Maximum surge current | I_{FSM} 5500 Amps | 8.3 ms, half sine, $T_J = 175^\circ C$ |
| Max I^2t for fusing | I^2t 125990 A ² s | |
| Max peak forward voltage | V_{FM} 1.1 Volts | $I_{FM} = 300A; T_J = 25^\circ C^*$ |
| Max peak reverse current | I_{RM} 10 mA | $V_{RRM}, T_J = 150^\circ C^*$ |
| Max peak reverse current | I_{RM} 75 μA | $V_{RRM}, T_J = 25^\circ C$ |

*Pulse test: Pulse width 8.33 μsec , Duty cycle <1%

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 $175^\circ C$ |
| Max thermal resistance | $R_{\theta JC}$ | $0.15^\circ C/W$ Junction to case |
| Typical thermal resistance (greased) | $R_{\theta CS}$ | $0.04^\circ C/W$ Case to sink |
| Terminal Torque | | 60-75 inch pounds |
| Mounting Base Torque | | 30-40 inch pounds |
| Typical Weight | | 4.93 ounces (140 grams) typical |

1-9-01 Rev. 1

SDM300

Figure 1
Typical Forward Characteristics

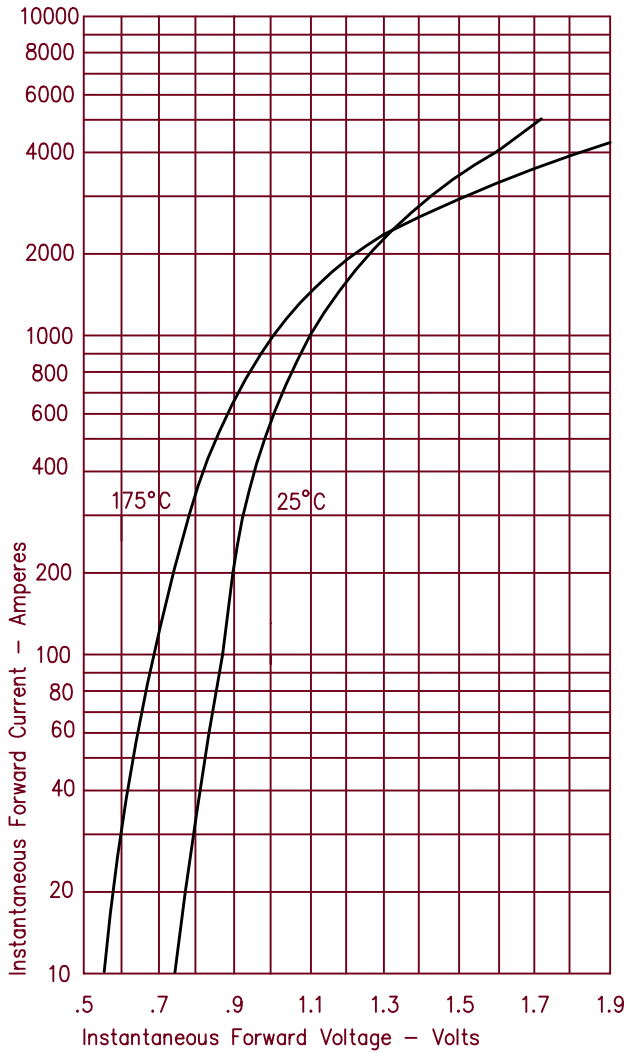


Figure 3
Forward Current Derating

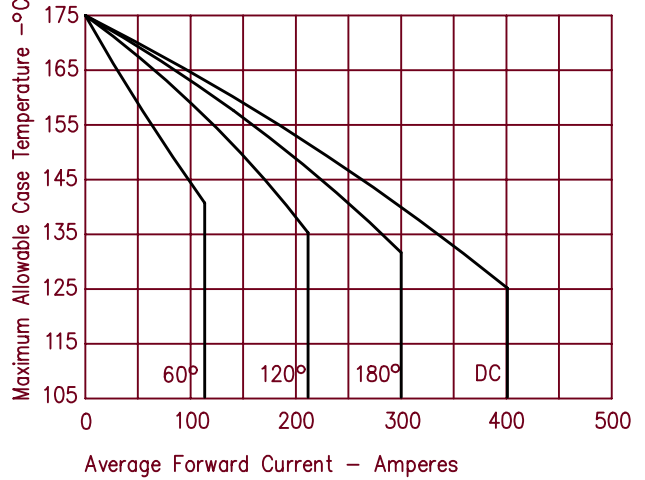


Figure 4
Maximum Forward Power Dissipation

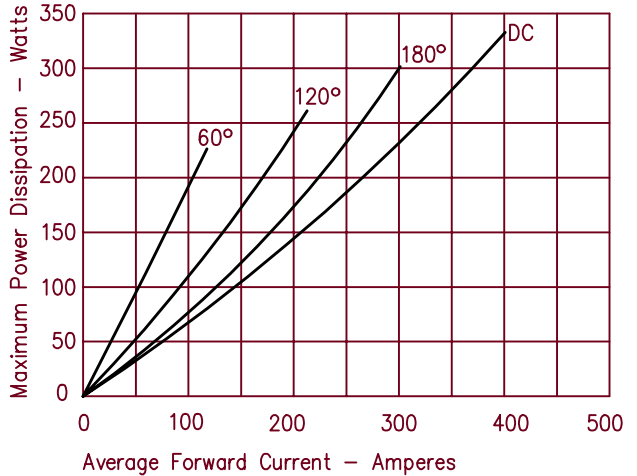


Figure 2
Typical Reverse Characteristics

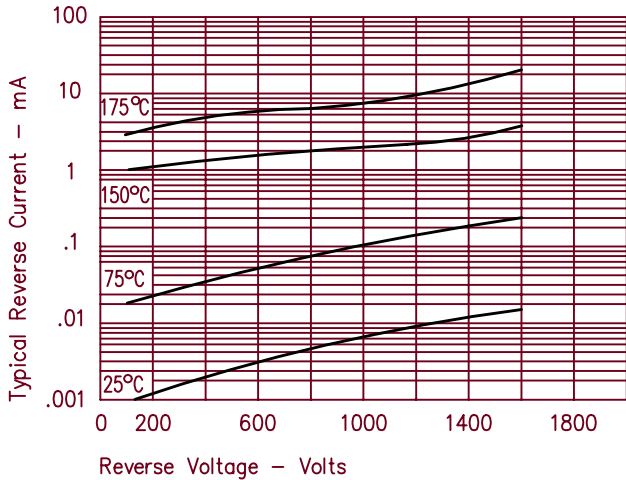


Figure 5
Transient Thermal Impedance

