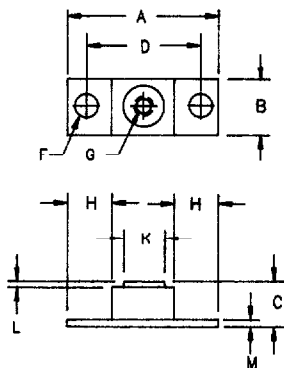


# Silicon Power Rectifier SDM300



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

\*Add Suffix A for Common Anode

- Compact Package
- Glass Passivated Die
- 300 Amp Current Rating
- Non-Isolated Baseplate
- Low Profile

### Electrical Characteristics

Average forward current	I <sub>F(AV)</sub> 300 Amps	T <sub>C</sub> = 130°C, half sine, R <sub>θJC</sub> = 0.15°C/W
Maximum surge current	I <sub>FSM</sub> 5500 Amps	B.3 ms, half sine, T <sub>J</sub> = 175°C
Max I <sup>2</sup> t for fusing	I <sup>2</sup> t 125990 A <sup>2</sup> s	
Max peak forward voltage	V <sub>FM</sub> 1.25 Volts	I <sub>FM</sub> = 1000A: T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> 1.20 Volts	I <sub>FM</sub> = 1000A: T <sub>J</sub> = 175°C*
Max peak reverse current	I <sub>RM</sub> 10 mA	V <sub>R</sub> = 1000V: T <sub>J</sub> = 150°C*
Max peak reverse current	I <sub>RM</sub> 250 μA	V <sub>R</sub> = 1000V: T <sub>J</sub> = 25°C*
Typical reverse current	I <sub>RM</sub> 17 μA	V <sub>R</sub> = 1000V: T <sub>J</sub> = 25°C*

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

### Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance	R <sub>θJC</sub>	0.15°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.04°C/W Case to sink
Terminal Torque		75 inch pounds maximum
Mounting Base Torque		40 inch pounds maximum
Typical Weight		4.93 ounces (140 grams) typical

**Microsemi Corp.**  
**Colorado**

# SDM300

Figure 1  
Typical Forward Characteristics

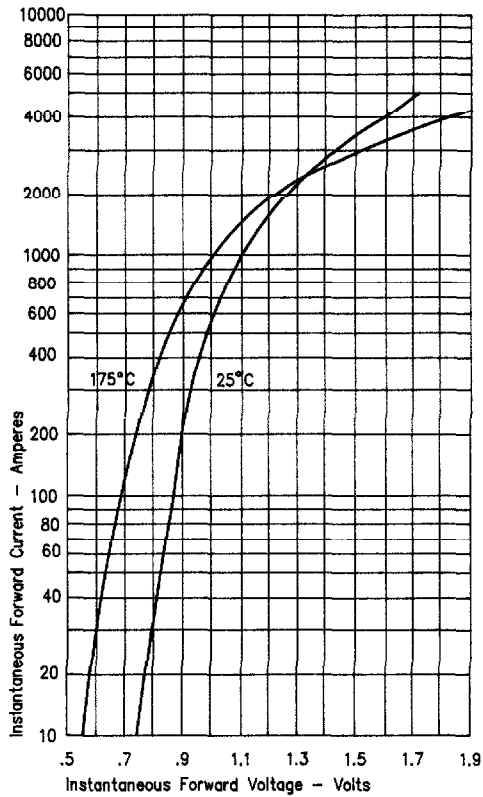


Figure 3  
Forward Current Derating

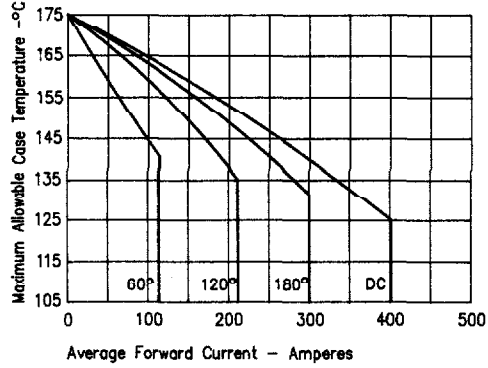


Figure 4  
Maximum Forward Power Dissipation

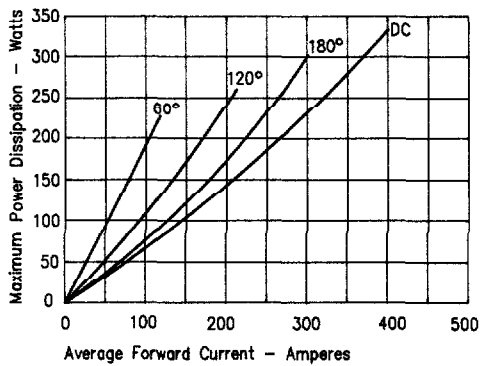


Figure 2  
Typical Reverse Characteristics

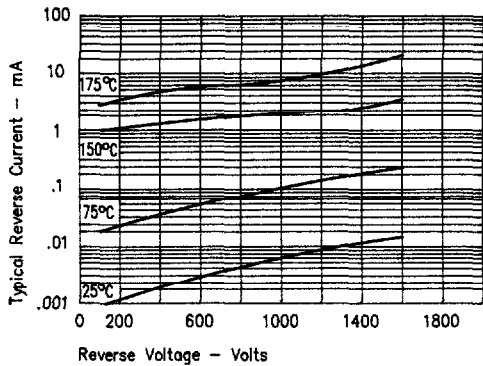
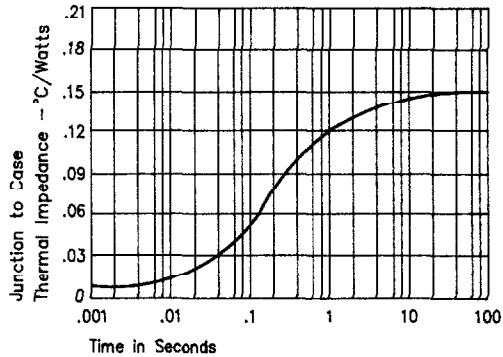


Figure 5  
Transient Thermal Impedance



# SDM300

