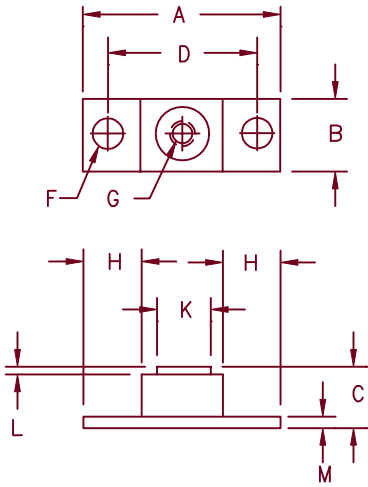


# Silicon Power Rectifier

## 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 $A^2s$	
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 $\mu A$	$V_{RRM}, T_J = 25^\circ C$

\*Pulse test: Pulse width 8.33  $\mu sec$ , 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

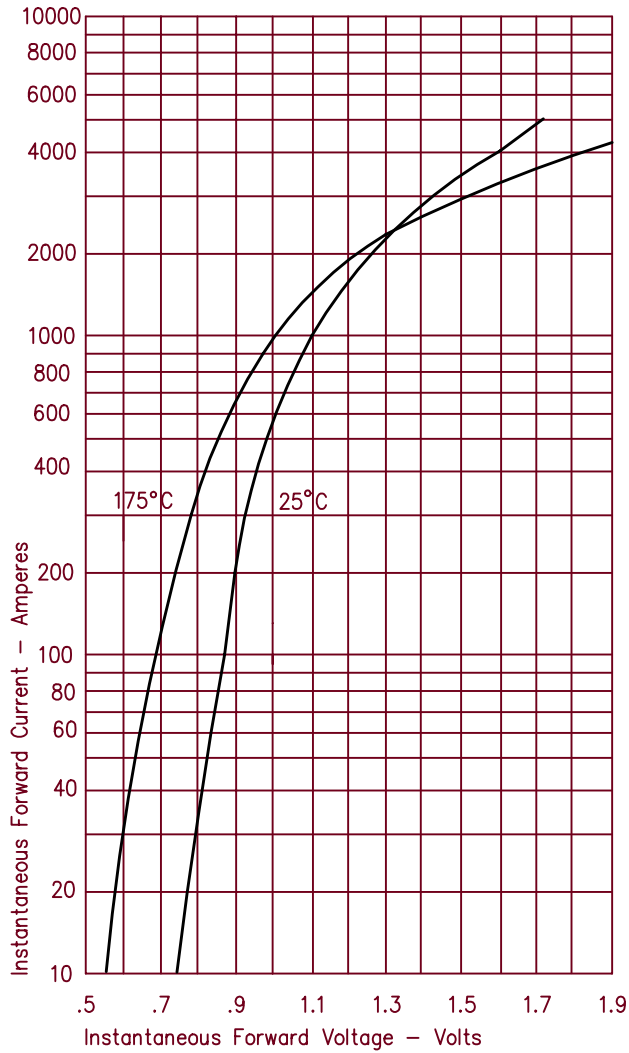


Figure 2  
Typical Reverse Characteristics

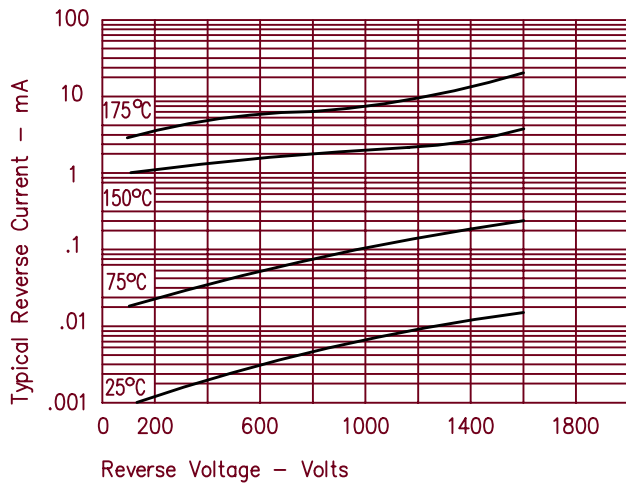


Figure 3  
Forward Current Derating

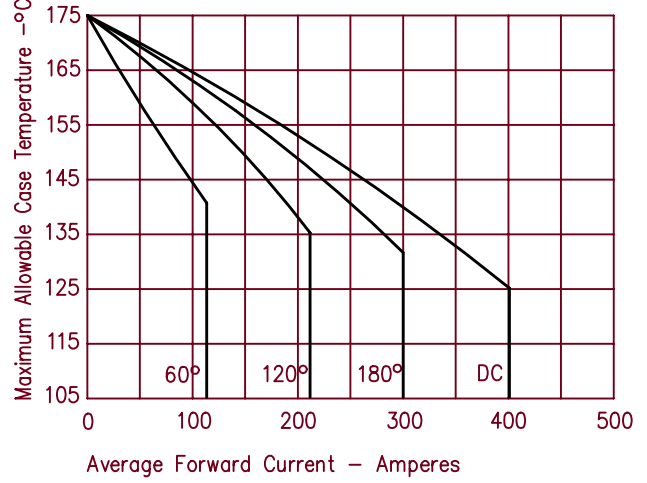


Figure 4  
Maximum Forward Power Dissipation

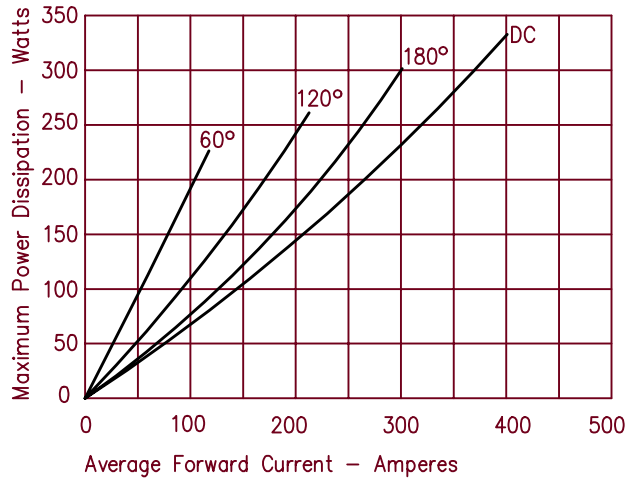


Figure 5  
Transient Thermal Impedance

