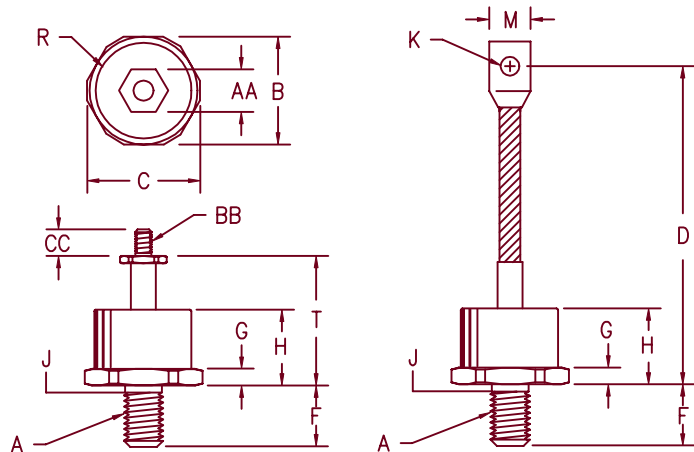


# Silicon Power Rectifier S/R504 Series



**Notes:**

1. Full threads within 2 1/2 threads.
2. Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	3/4-16 UNF		---	---	1
B	1.218	1.250	30.93	31.75	
C	1.350	1.375	34.29	34.93	
D	5.30	5.90	134.62	149.86	
F	.793	.828	20.14	21.03	
G	.300	.325	7.62	8.25	
H	---	.900	---	22.86	
J	.660	.749	16.76	19.02	2
K	.338	.348	8.58	8.84	Dia.
M	.665	.755	16.89	19.17	
N	.125	.172	3.18	4.37	
R	---	1.10	---	27.94	Dia.
T	1.80	1.875	45.72	47.63	
AA	.545	.580	13.84	14.73	
BB	3/8-24 UNF		---	---	
CC	.605	---	15.37	---	

## D0205AB (D09)

Microsemi Catalog Number		Peak Reverse Voltage
Standard	Reverse	
S50420*	R50420*	200
S50440*	R50440*	400
S50460*	R50460*	600
S50480*	R50480*	800
S504100*	R504100*	1000
S504120*	R504120*	1200
S504140*	R504140*	1400
S504160*	R504160*	1600

\*Add suffix "TS" to catalog number for Top Stud Device

- Glass to metal seal construction
- 5500 Amp surge current capability
- VRRM 200 to 1600 Volts
- Glass Passivated die
- Two case styles available
- Soft recovery

Electrical Characteristics		
Max average forward current	I <sub>F(AV)</sub> 300 Amps	T <sub>C</sub> = 153°C, Half sine wave, R <sub>θJC</sub> = 0.15°C/W
Max surge current	I <sub>FSM</sub> 5500 Amps	8.3ms, half sine, T <sub>J</sub> = 200°C
Max. I <sup>2</sup> t capability for fusing	I <sup>2</sup> t 125990A <sup>2</sup> S	less than 8.33ms
Max peak forward voltage	V <sub>FM</sub> 1.25 Volts	I <sub>F</sub> = 1000A: T <sub>C</sub> = 25°C
Max peak reverse current	I <sub>RRM</sub> 10mA	V <sub>RRM</sub> , T <sub>C</sub> = 150°C
Max peak reverse current	I <sub>RRM</sub> 75 uA	V <sub>RRM</sub> , T <sub>C</sub> = 25°C
Max recommended operating frequency	7.5 kHz	

Thermal and Mechanical Characteristics		
Operating junction temp range	T <sub>J</sub>	-65°C to 200°C
Storage temperature range	T <sub>STG</sub>	-65°C to 200°C
Maximum thermal resistance	R <sub>θJC</sub>	0.15°C/W Junction to case
Typical thermal resistance (greased)	R <sub>θCS</sub>	.08°C/W Case to sink
Max mounting torque		300-325 inch pounds
Max top stud torque		60-75 inch pounds
Typical Weight		8.5 ounces (240 grams) typical

5-3-01 Rev. 2

# S/R504

Figure 1  
Typical Forward Characteristics

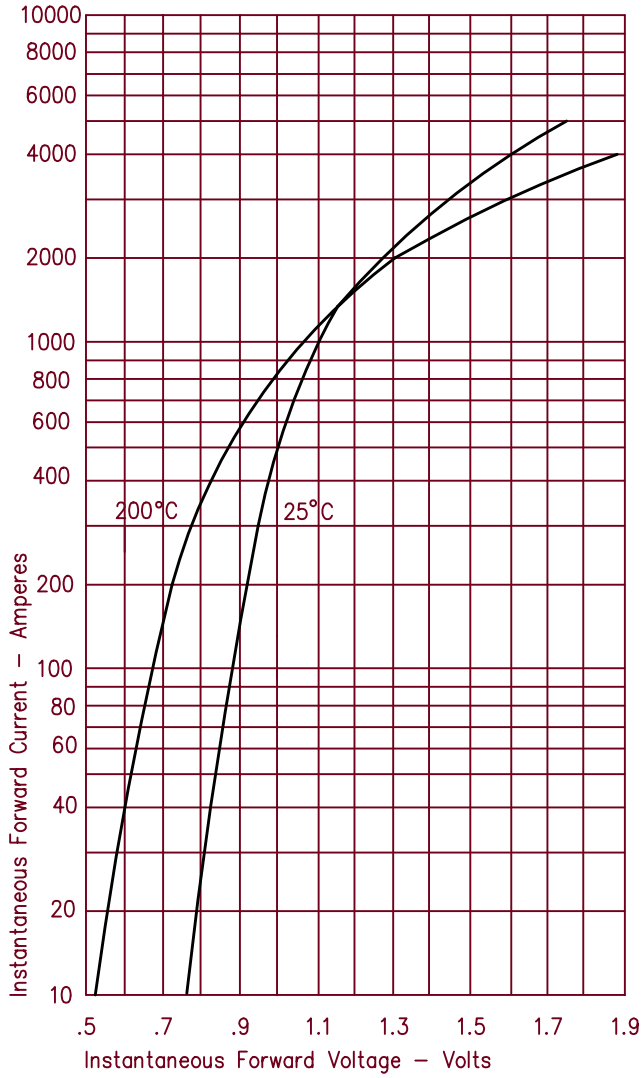


Figure 3  
Forward Current Derating

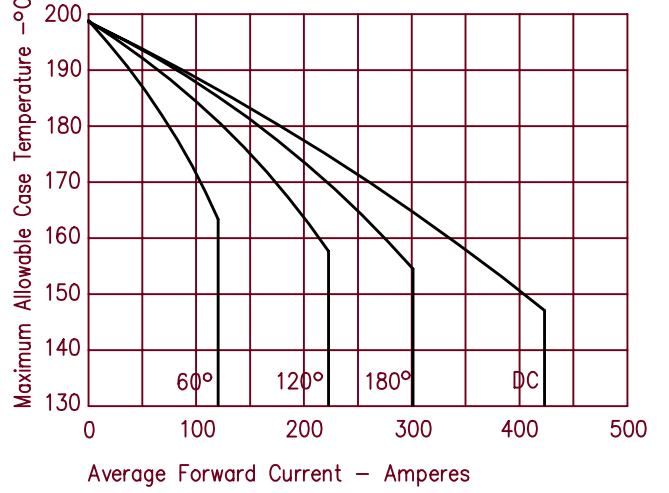


Figure 4  
Maximum Forward Power Dissipation

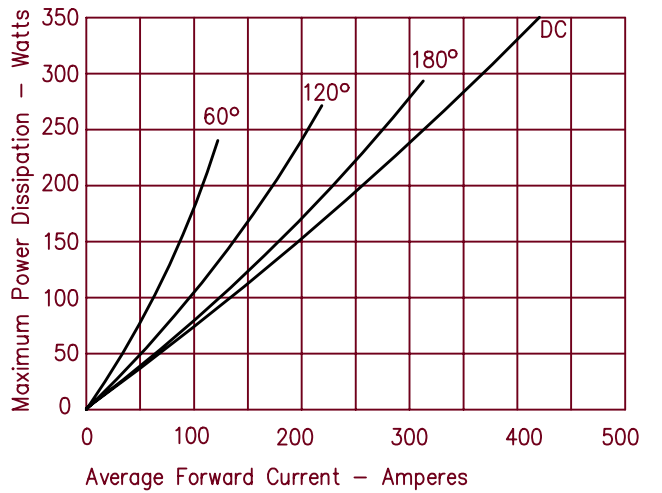


Figure 2  
Typical Reverse Characteristics

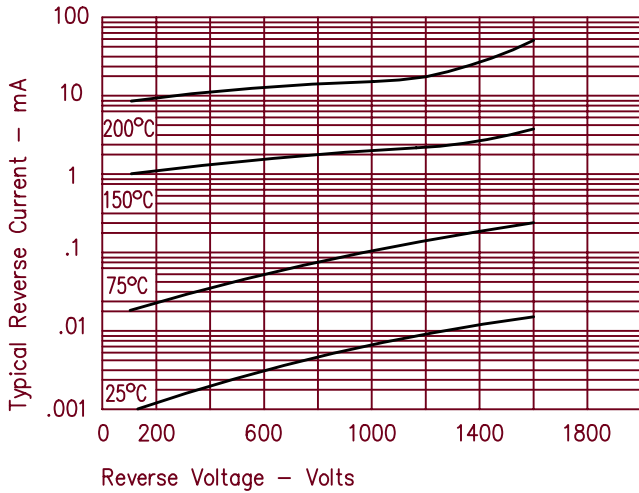


Figure 5  
Transient Thermal Impedance

