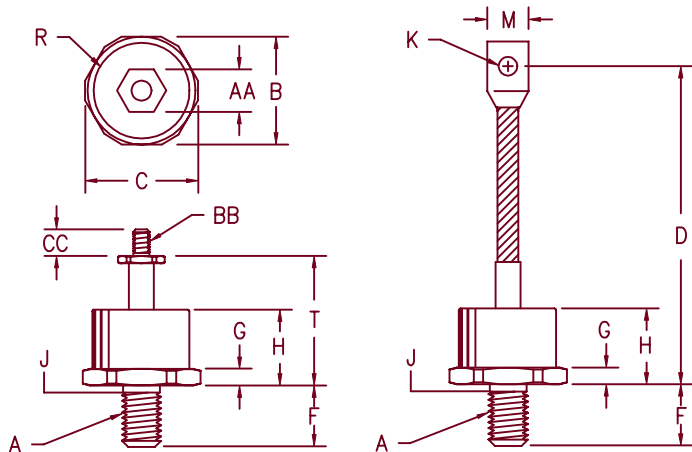


Silicon Power Rectifier S/R504 Series



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	$I_F(AV)$ 300 Amps	$T_C = 153^\circ\text{C}$, Half sine wave, $R_{\theta JC} = 0.15^\circ\text{C/W}$
Max surge current	I_{FSM} 5500 Amps	8.3ms, half sine, $T_J = 200^\circ\text{C}$
Max. I^2t capability for fusing	I^2t 125990A ² S	less than 8.33ms
Max peak forward voltage	V_{FM} 1.25 Volts	$I_F = 1000A$: $T_C = 25^\circ\text{C}$
Max peak reverse current	I_{RRM} 10mA	V_{RRM} , $T_C = 150^\circ\text{C}$
Max peak reverse current	I_{RRM} 75 uA	V_{RRM} , $T_C = 25^\circ\text{C}$
Max recommended operating frequency	7.5 kHz	

Thermal and Mechanical Characteristics		
Operating junction temp range	T_J	-65°C to 200°C
Storage temperature range	T_{STG}	-65°C to 200°C
Maximum thermal resistance	$R_{\theta JC}$	0.15°C/W Junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$.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

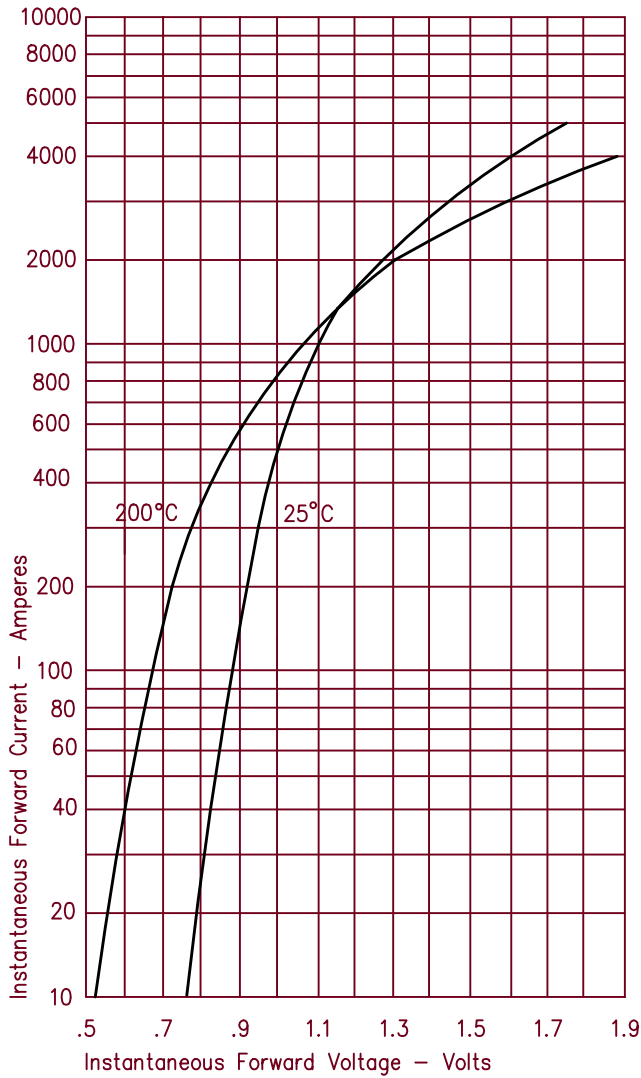


Figure 3
Forward Current Derating

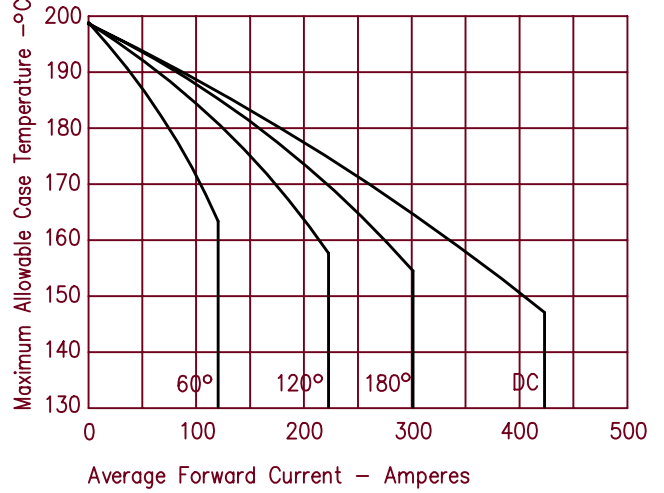


Figure 4
Maximum Forward Power Dissipation

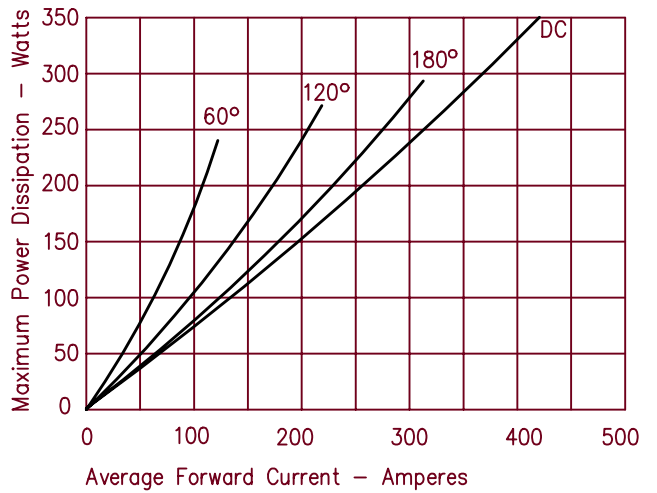


Figure 2
Typical Reverse Characteristics

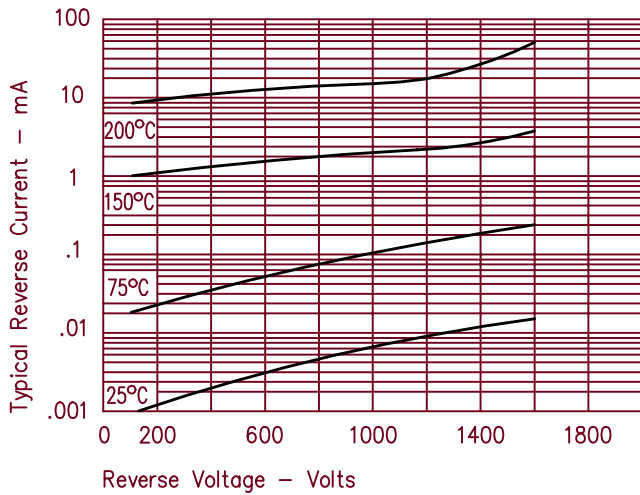


Figure 5
Transient Thermal Impedance

