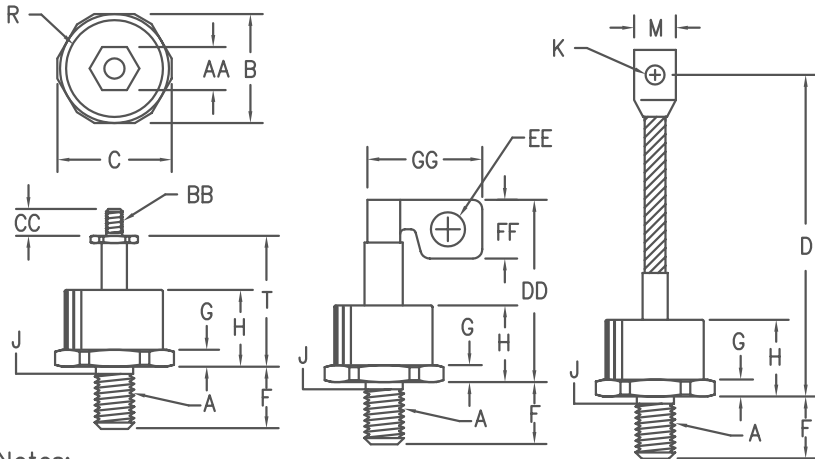


# Silicon Power Rectifier S/R42 Series



**Notes:**

1. 3/8-24 UNF-3A
2. Full threads within 2 1/2 threads
3. 1/4-28 UNF-2B
4. Reverse polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	1.040	1.060	26.67	26.92	
C	---	1.166	---	29.61	
D	4.30	4.70	109.22	119.38	
F	.610	.640	15.49	16.25	
G	.213	.233	5.41	5.66	
H	---	.745	---	18.92	
J	.344	.373	8.74	9.47	2
K	.276	.286	7.01	7.26	
M	.465	.670	11.81	17.78	
R	---	.850	---	21.59	Dia
T	1.426	---	36.22	---	
AA	.422	.453	10.84	11.09	
BB	---	---	---	---	3
CC	.407	---	10.33	---	
DD	---	1.75	---	44.45	
EE	.215	.225	5.46	5.72	Dia
FF	.360	.390	9.14	9.91	
GG	.740	.750	18.80	19.05	

## D0205AA (D08)

- Soft recovery
- Glass Passivated Die
- 2000 Amps Surge Rating
- Glass to metal seal construction
- VRRM to 1600V

**Microsemi  
Catalog Number**

\*S4210  
\*S4220  
\*S4230  
\*S4240  
\*S4250  
\*S4260  
\*S4280  
\*S42100  
\*S42120  
\*S42140  
\*S42160

**Peak Reverse  
Voltage**

100V  
200V  
300V  
400V  
500V  
600V  
800V  
1000V  
1200V  
1400V  
1600V

\*Change S to R in part number for Reverse Polarity  
Add the suffix TS for Top Stud; F for flag

### Electrical Characteristics

Average forward current	IF(AV) 125 Amps	TC = 146°C, Half Sine Wave, RθJC = 0.40°C/W 8.3ms, half sine, TJ = 200°C
Maximum surge current	IFSM 2000 Amps	
Max I <sup>2</sup> t for fusing	I <sup>2</sup> t 16600 A <sup>2</sup> s	
Max peak forward voltage	VFM 1.2 Volts	IFM = 200A: TJ = 25°C*
Max peak reverse current	IRM 50 μA	VRRM, TJ = 25°C
Max peak reverse current	IRM 5.0 mA	VRRM, TJ = 150°C
Max Recommended Operating Frequency	7.5kHz	

\*Pulse test: Pulse width 300 μsec. Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temperature range	TSTG	-65°C to 200°C
Operating junction temp range	TJ	-65°C to 200°C
Maximum thermal resistance	RθJC	0.40°C/W Junction to Case
Mounting torque		80-100 inch pounds
Weight		2.75 ounces (78 grams) typical

7-28-05 Rev. 5

# S/R42

Figure 1  
Typical Forward Characteristics

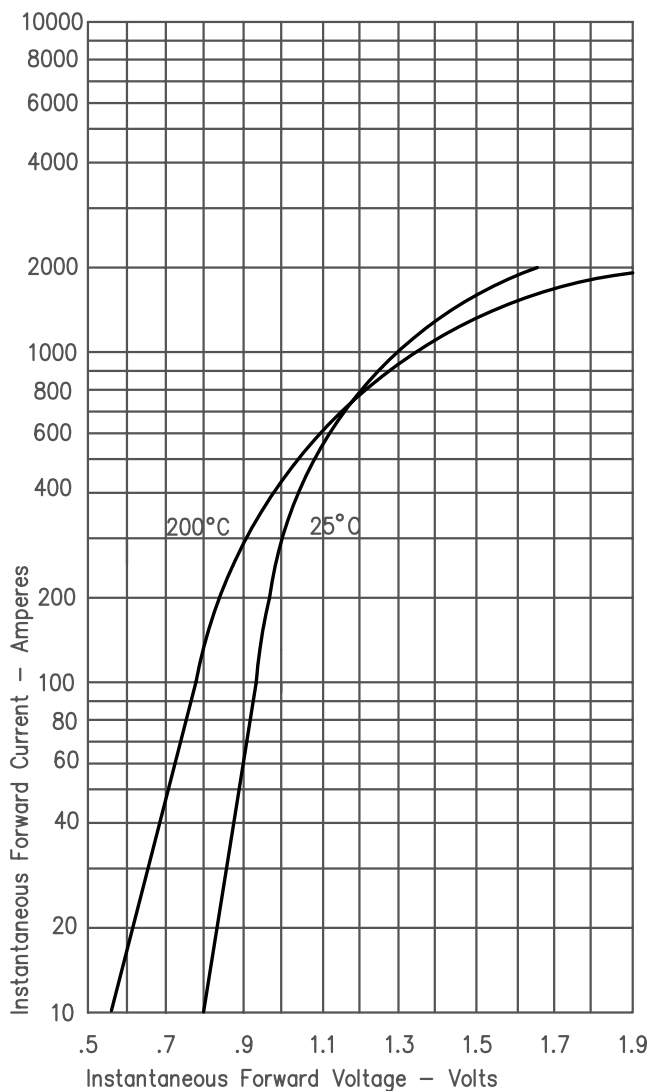


Figure 3  
Forward Current Derating

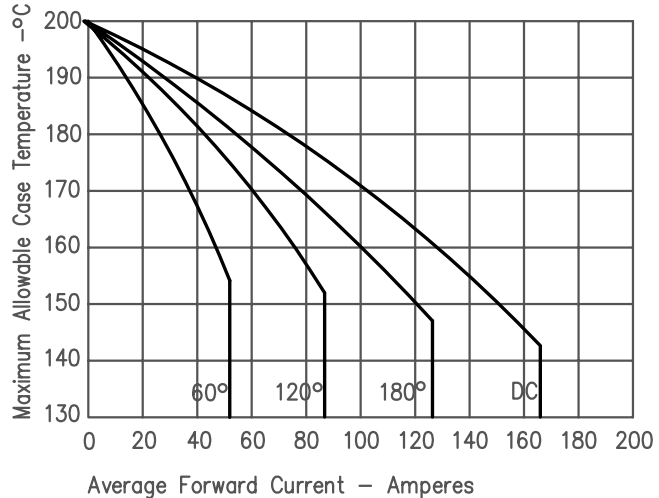


Figure 4  
Maximum Forward Power Dissipation

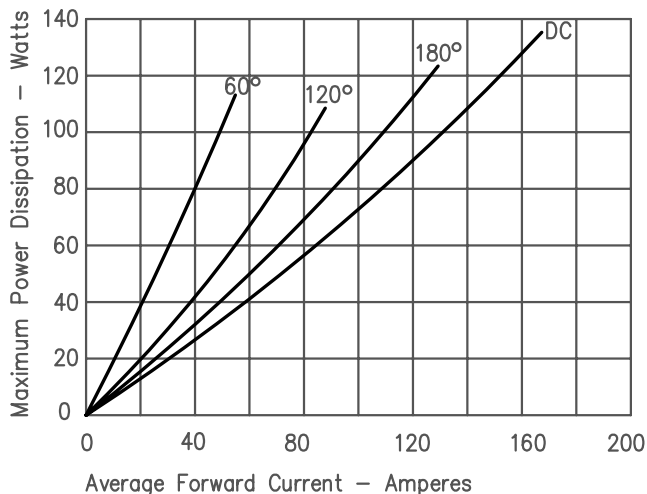


Figure 2  
Typical Reverse Characteristics

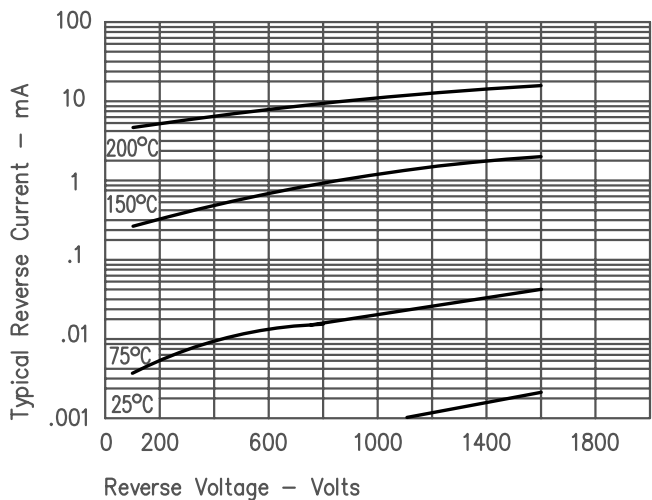


Figure 5  
Transient Thermal Impedance

