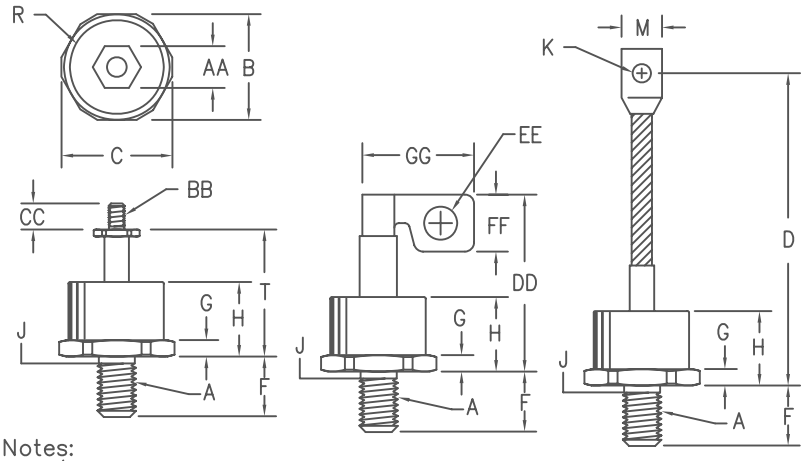
Silicon Power Rectifier
S/R42 Series



Dim.	Inches		Millimeter		
	Minimum	Maximum	Minimum	Maximum	Notes
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	

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

Microsemi Catalog Number	Peak Reverse Voltage
*S4210	100V
*S4220	200V
*S4230	300V
*S4240	400V
*S4250	500V
*S4260	600V
*S4280	800V
*S42100	1000V
*S42120	1200V
*S42140	1400V
*S42160	1600V

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

DO205AA (DO8)

- Soft recovery
- Glass Passivated Die
- 2000 Amps Surge Rating
- Glass to metal seal construction
- V_{RRM} to 1600V

Electrical Characteristics

Average forward current	$I_{F(AV)}$	125 Amps	T_C = 146°C, Half Sine Wave, $R_{\theta JC}$ = 0.40°C/W
Maximum surge current	I_{FSM}	2000 Amps	8.3ms, half sine, T_J = 200°C
Max I^2t for fusing	I^2t	16600 A^2s	
Max peak forward voltage	V_{FM}	1.2 Volts	I_{FM} = 200A; T_J = 25°C*
Max peak reverse current	I_{RM}	50 µA	V_{RRM}, T_J = 25°C
Max peak reverse current	I_{RM}	5.0 mA	V_{RRM}, T_J = 150°C
Max Recommended Operating Frequency		7.5kHz	

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

Thermal and Mechanical Characteristics

Storage temperature range	T_{STG}	–65°C to 200°C
Operating junction temp range	T_J	–65°C to 200°C
Maximum thermal resistance	$R_{\theta JC}$	0.40°C/W Junction to Case
Mounting torque		80–100 inch pounds
Weight		2.75 ounces (78 grams) typical

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05–02–07 Rev. 6

S/R42

Figure 1
Typical Forward Characteristics

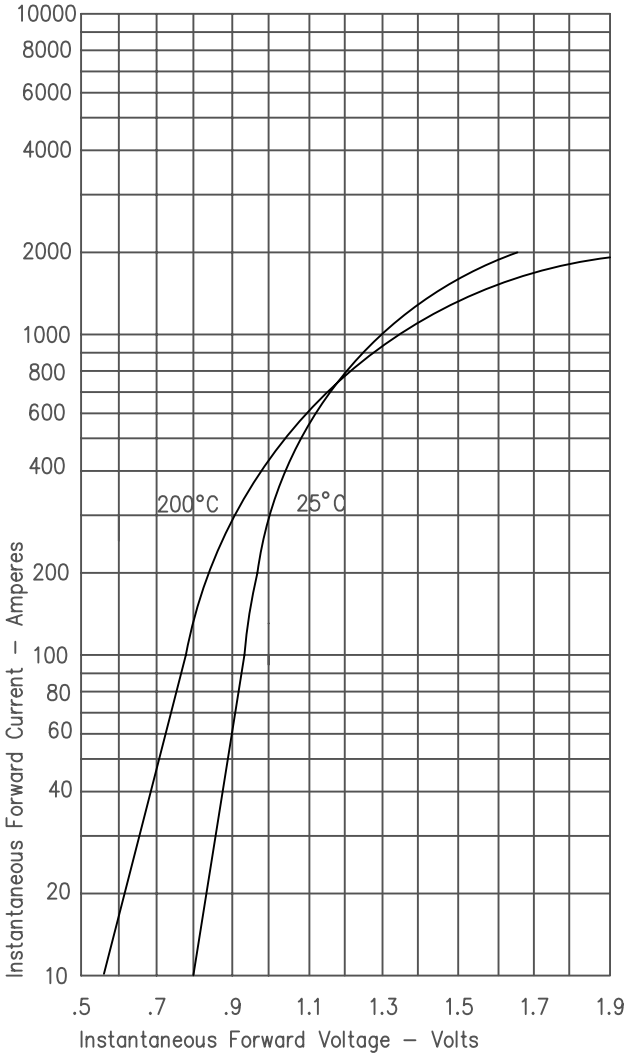

Figure 2
Typical Reverse Characteristics

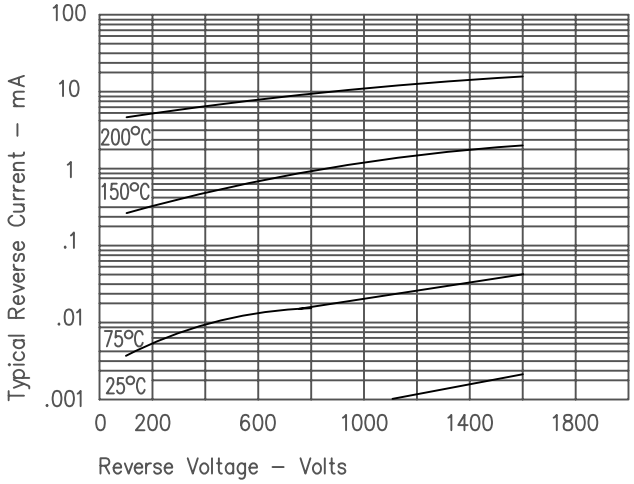

Figure 3
Forward Current Derating

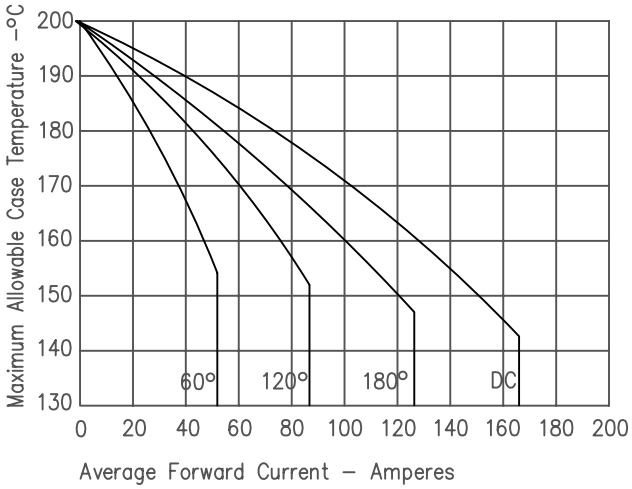

Figure 4
Maximum Forward Power Dissipation

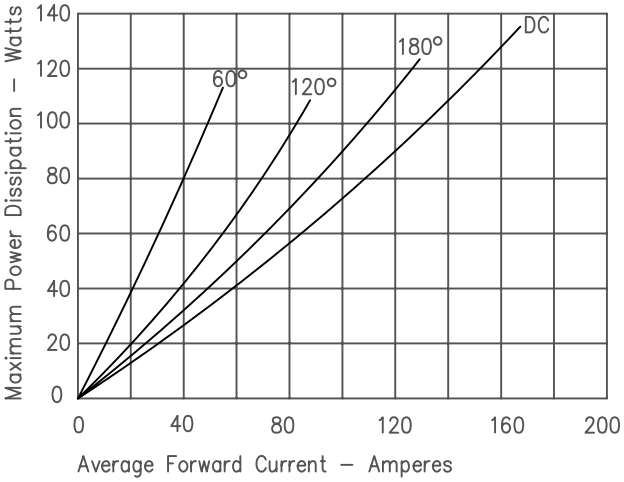

Figure 5
Transient Thermal Impedance