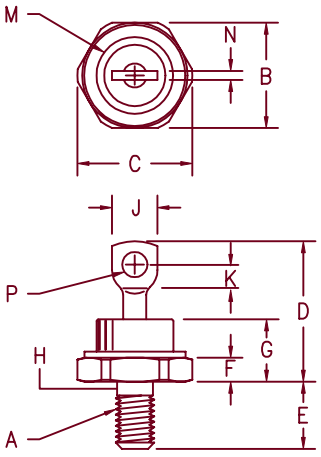
Silicon Power Rectifier
S/R38 Series



Notes:
1. 1/4–28 UNF–3A
2. Full threads within 2 1/2 threads
3. For Reverse Polarity add R to Part Number
   Standard Polarity: Stud is Cathode
   Reverse polarity: Stud is Anode

Dim.	Inches		Millimeter		
	Minimum	Maximum	Minimum	Maximum	Notes
A	---	---	---	---	1
B	.667	.687	16.95	17.44	
C	---	.793	---	20.14	
D	---	1.00	---	25.40	
E	.422	.453	10.72	11.50	
F	.115	.200	2.93	5.08	
G	---	.450	---	11.43	
H	.220	.249	5.59	6.32	2
J	.250	.375	6.35	9.52	
K	.156	---	3.97	---	
M	---	.667	---	16.94	Dia
N	---	.080	---	2.03	
P	.140	.175	3.56	4.44	Dia

DO203AB (D05)

Microsemi Catalog Number Standard	Reverse	Peak Reverse Voltage
S3820	R3820	200V
S3840	R3840	400V
S3860	R3860	600V
S3880	R3880	800V
S38100	R38100	1000V
S38120	R38120	1200V

- Glass to metal construction
- Highest current DO–5 available
- Glass passivated die
- 1800 amps surge rating
- V_{RRM} to 1200V

Electrical Characteristics

Average forward current	$I_{F(AV)}$ 100 Amps	T_C = 144°C, half sine wave, $R_{\theta JC}$ = 0.5°C/W
Maximum surge current	I_{FSM} 1800 Amps	8.3ms, half sine, T_J = 200°C
Max I^2t for fusing	I^2t 13440 A^2s	
Max peak forward voltage	V_{FM} 1.15 Volts	I_{FM} = 200A; T_J = 25°C*
Max peak reverse current	I_{RM} 25 µA	V_{RRM}, T_J = 25°C
Max peak reverse current	I_{RM} 3.0 mA	V_{RRM}, T_J = 150°C
Max Recommended Operating Frequency	10kHz	

*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	$R_{\theta JC}$	0.5°C/W Junction to Case
Mounting torque		25–30 inch pounds
Weight		.6 ounces (17 grams) typical

12–14–00 Rev. 1

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S/R38

Figure 1
Typical Forward Characteristics

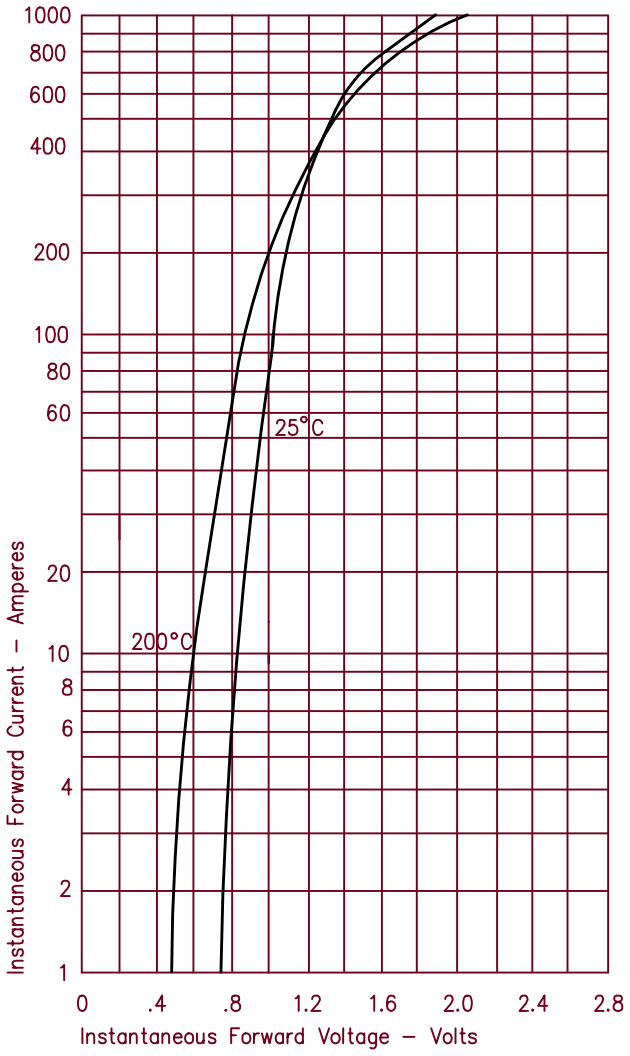

Figure 2
Typical Reverse Characteristics

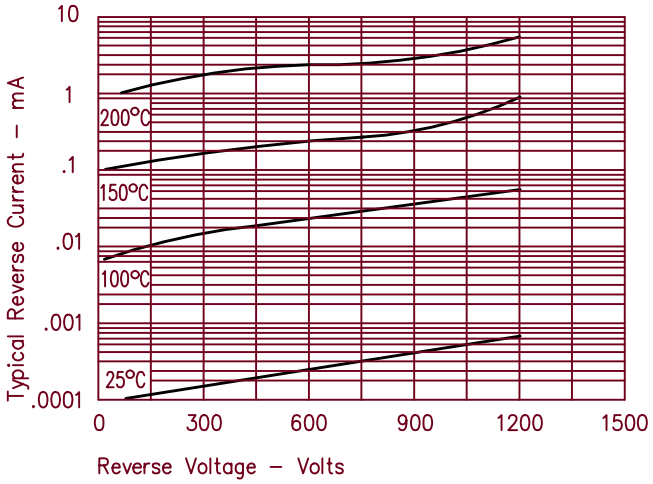

Figure 3
Forward Current Derating

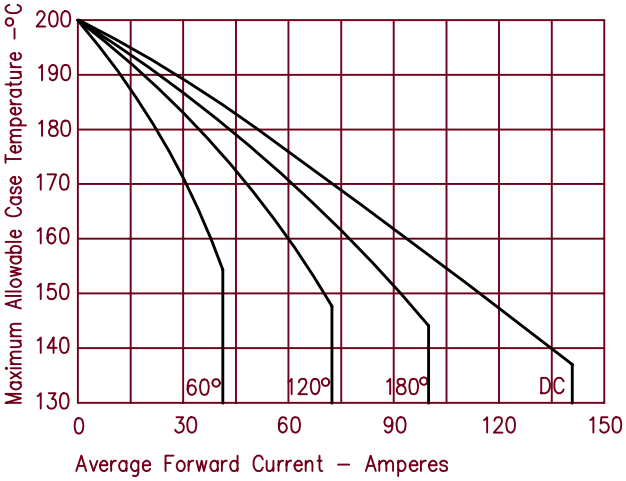

Figure 4
Maximum Forward Power Dissipation

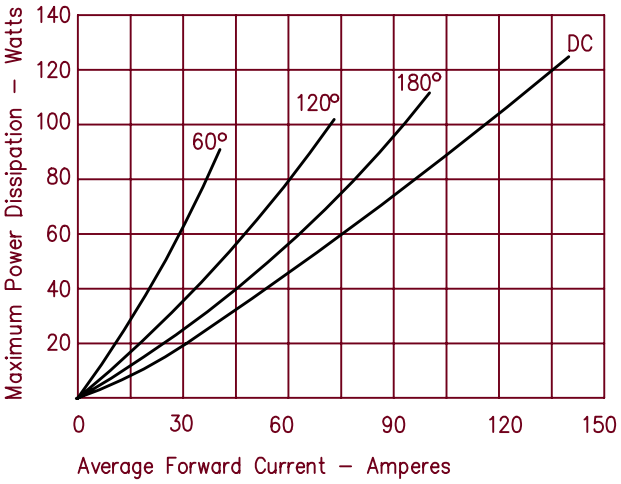

Figure 5
Transient Thermal Impedance