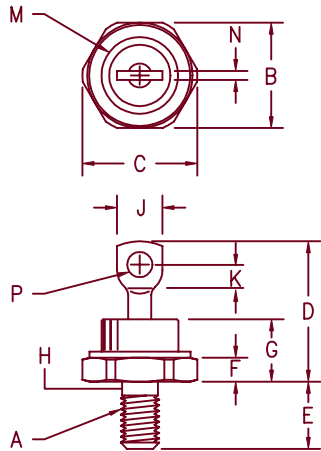


Silicon Power Rectifier S/R38 Series



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

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
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

D0203AB (D05)

Microsemi Catalog Number		Peak Reverse Voltage
Standard	Reverse	
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
- VRRM to 1200V

Electrical Characteristics

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

S/R38

Figure 1
Typical Forward Characteristics

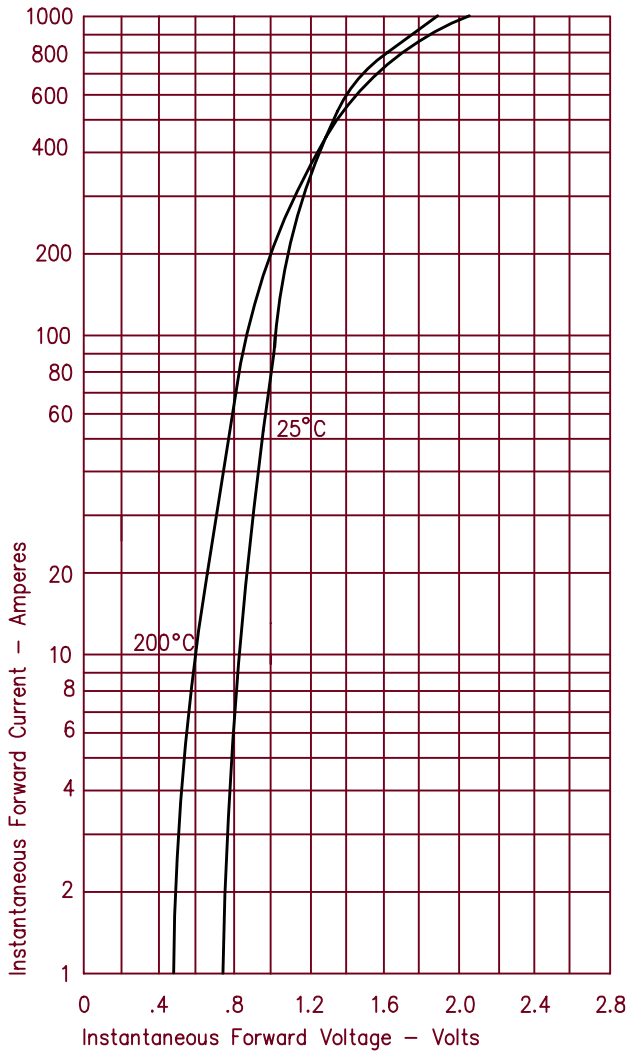


Figure 3
Forward Current Derating

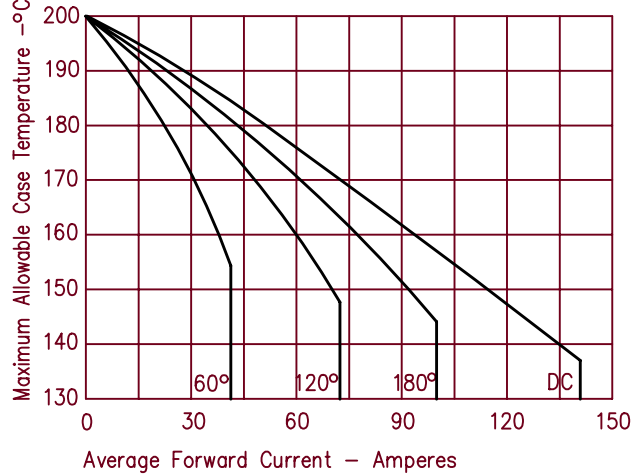


Figure 4
Maximum Forward Power Dissipation

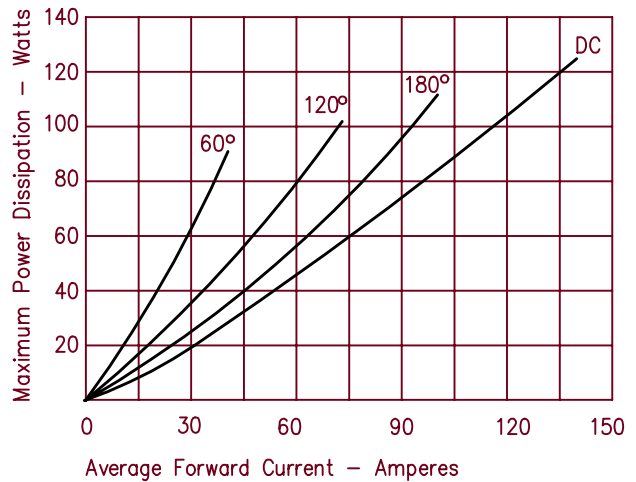


Figure 2
Typical Reverse Characteristics

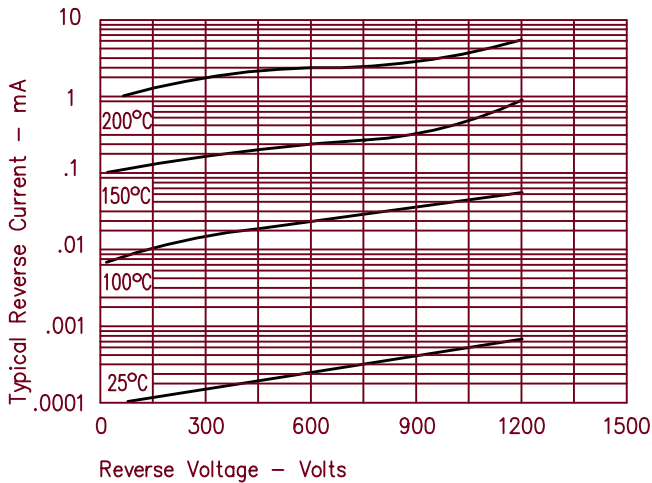


Figure 5
Transient Thermal Impedance

