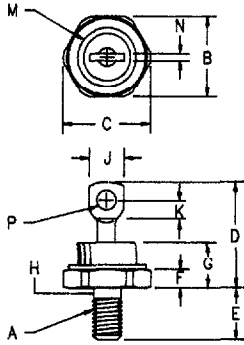


Silicon Power Rectifier S/R304 Series



- 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	---	---	---	---	1/4-28
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	2.92	5.08	
G	---	.450	---	11.43	
H	.220	.249	5.59	6.32	1
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 Standard	JEDEC Numbers	Peak Reverse Voltage
* S30420	1N1186, 1N1186A	200V
* S30440	1N1188, 1N1188A	400V
* S30460	1N1190, 1N1190A	600V
* S304080		800V
* S304100		1000V
* S304120		1200V

* Change S to R in Part Number for Reverse Polarity

- Glass Passivated Die
- 800A surge rating
- Glass to metal construction
- V_{RRM} to 1200V
- Excellent reliability

Electrical Characteristics

Average forward current	$I_F(AV)$ 40 Amps	$T_C = 152^\circ C$, half sine wave, $R_{\theta JC} = 1.25^\circ C/W$
Maximum surge current	I_{FSM} 800 Amps	8.3ms, half sine, $T_J = 200^\circ C$
Max $I^2 t$ for fusing	$I^2 t$ 2600 A ² s	
Max peak forward voltage	V_{FM} 1.19 Volts	$I_{FM} = 90A; T_J = 25^\circ C *$
Max peak reverse current	I_{RM} 40 μA	$V_{RRM}, T_J = 25^\circ C$
Max peak reverse current	I_{RM} 2.0 mA	$V_{RRM}, T_J = 150^\circ C$
Max Recommended Operating Frequency	10kHz	

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

Thermal and Mechanical Characteristics

Storage temperature range	T_{STG}	$-65^\circ C$ to $200^\circ C$
Operating junction temp range	T_J	$-65^\circ C$ to $200^\circ C$
Maximum thermal resistance	$R_{\theta JC}$	1.25 $^\circ C/W$ Junction to Case
Typical thermal resistance	$R_{\theta JC}$	1.1 $^\circ C/W$ Junction to Case
Mounting torque		30 inch pounds maximum
Weight		.5 ounces (14 grams) typical

Microsemi Corp.
Colorado

S/R304

Figure 1
Typical Forward Characteristics

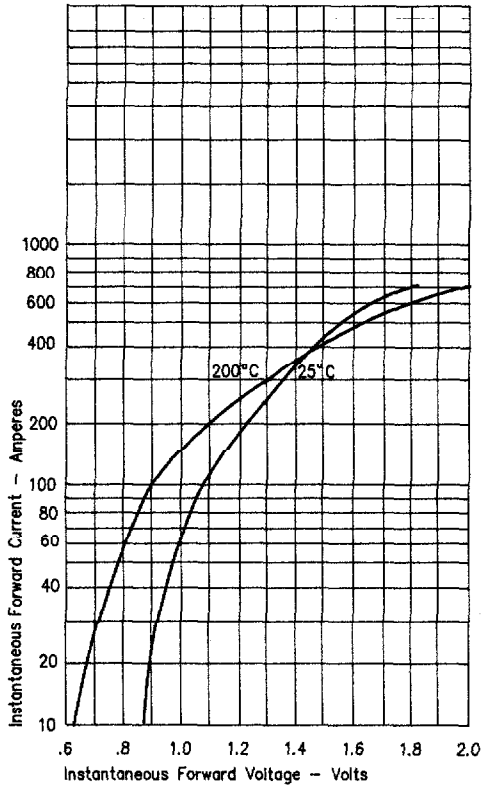


Figure 3
Forward Current Derating

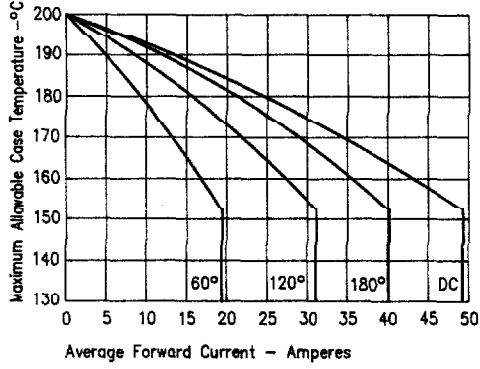


Figure 4
Maximum Forward Power Dissipation

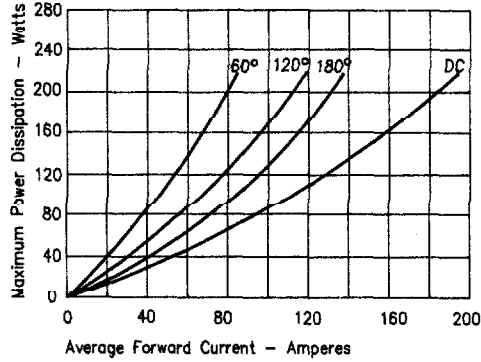


Figure 2
Typical Reverse Characteristics

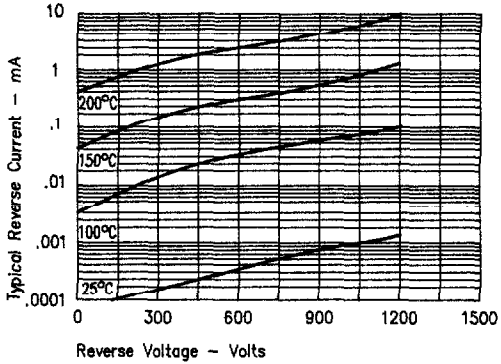
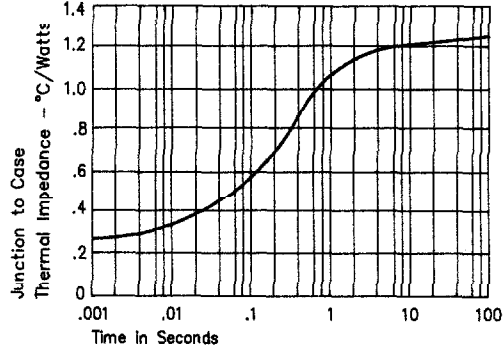
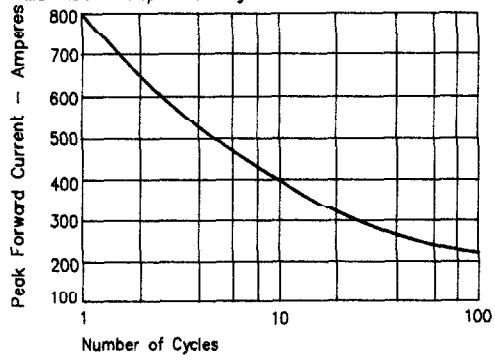


Figure 5
Transient Thermal Impedance



S/R304

Figure 6
Maximum Nonrepetitive Surge Current



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