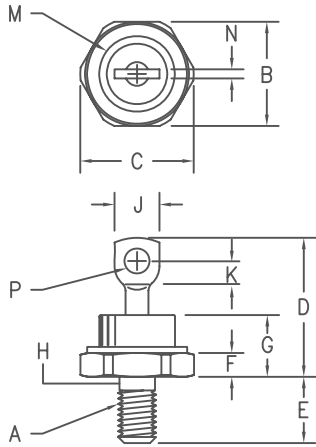




**THE DATASHEET OF**  
**S304100**



# 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	SEE PAGE 2 FOR	200V
* S30440	FULL LIST OF	400V
* S30460	JEDEC NUMBERS	600V
* S30480		800V
* S304100		1000V
* S304120		1200V

\* Change S to R in Part Number for Reverse Polarity

- Glass Passivated Die
- 800A surge rating
- Glass to metal seal construction
- $V_{RRM}$  to 1200V
- Low cost Non-RoHS package

Electrical Characteristics		
Average forward current	IF(AV) 40 Amps	$T_C = 146^\circ\text{C}$ , half sine wave, $R_{\theta JC} = 1.25^\circ\text{C/W}$ 8.3ms, half sine, $T_J = 200^\circ\text{C}$
Maximum surge current	IFSM 800 Amps	
Max $I^2t$ for fusing	$I^2t$ 2600 A <sup>2</sup> s	$I_{FM} = 90\text{A}; T_J = 25^\circ\text{C}^*$ $V_{RRM}, T_J = 25^\circ\text{C}$ $V_{RRM}, T_J = 150^\circ\text{C}$
Max peak forward voltage	$V_{FM}$ 1.19 Volts	
Max peak reverse current	IRM 10 $\mu\text{A}$	
Max peak reverse current	IRM 2.0 mA	
Max Recommended Operating Frequency	10kHz	

\*Pulse test: Pulse width 300  $\mu\text{sec}$ . Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	$T_{STG}$	$-65^\circ\text{C}$ to $200^\circ\text{C}$
Operating junction temp range	$T_J$	$-65^\circ\text{C}$ to $200^\circ\text{C}$
Maximum thermal resistance	$R_{\theta JC}$	1.25 $^\circ\text{C/W}$ Junction to Case
Typical thermal resistance	$R_{\theta JC}$	1.1 $^\circ\text{C/W}$ Junction to Case
Mounting torque		25 - 30 inch pounds
Weight		.5 ounces (14 grams) typical

# S/R304

JEDEC Numbers				Peak Reverse Voltage
1N1191,A	1N1301	1N1434	1N2154	1N2272 50V
1N1192,A	1N1302	1N1435	1N2155	1N2273 100V
1N1193,A			1N2021	150V
1N1194,A	1N1304	1N1436	1N2156	1N2274 200V
			1N2022	250V
1N1195,A	1N1306		1N2023	1N2275 300V
			1N2024	350V
1N1196,A		1N1437	1N2025	1N2276 400V
1N1197,A			1N2158	1N2277 500V
1N1198,A		1N1438	1N2159	1N2278 600V
			1N2160	1N2279 800V
				1N2280 1000V
				1N2281 1200V
				Peak Reverse Voltage
	1N248,A-C		1N2793	1N3208 50V
	1N249,A-C		1N2794	1N3209 100V
			1N2795	150V
	1N250,A-C	1N2786	1N2796	1N3210 1N4525 200V
			1N2797	250V
1N2282			1N2798	1N3211 300V
			1N2799	350V
1N2283		1N2787	1N2800	1N3212 1N4526 400V
1N2284				1N3213 500V
1N2285				1N3214 1N4527 600V
1N2286				1N4528 800V
1N2287				1N4529 1000V
1N2288				1N5332 1N4530 1200V

For Reverse Polarity parts add an R suffix

# S/R304

Figure 1  
Typical Forward Characteristics

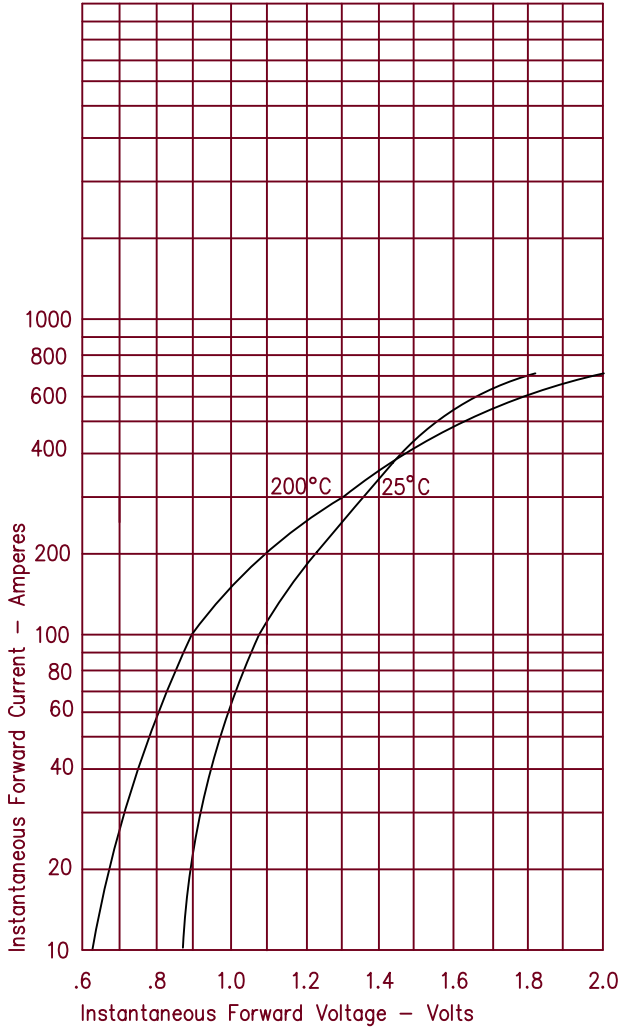


Figure 3  
Forward Current Derating

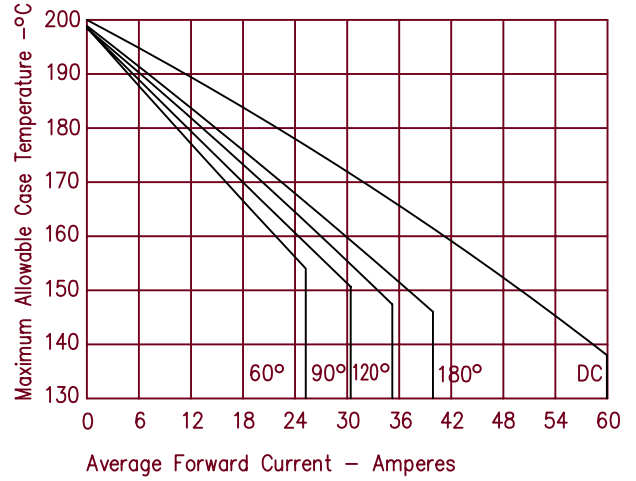


Figure 4  
Maximum Forward Power Dissipation

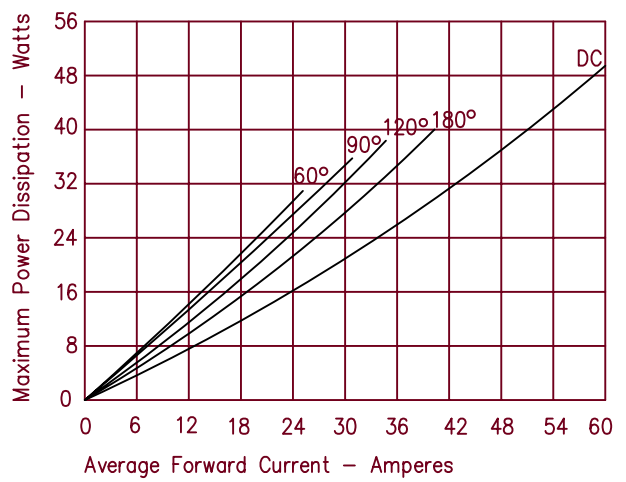


Figure 2  
Typical Reverse Characteristics

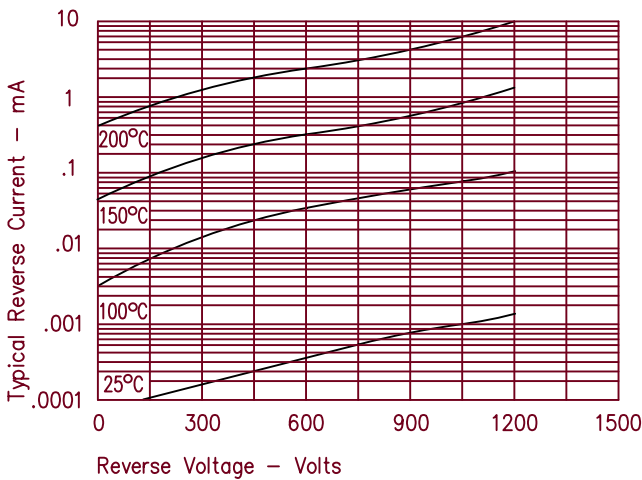
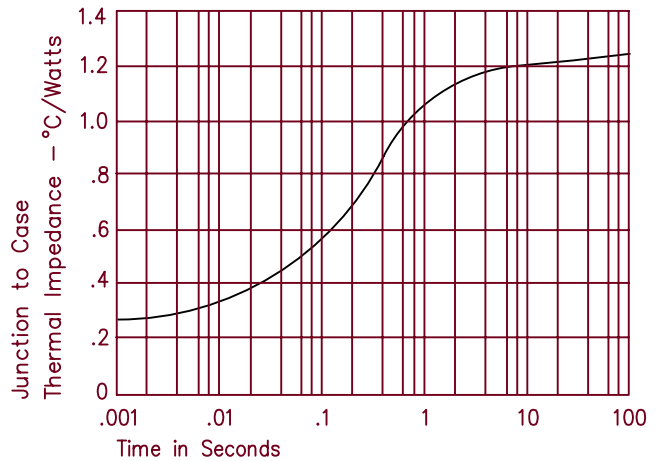


Figure 5  
Transient Thermal Impedance



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