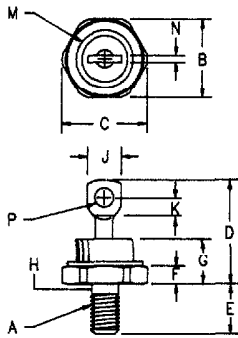


# Silicon Power Rectifier S/R304 Series



- 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	IF(AV) 40 Amps	$T_C = 152^\circ\text{C}$ , half sine wave, $R_{\theta JC} = 1.25^\circ\text{C/W}$
Maximum surge current	IFSM 800 Amps	8.3ms, half sine, $T_J = 200^\circ\text{C}$
Max $I^2t$ for fusing	$I^2t$ 2600 A <sup>2</sup> s	
Max peak forward voltage	VFM 1.19 Volts	IFM = 90A; $T_J = 25^\circ\text{C}$ *
Max peak reverse current	IRM 40 $\mu\text{A}$	$V_{RRM}, T_J = 25^\circ\text{C}$
Max peak reverse current	IRM 2.0 mA	$V_{RRM}, T_J = 150^\circ\text{C}$
Max Recommended Operating Frequency	10kHz	

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

### Thermal and Mechanical Characteristics

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

**Microsemi Corp.**  
**Colorado**

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# S/R304

Figure 1  
Typical Forward Characteristics

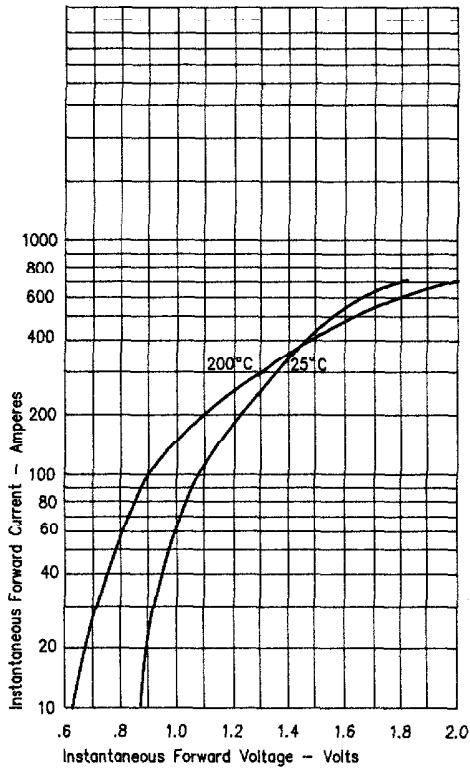


Figure 3  
Forward Current Derating

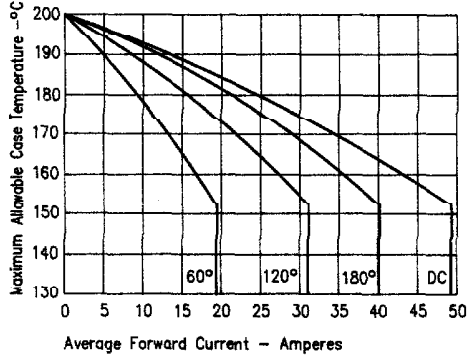
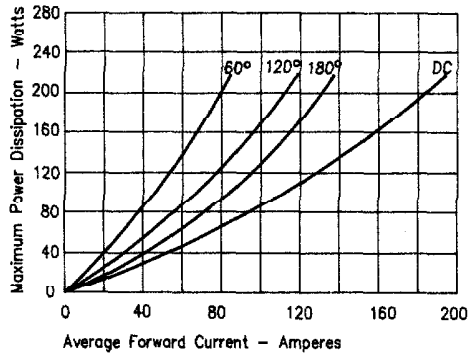


Figure 4  
Maximum Forward Power Dissipation



E

Figure 2  
Typical Reverse Characteristics

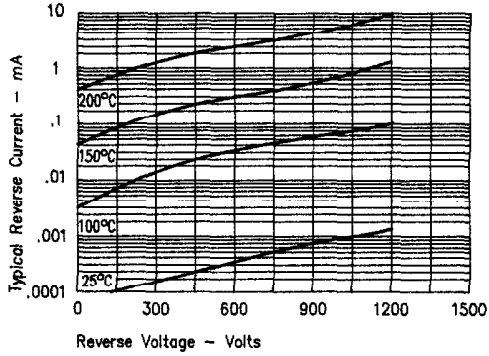
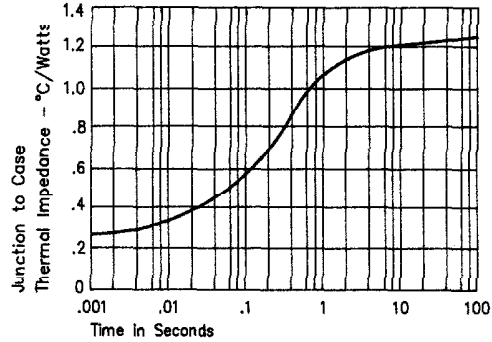


Figure 5  
Transient Thermal Impedance



# S/R304

