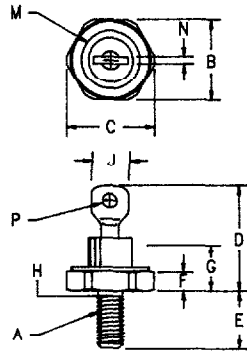


# Silicon Power Rectifier S/R20 Series



- Notes:
- 10-32 UNF3A
  - Full threads within 2 1/2 threads
  - Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.424	.437	10.77	11.10	
C	---	.505	---	12.82	
D	.600	.800	15.24	20.32	
E	.422	.453	10.72	11.50	
F	.075	.175	1.91	4.44	
G	---	.405	---	10.29	
H	.163	.189	4.15	4.80	2
J	---	.310	---	7.87	
M	---	.350	---	8.89	Dia
N	.020	.065	.510	1.65	
P	.070	.100	1.78	2.54	Dia

## D0203AA (D04)

Microsemi Catalog Number Standard	JEDEC Numbers	Peak Reverse Voltage
*S2020		200V
*S2040	1N1126, 1N1346, 1N1346A, 1N1345B	400V
*S2060	1N1128, 1N1348, 1N1348A, 1N1348B, 1N1587, 1N1616, 1N2238, 1N2497	600V
*S2080	1N2240	800V
*S20100		1000V
*S20120		1200V

\*Change S to R in part number for Reverse Polarity

- Glass Passivated Die
- Low Forward Voltage
- 200A Surge Rating
- Glass to metal construction
- $V_{RRM}$  to 1200V
- Excellent reliability

### Electrical Characteristics

Average forward current	IF(AV) 16 Amps	$T_C = 153^\circ\text{C}$ , half sine wave, $R_{\theta JC} = 2.5^\circ\text{C/W}$
Maximum surge current	IFSM 200 Amps	8.3ms, half sine, $T_J = 200^\circ\text{C}$
Max $I^2t$ for fusing	$I^2t$ 165 A <sup>2</sup> s	
Max peak forward voltage	V <sub>FM</sub> 1.3 Volts	IFM = 30A; $T_J = 25^\circ\text{C}$ *
Max peak reverse current	IRM 10 $\mu\text{A}$	V <sub>RRM</sub> , $T_J = 25^\circ\text{C}$
Max peak reverse current	IRM 1.0 mA	V <sub>RRM</sub> , $T_J = 150^\circ\text{C}$
Max Recommended Operating Frequency	10kHz	

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

### Thermal and Mechanical Characteristics

Storage temperature range	T <sub>STG</sub>	-65°C to 200°C
Operating junction temp range	T <sub>J</sub>	-65°C to 200°C
Maximum thermal resistance	R <sub><math>\theta</math>JC</sub>	2.5°C/W Junction to Case
Typical thermal resistance	R <sub><math>\theta</math>JC</sub>	2.0°C/W Junction to Case
Mounting torque		30 inch pounds maximum
Weight		.16 ounces (5.0 grams) typical

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

# S/R20

Figure 1  
Typical Forward Characteristics

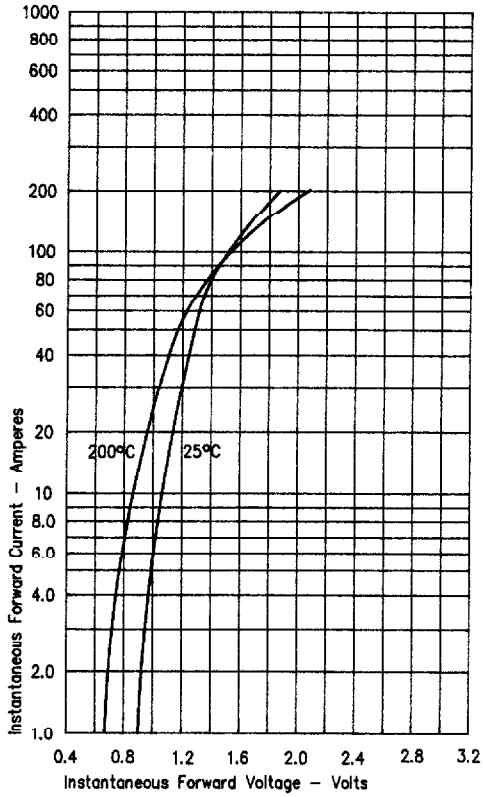


Figure 2  
Typical Reverse Characteristics

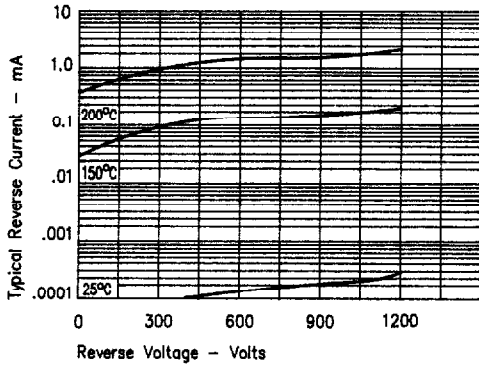


Figure 3  
Forward Current Derating

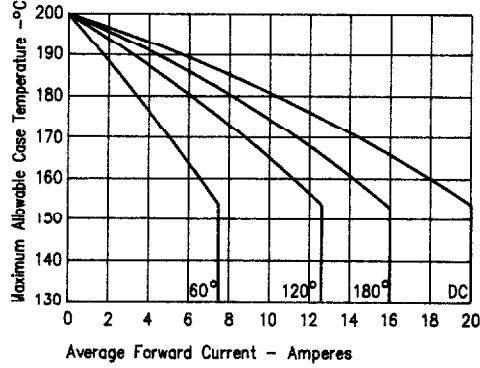


Figure 4  
Maximum Forward Power Dissipation

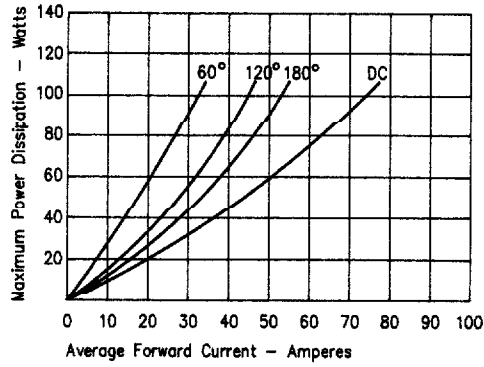
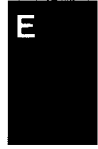
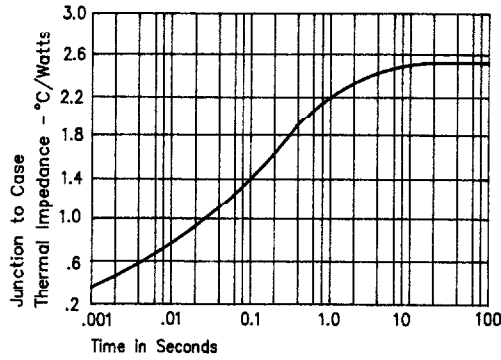


Figure 5  
Transient Thermal Impedance



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