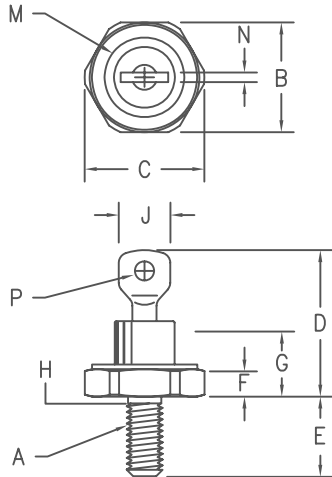




THE DATASHEET OF
S20420



Silicon Power Rectifier S/R204 Series



Notes:

1. 10-32 UNF3A
2. Full threads within 2 1/2 threads
3. 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 |
|-----------------------------------|--|----------------------|
| | 1N1199, 1N1199A, 1N1199B | 50V |
| *S20410 | 1N1200, 1N1200A, 1N1200B 1N1201, 1N1201A, 1N1201B | 100V 150V |
| *S20420 | 1N1124,A, 1N1202, 1N1202A, 1N1202B 1N1125,A, 1N1203, 1N1203A, 1N1203B | 200V 300V |
| *S20440 | 1N1126,A, 1N1204, 1N1204A, 1N1204B 1N1127,A, 1N1205, 1N1205A, 1N1205B | 400V 500V |
| *S20460 | 1N1128,A, 1N1206, 1N1206A, 1N1206B | 600V |
| *S20480 | | 800V |
| *S204100 | | 1000V |
| *S204120 | | 1200V |

*Change S to R in part number for Reverse Polarity
For JEDEC numbers add R to part number for Reverse Polarity
NOTE: The Reverse Polarity For the A & B versions may be listed as RA or RB instead of AR or BR

- Glass Passivated Die
- Low Forward Voltage
- 250A Surge Rating
- Glass to metal seal construction
- V_{RRM} to 1200V
- Low cost Non-RoHS package

Electrical Characteristics

| | | |
|-------------------------------------|---------------------|--|
| Average forward current | $I_F(AV)$ 12 Amps | $T_C = 170^\circ C$, half sine wave, $R_{\theta JC} = 2.5^\circ C/W$ 8.3ms, half sine, $T_J = 200^\circ C$ |
| Maximum surge current | I_{FSM} 250 Amps | |
| Max $I^2 t$ for fusing | $I^2 t$ 260 $A^2 s$ | |
| Max peak forward voltage | V_{FM} 1.2 Volts | $I_{FM} = 30A; T_J = 25^\circ C$ * |
| Max peak reverse current | I_{RM} 10 μA | $V_{RRM}, T_J = 25^\circ C$ |
| Max peak reverse current | I_{RM} 1.0 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 | $R_{\theta JC}$ | 2.5 $^\circ C/W$ Junction to Case |
| Mounting torque | | 25-30 inch pounds |
| Weight | | .16 ounces (5.0 grams) typical |

S/R204

Figure 1
Typical Forward Characteristics

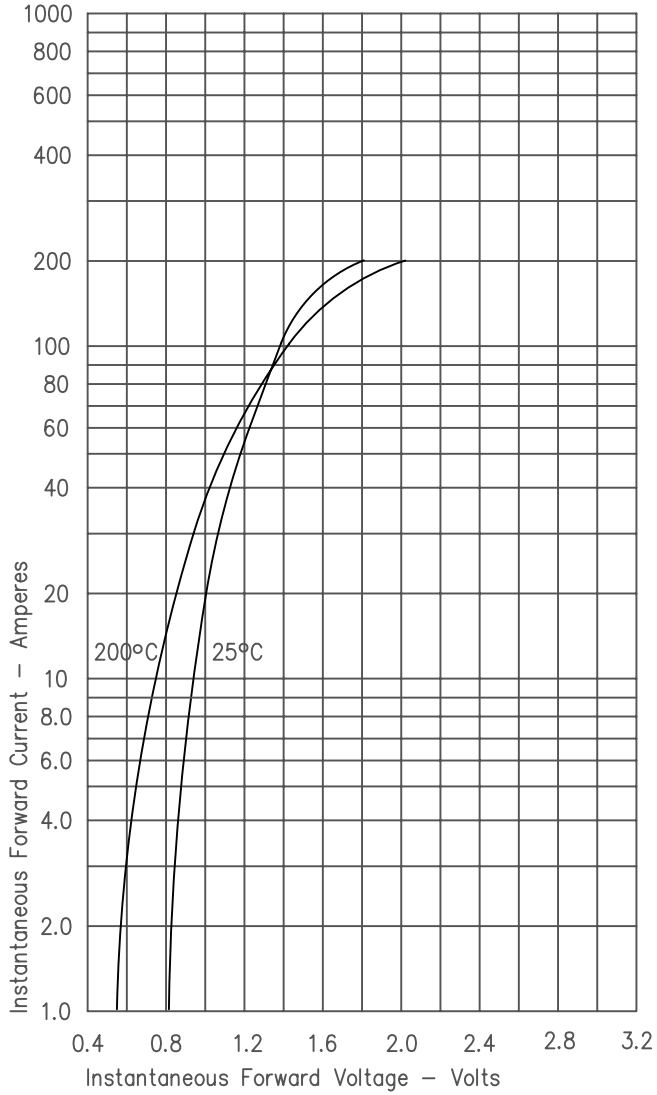


Figure 3
Forward Current Derating

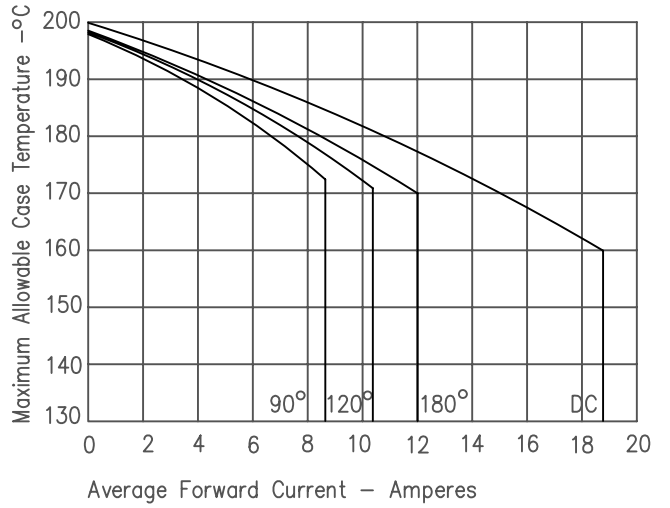


Figure 4
Maximum Forward Power Dissipation

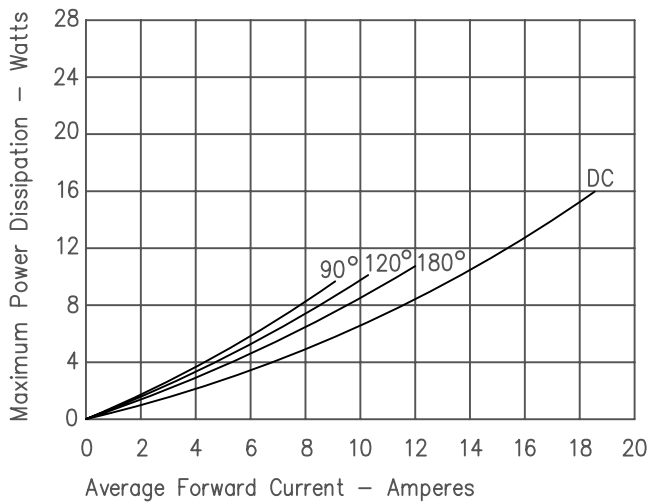


Figure 2
Typical Reverse Characteristics

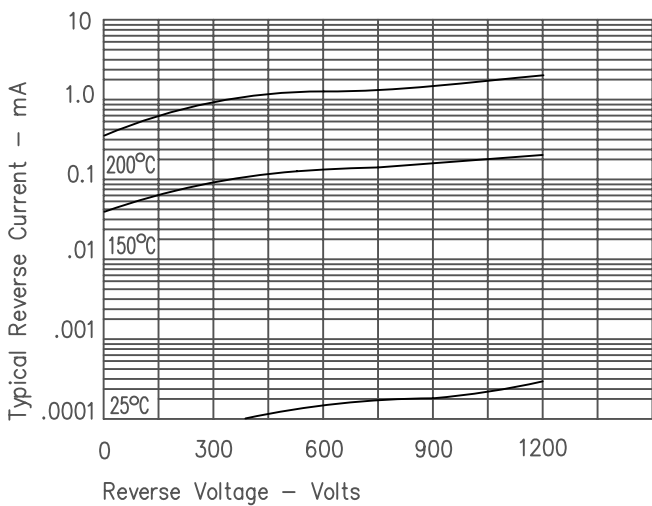
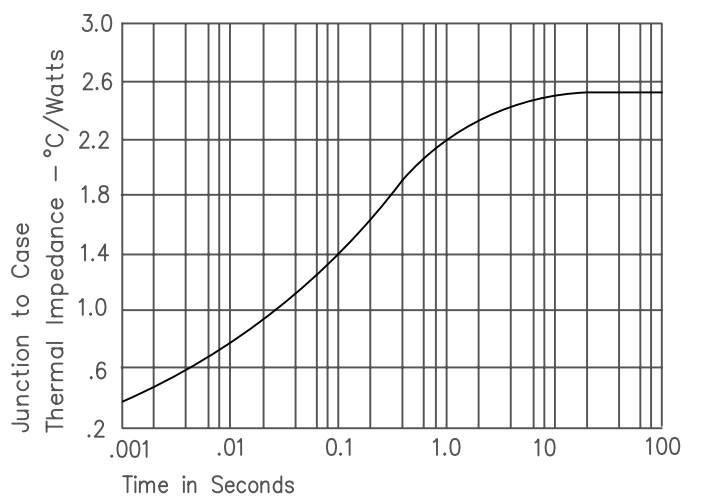


Figure 5
Transient Thermal Impedance



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