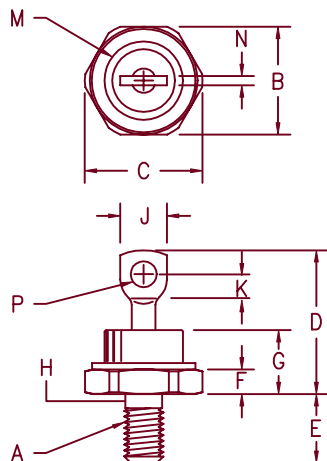


Silicon Power Rectifier S/R304 Series



- 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

| 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} 10 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°C to 200°C |
| Operating junction temp range | T_J | -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 | | 25 - 30 inch pounds |
| Weight | | .5 ounces (14 grams) typical |

2-27-01 Rev. 2

S/R304

| | | | | | Peak Reverse Voltage | |
|---------------|-----------|--------|--------|--------|----------------------|-------|
| 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 | 1N2157 | 1N2275 | 300V |
| | | | 1N2024 | | | 350V |
| 1N1196,A | | 1N1437 | 1N2025 | 1N2158 | 1N2276 | 400V |
| 1N1197,A | | | | 1N2159 | 1N2277 | 500V |
| 1N1198,A | | 1N1438 | | 1N2160 | 1N2278 | 600V |
| | | | | | 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

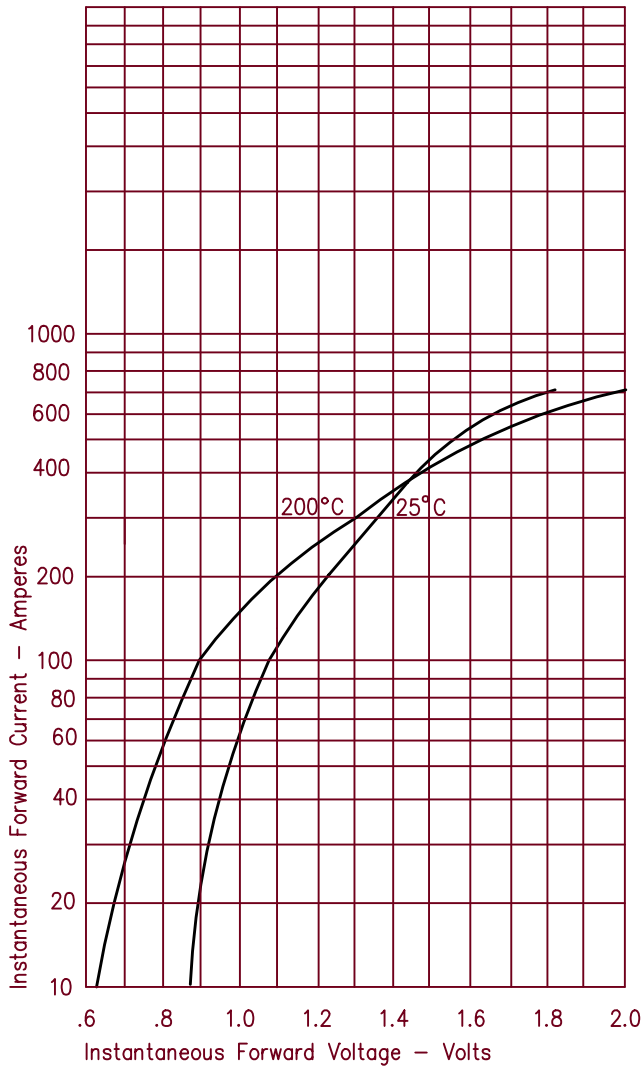


Figure 3
Forward Current Derating

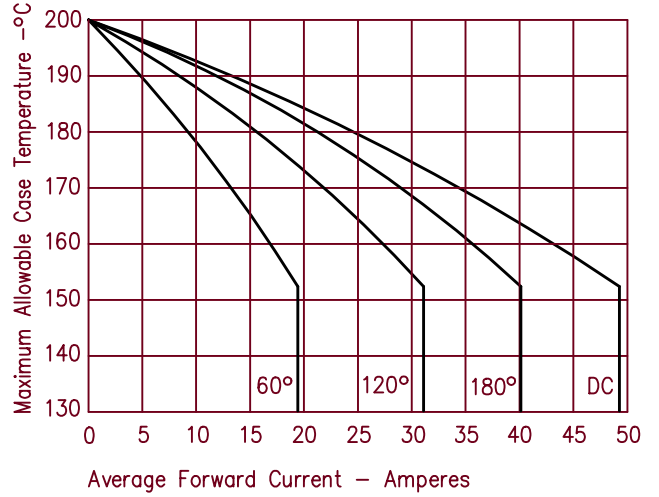


Figure 4
Maximum Forward Power Dissipation

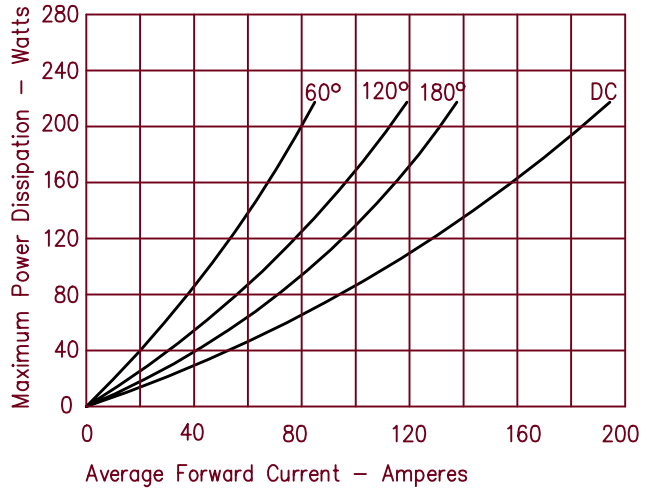


Figure 2
Typical Reverse Characteristics

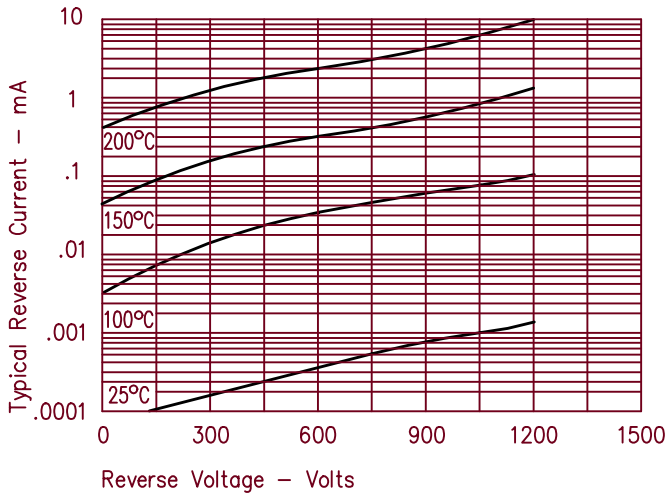


Figure 5
Transient Thermal Impedance

