DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

# 1N1199(A,B)-1N1206(A,B)

## SILICON POWER RECTIFIER

**FEATURES**

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

**MAXIMUM RATINGS**

| Parameter | Symbol | 1N1199 | 1N1200 | 1N1201 | 1N1202 | 1N1203 | 1N1204 | 1N1205 | 1N1206 |
|---|---|---|---|---|---|---|---|---|---|
| **Peak reverse voltage** | $V_R$ | 50V | 100V | 150V | 200V | 300V | 400V | 500V | 600V |
| **Operating & storage temperature range** | $T_J$, $T_{stg}$ | -65 to +200°C | | | | | | | |
| **Maximum thermal resistance** | $R_{\theta JC}$ | 2.5°C/W junction to case | | | | | | | |
| **Mounting torque** | | 25-30 inch pounds | | | | | | | |
| **Weight** | | .16 ounces (5.0 grams) typical | | | | | | | |

Add "R" to part numbers for reverse polarity.

**ELECTRICAL CHARACTERISTICS** ($T_A$ = 25°C unless otherwise specified)

| Parameter | Symbol | Value | Test Condition |
|---|---|---|---|
| **Average forward current** | $I_{F(AV)}$ | 12 Amps | $T_C$ = 170°C, half-sine wave, $R_{\theta JC}$ = 2.5°C/W |
| **Maximum surge current** | $I_{FSM}$ | 250 Amps | 8.3ms, half-sine, $T_J$ = 200°C |
| **Maximum $I^2t$ for fusing** | $I^2t$ | 260 $A^2s$ | |
| **Maximum peak forward voltage** | $V_{FM}$ | 1.2 Volts | $I_{FM}$ = 30A: $T_J$ = 25°C* |
| **Maximum peak reverse current** | $I_{RM}$ | 10 µA | $V_{RRM}$, $T_J$ = 25°C |
| **Maximum peak reverse current** | $I_{RM}$ | 1.0 mA | $V_{RRM}$, $T_J$ = 150°C* |
| **Maximum recommended operating frequency** | | 10 kHz | |

- Pulse test: pulse width 300µsec. Duty cycle 2%

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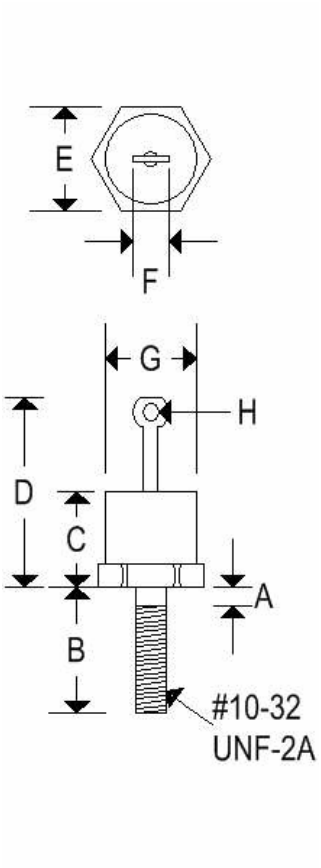
**MECHANICAL CHARACTERISTICS**

| | |
|---|---|
| **Case** | DO-4(R) |
| **Marking** | Alpha-numeric |
| **Normal polarity** | Cathode is stud |
| **Reverse polarity** | Anode is stud (add "R" suffix) |




| | DO-4(R) | | | |
|---|---|---|---|---|
| | Inches | | Millimeters | |
| | Min | Max | Min | Max |
| A | - | 0.078 | - | 1.981 |
| B | 0.422 | 0.453 | 10.719 | 11.506 |
| C | - | 0.405 | - | 10.287 |
| D | - | 0.800 | - | 20.320 |
| E | 0.420 | 0.440 | 10.668 | 11.176 |
| F | - | 0.250 | - | 6.350 |
| G | - | 0.424 | - | 10.770 |
| H | 0.066 | - | 1.676 | - |

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Figure 1
Typical Forward Characteristics

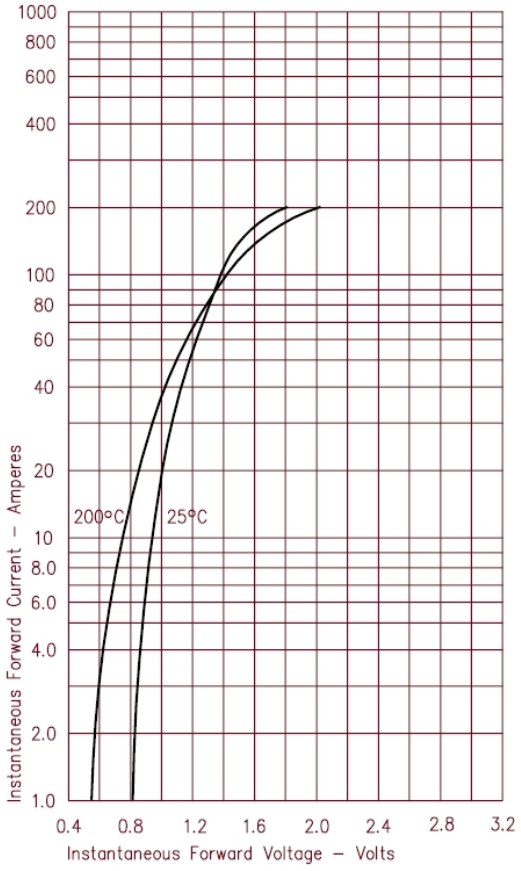


Figure 2
Typical Reverse Characteristics

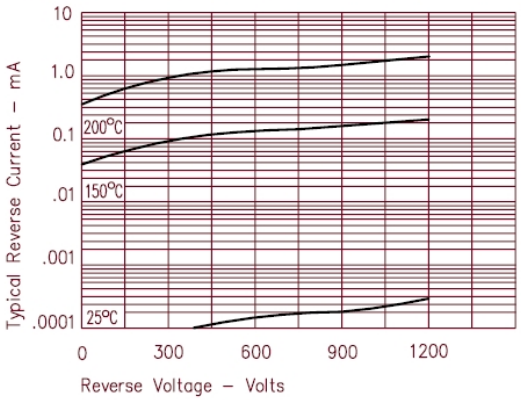


Figure 3
Forward Current Derating

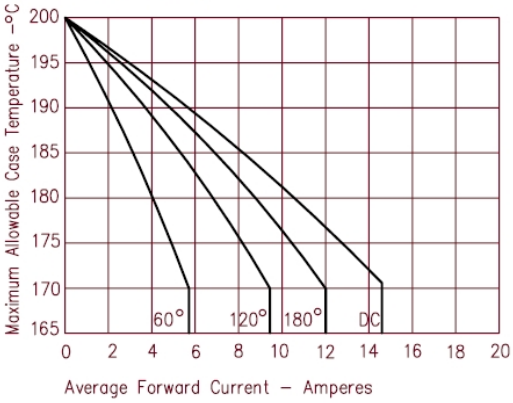


Figure 4
Maximum Forward Power Dissipation

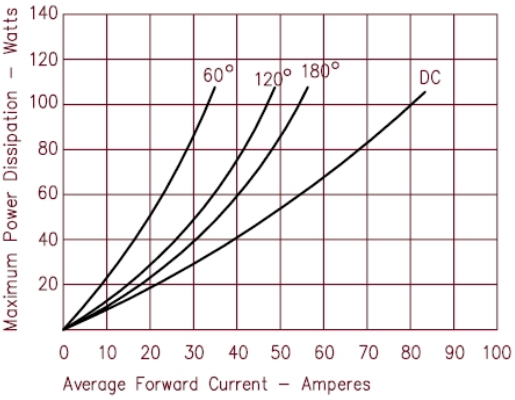


Figure 5
Transient Thermal Impedance