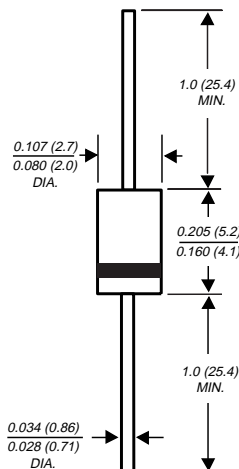


1N5391 THRU 1N5399

GENERAL PURPOSE PLASTIC RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current - 1.5 Amperes

DO-204AL



Dimensions in inches and (millimeters)

FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ High surge current capability
- ◆ 1.5 Ampere operation at $T_L=70^\circ\text{C}$ with no thermal runaway
- ◆ Low reverse leakage
- ◆ Construction utilizes void-free molded plastic technique
- ◆ High temperature soldering guaranteed: $250^\circ\text{C}/10$ seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension



MECHANICAL DATA

Case: JEDEC DO-204AL molded plastic body
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.012 ounce, 0.3 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| | SYMBOLS | 1N 5391 | 1N 5392 | 1N 5393 | 1N 5394 | 1N 5395 | 1N 5396 | 1N 5397 | 1N 5398 | 1N 5399 | UNITS |
|---|------------------------------------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------------------------|
| *Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 200 | 300 | 400 | 500 | 600 | 800 | 1000 | Volts |
| *Maximum RMS voltage | V_{RMS} | 35 | 70 | 140 | 210 | 280 | 350 | 420 | 560 | 700 | Volts |
| *Maximum DC blocking voltage | V_{DC} | 50 | 100 | 200 | 300 | 400 | 500 | 600 | 800 | 1000 | Volts |
| *Maximum average forward rectified current 0.500" (12.7mm) lead length at $T_L=70^\circ\text{C}$ | $I_{(AV)}$ | 1.5 | | | | | | | | | Amps |
| *Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at $T_A=75^\circ\text{C}$ | I_{FSM} | 50.0 | | | | | | | | | Amps |
| *Maximum instantaneous forward voltage at 1.5A $T_A=70^\circ\text{C}$ | V_F | 1.4 | | | | | | | | | Volts |
| *Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=150^\circ\text{C}$ | I_R | 5.0 300.0 | | | | | | | | | μA |
| *Maximum full load reverse current full cycle average, 0.375", (9.5mm) lead length at $T_L=70^\circ\text{C}$ | $I_{R(AV)}$ | 300.0 | | | | | | | | | μA |
| Typical reverse recovery time (NOTE 1) | t_{rr} | 2.0 | | | | | | | | | μs |
| Typical junction capacitance (NOTE 2) | C_J | 15.0 | | | | | | | | | pF |
| Typical thermal resistance (NOTE 3) | $R_{\theta JA}$ $R_{\theta JL}$ | 50.0 25.0 | | | | | | | | | $^\circ\text{C}/\text{W}$ |
| *Maximum DC blocking voltage temperature | T_A | +150 | | | | | | | | | $^\circ\text{C}$ |
| *Operating junction temperature range | T_J | -50 to +170 | | | | | | | | | $^\circ\text{C}$ |
| *Storage temperature range | T_{STG} | -50 to +175 | | | | | | | | | $^\circ\text{C}$ |

NOTES:

- (1) Measured with $I_F=0.5\text{A}$, $I_R=0.1\text{A}$, $I_{rr}=0.25\text{A}$
 - (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
 - (3) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5mm) lead length, P.C.B. mounted
- *JEDEC registered value

RATINGS AND CHARACTERISTIC CURVES 1N5391 THRU 1N5399

FIG. 1 - FORWARD CURRENT DERATING CURVE

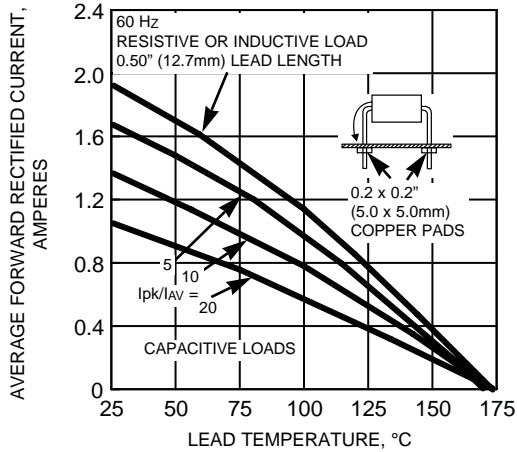


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

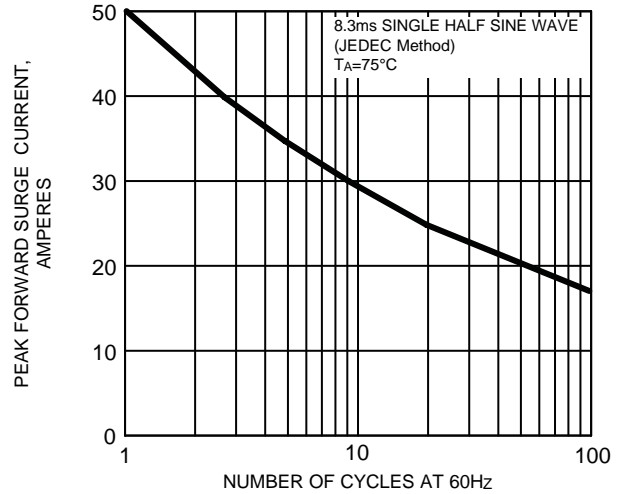


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

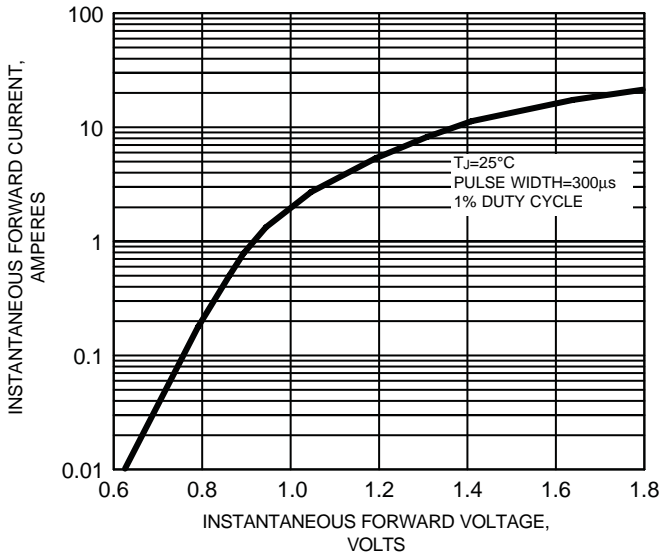


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

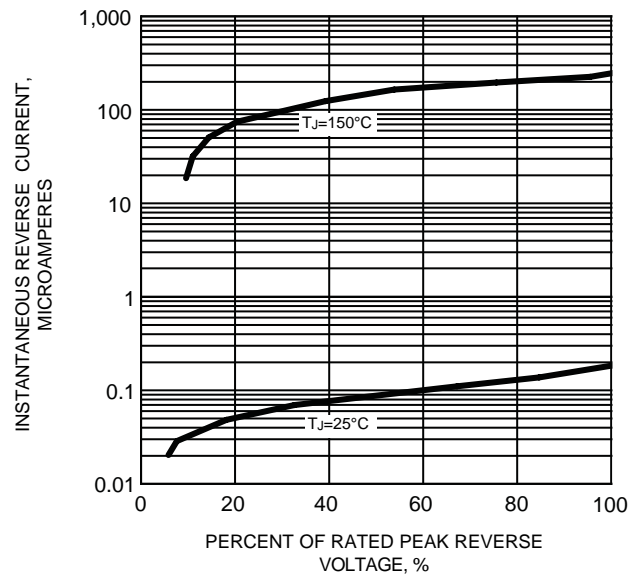


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

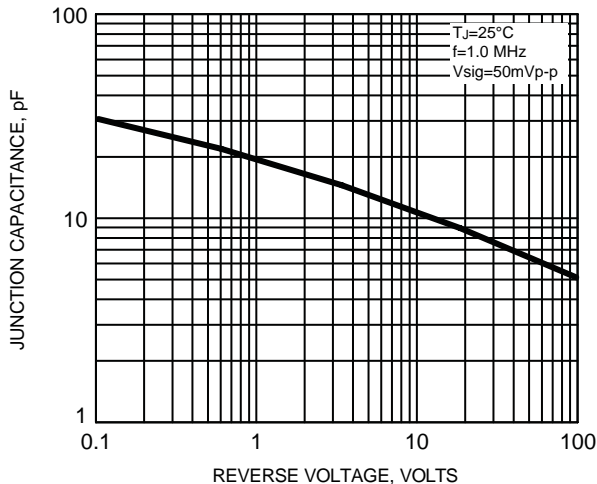


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

