

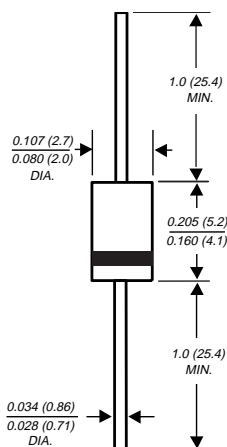
1N4001GP THRU 1N4007GP

GLASS PASSIVATED JUNCTION RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current - 1.0 Ampere

PATENTED*

DO-204AL



NOTE: Lead diameter is $\frac{0.026}{0.023}$ ($\frac{0.66}{0.58}$) for suffix "E" part numbers

Dimensions in inches and (millimeters)

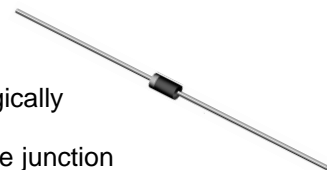
* Glass-plastic encapsulation technique is covered by

Patent No. 3,996,602 and brazed-lead assembly by Patent No. 3,930,306



FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ High temperature metallurgically bonded construction
- ◆ Glass passivated cavity-free junction
- ◆ Capable of meeting environmental standards of MIL-S-19500
- ◆ 1.0 Ampere operation at $T_A=75^\circ\text{C}$ with no thermal runaway
- ◆ Typical I_R less than $0.1\mu\text{A}$
- ◆ High temperature soldering guaranteed: $350^\circ\text{C}/10$ seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension



MECHANICAL DATA

Case: JEDEC DO-204AL molded plastic over glass 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 4001GP | 1N 4002GP | 1N 4003GP | 1N 4004GP | 1N 4005GP | 1N 4006GP | 1N 4007GP | UNITS |
|--|------------------------------------|--|--------------|--------------|--------------|--------------|--------------|--------------|---------------------------|
| * Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| * Maximum RMS voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | Volts |
| * Maximum DC blocking voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| * Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=75^\circ\text{C}$ | $I_{(AV)}$ | 1.0 | | | | | | | Amp |
| * Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 30.0 | | | | | | | Amps |
| Maximum instantaneous forward voltage at 1.0A | V_F | 1.1 | | | | | | | Volts |
| * Maximum full load reverse current, full cycle average 0.375" (9.5mm) lead length $T_A=75^\circ\text{C}$ | $I_{R(AV)}$ | 30.0 | | | | | | | μA |
| * Maximum DC reverse current at rated DC blocking voltage | I_R | $T_A=25^\circ\text{C}$ 5.0 $T_A=125^\circ\text{C}$ 50.0 | | | | | | | μA |
| Typical reverse recovery time (NOTE 1) | t_{rr} | 2.0 | | | | | | | μs |
| Typical junction capacitance (NOTE 2) | C_J | 8.0 | | | | | | | pF |
| Typical thermal resistance (NOTE 3) | $R_{\theta JA}$ $R_{\theta JL}$ | 55.0 25.0 | | | | | | | $^\circ\text{C}/\text{W}$ |
| * Operating junction and storage temperature range | T_J, T_{STG} | -65 to +175 | | | | | | | $^\circ\text{C}$ |

NOTES:

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

RATINGS AND CHARACTERISTIC CURVES 1N4001GP THRU 1N4007GP

FIG. 1 - FORWARD CURRENT DERATING CURVE

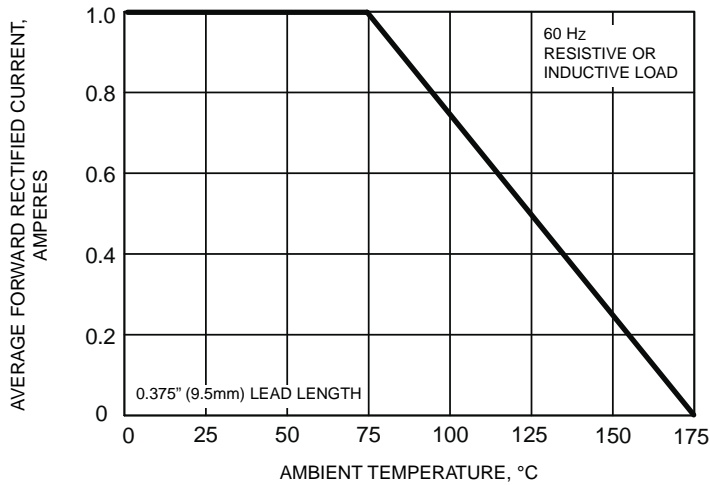


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

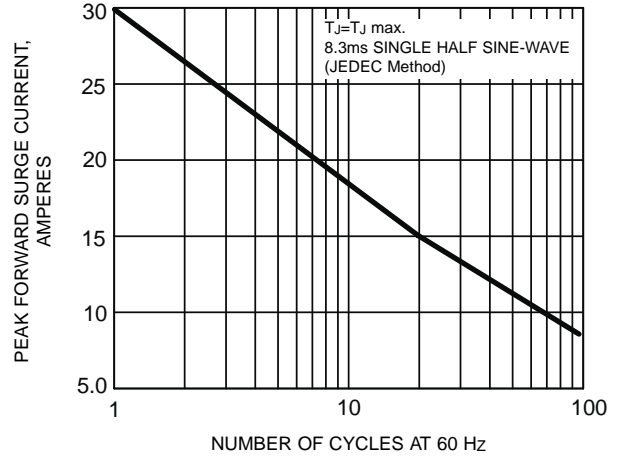


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

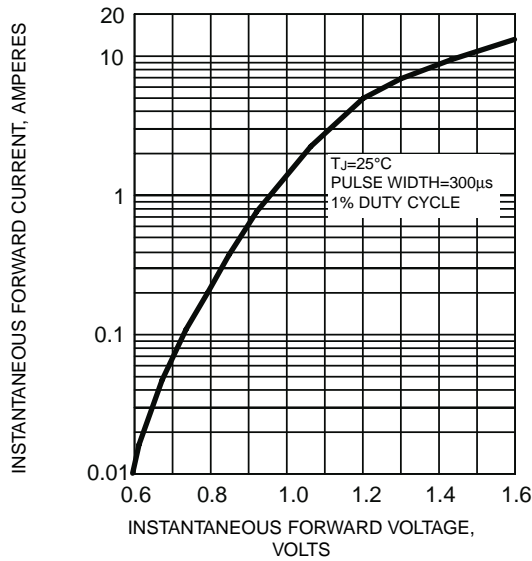


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

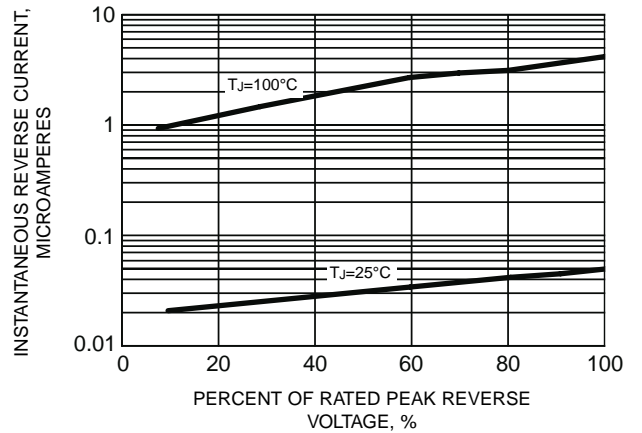


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

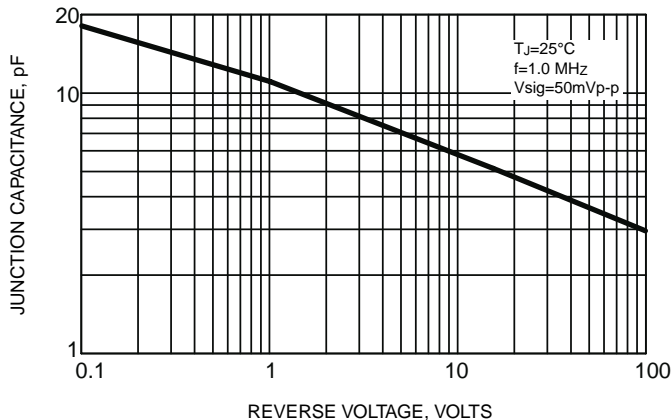


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

