

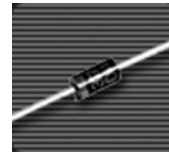


# 1N4001G thru 1N4007G

Glass Passivated Junction Rectifiers  
Reverse Voltage 50 to 1000 Volts Forward Current 1.0 Ampere

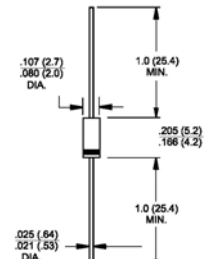
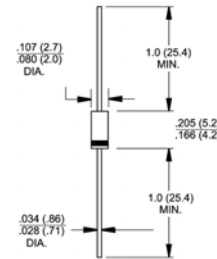
## Features

- ◆ Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- ◆ High temperature metallurgically bonded construction
- ◆ Cavity-free glass passivated 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°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension



DO-204AL (DO-41)

A-405



Dimensions in inches and (millimeters)      Dimensions in inches and (millimeters)

**Note:** Lead diameter is 0.025(0.64)/0.021(0.53) for part numbers from 1N4001SG thru 1N4007SG

## Mechanical Data

- ◆ Case: JEDEC DO-204AL (DO-41) / A-405, 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: DO-41 - 0.012 ounce, 0.335 gram  
A-405 - 0.008 ounce, 0.235 gram

## Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	1N 4001G	1N 4002G	1N 4003G	1N 4004G	1N 4005G	1N 4006G	1N 4007G	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 $T_A=75^\circ\text{C}$	$I_{F(AV)}$	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 full load reverse current, full cycle average 0.375" (9.5mm) lead length $T_A=75^\circ\text{C}$	$I_{R(AV)}$	30							$\mu\text{A}$
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.1							Volts
Maximum DC reverse current at rated DC blocking voltage @ $T_A=25^\circ\text{C}$ @ $T_A=125^\circ\text{C}$	$I_R$	5.0 50							$\mu\text{A}$
Typical reverse recovery time at $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $t_r=0.25\text{A}$	$t_{rr}$	1.0							$\mu\text{s}$
Typical junction capacitance at 4.0V, 1MHz	$C_J$	8.0							pF
Typical thermal resistance (NOTE 1)	$R_{\theta JA}$ $R_{\theta JL}$	55.0 25.0							$^\circ\text{C/W}$
Operating junction temperature range	$T_J$	-55 to +150							$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150							$^\circ\text{C}$

**Notes:** 1. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

# RATINGS AND CHARACTERISTIC CURVES

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

FIG. 1 - FORWARD CURRENT DERATING CURVE

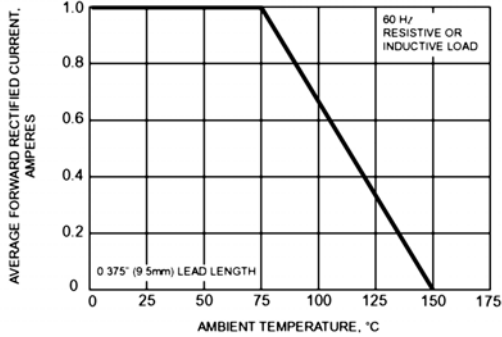


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

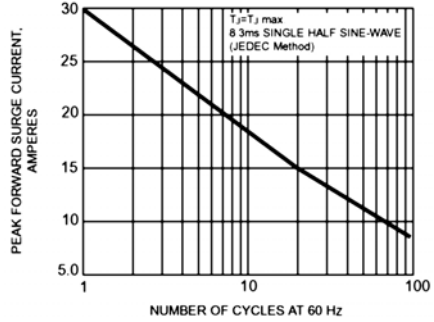


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

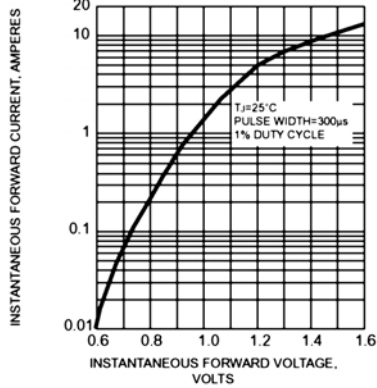


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

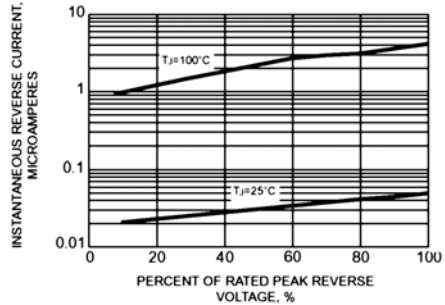


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

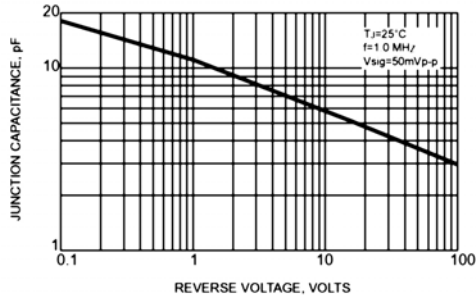


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

