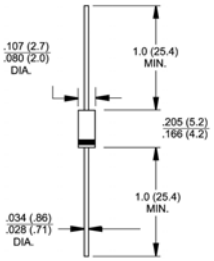
1N4001G thru 1N4007G

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

Features

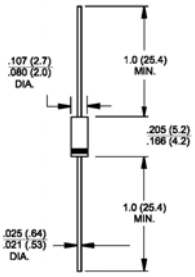
- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High temperature metallurgically bonded construction
- Cavity-free glass passivated junction
- Capable of meeting environmental standards of MIL-S-19500
- 1.0 Ampere operation at T_A=75ºC with no thermal runaway
- Typical I_R less than 0.1uA
- High temperature soldering guaranteed: 350ºC/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

DO-204AL (DO-41)



Dimensions in inches and (millimeters)

A-405



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 25ºC 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=75ºC	$I_{F(AV)}$	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=75ºC	$I_{R(AV)}$	30							uA
Maximum instantaneous forward voltage at 1.0A	V_F	1.1							Volts
Maximum DC reverse current @T_A=25ºC at rated DC blocking voltage @T_A=125ºC	I_R	5.0 50							uA
Typical reverse recovery time at I_F=0.5A, I_R=1.0A, I_{rr}=0.25A	t_{rr}	1.0							uS
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							ºC/W
Operating junction temperature range	T_J	-55 to +150							ºC
Storage temperature range	T_{STG}	-55 to +150							ºC

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°C unless otherwise noted)

FIG. 1 - FORWARD CURRENT DERATING CURVE

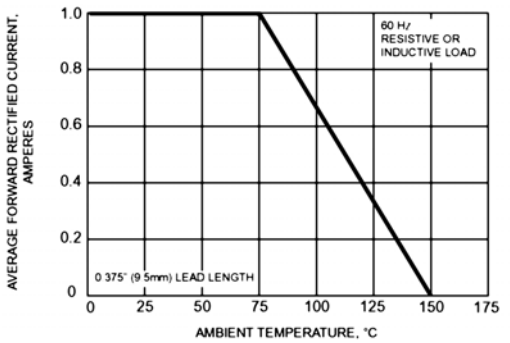


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

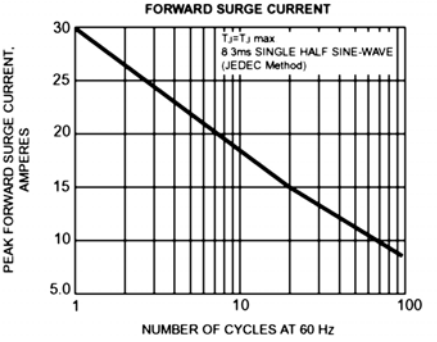


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

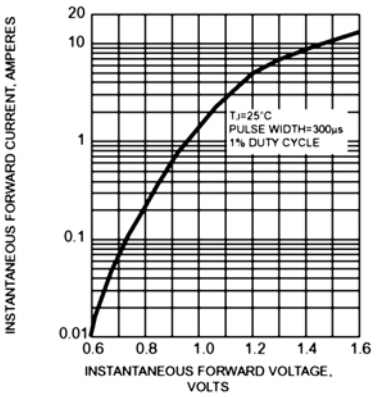


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

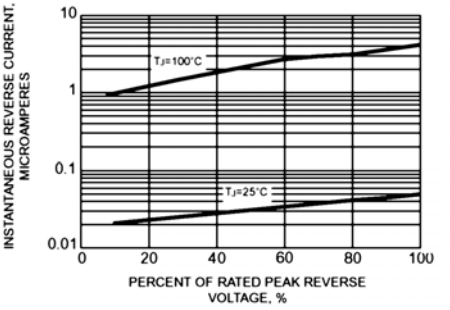


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

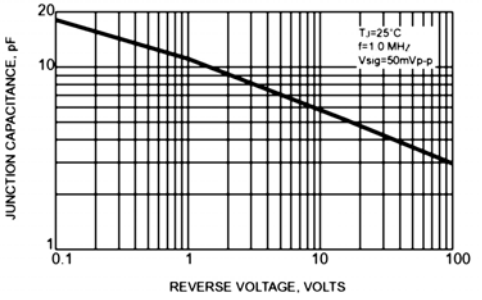


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE