



# 1N4001 thru 1N4007

General Purpose Plastic Rectifiers  
Reverse Voltage 50 to 1000 Volts Forward Current 1.0 Ampere

## Features

- ◆ Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- ◆ Construction utilizes void-free molded plastic technique
- ◆ Low reverse leakage
- ◆ High forward surge capability
- ◆ High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension
- ◆  $T_J$  is 150°C (Max.) and  $T_{STG}$  is 175°C (Max.) with PI glue

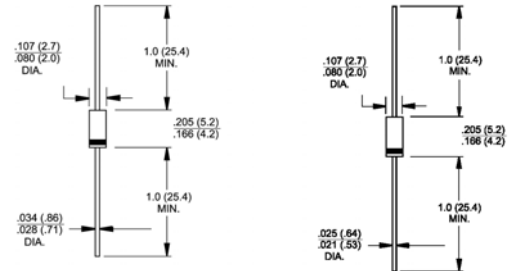


DO-204AL (DO-41)

A-405

## Mechanical Data

- ◆ Case: JEDEC DO-204AL (DO-41)/A-405, molded plastic box
- ◆ 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, 0.33 gram  
A-405 - 0.008 ounce, 0.23 gram



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

Note: Lead diameter is 0.025(0.64)/0.021(0.53) for suffix "S" part numbers

## Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	1N4001	1N4002	1N4003	1N4004	1N4005	1N4006	1N4007	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 $T_A=50^\circ\text{C}$	$I_{F(AV)}$					1.0				Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) $T_A=50^\circ\text{C}$	$I_{FSM}$					30.0				Amps
Maximum full load reverse current, full cycle average 0.375" (9.5mm) lead length at $T_L=75^\circ\text{C}$	$I_{R(AV)}$					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 $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	$I_R$					5.0 50				$\mu\text{A}$
Typical reverse recovery time at $I_{FM}=20\text{mA}$ , $I_{RM}=1\text{mA}$ (Note 2)	$t_{rr}$					1.0				$\mu\text{s}$
Typical junction capacitance at 4.0V, 1MHz	$C_j$					15				pF
Typical thermal resistance (Note 1)	$R_{\theta JA}$ $R_{\theta JL}$					50.0 25.0				$^\circ\text{C/W}$
Operating junction temperature range	$T_J$					-55 to +125				$^\circ\text{C}$
Storage temperature range	$T_{STG}$					-55 to +150				$^\circ\text{C}$

- Notes:**
1. Thermal resistance from junction to ambient, and from junction to lead at 0.375" (9.5mm) lead length, P.C.B. mounted
  2. Measured on Tektronix type "S" recovery plug-in. Tektronix 545 scope or equivalent

# RATINGS AND CHARACTERISTIC CURVES

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

