



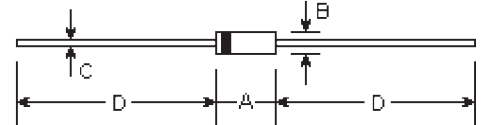
# 1N4001 THRU 1N4007

**GENERAL PURPOSE PLASTIC RECTIFIER**  
**Reverse Voltage - 50 to 1000 Volts**  
**Forward Current - 1.0 Ampere**

## Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Construction utilizes void-free molded plastic technique
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3Kg) tension

## DO-41



## Mechanical Data

- **Case:** DO-41 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, 0.33 gram

| DIM | DIMENSIONS |       |       |      | Note |
|-----|------------|-------|-------|------|------|
|     | inches     |       | mm    |      |      |
|     | Min.       | Max.  | Min.  | Max. |      |
| A   | 0.165      | 0.205 | 4.2   | 5.2  |      |
| B   | 0.079      | 0.106 | 2.0   | 2.7  | φ    |
| C   | 0.028      | 0.034 | 0.71  | 0.86 | φ    |
| D   | 1.000      | -     | 25.40 | -    |      |

## Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

|   | 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<br>0.375" (9.5mm) lead length at $T_A=75^\circ\text{C}$   | $I_{(AV)}$                         | 1.0          |        |        |        |        |        |        | Amp                |
| Peak forward surge current<br>8.3mS single half sine-wave superimposed<br>on rated load (MIL-STD-750D 4066 method) $T_A=75^\circ\text{C}$ | $I_{FSM}$                          | 30.0         |        |        |        |        |        |        | Amps               |
| Maximum instantaneous forward voltage at 1.0A   | $V_F$                              | 1.1          |        |        |        |        |        |        | Volts              |
| Maximum DC reverse current<br>at rated DC blocking voltage<br>$T_A=25^\circ\text{C}$<br>$T_A=100^\circ\text{C}$                           | $I_R$                              | 5.0<br>50.0  |        |        |        |        |        |        | $\mu\text{A}$      |
| Typical reverse recovery time (Note 1)  | $T_{rr}$                           | 2.0          |        |        |        |        |        |        | $\mu\text{S}$      |
| Typical junction capacitance (Note 2)   | $C_j$                              | 15.0         |        |        |        |        |        |        | F                  |
| Typical thermal resistance (Note 3)   | $R_{\theta JA}$<br>$R_{\theta JL}$ | 50.0<br>25.0 |        |        |        |        |        |        | $^\circ\text{C/W}$ |
| Maximum DC blocking voltage temperature   | $T_A$                              | +150         |        |        |        |        |        |        | $^\circ\text{C}$   |
| Operating junction and storage temperature range  | $T_J, T_{STG}$                     | -50 to +175  |        |        |        |        |        |        | $^\circ\text{C}$   |

### Notes:

(1) Reverse recovery test conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_F=0.25\text{A}$

(2) Measured at 1.0MHz 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

# RATINGS AND CHARACTERISTIC CURVES

