

# 1N4001 THRU 1N4007



康比電子  
HORNBY ELECTRONIC

## GENERAL PURPOSE PLASTIC SILICON RECTIFIER

**REVERSE VOLTAGE:** 50 to 1000 VOLTS

**FORWARD CURRENT:** 1.0 AMPERE

### FEATURES

- Low forward voltage drop
- High current capability
- High capability
- High surge current capability
- Exceeds environmental standards of MIL-S-19500/228

### MECHANICAL DATA

Case: Molded plastic, DO-41

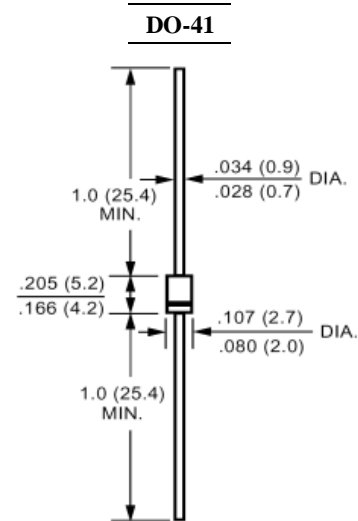
Epoxy: UL 94V-O rate flame retardant

Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed

Polarity: Color band denotes cathode end

Mounting position: Any

Weight: 0.012ounce, 0.33gram



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

|   | Symbols         | 1N4001      | 1N4002 | 1N4003 | 1N4004 | 1N4005 | 1N4006 | 1N4007 | Units |
|---|-----------------|-------------|--------|--------|--------|--------|--------|--------|-------|
| Maximum Recurrent 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>.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<br>superimposed on rated load (JEDEC method)         | $I_{FSM}$       | 30          |        |        |        |        |        |        | Amp   |
| Maximum Forward Voltage<br>at 1.0A DC and 25°C  | $V_F$           | 1.1         |        |        |        |        |        |        | Volts |
| Maximum Full Load Reverse Current<br>Full Cycle Average at 75°C Ambient   |                 | 30          |        |        |        |        |        |        | uAmp  |
| Maximum Reverse Current<br>at $T_A=25^\circ\text{C}$<br>at Rated DC Blocking Voltage<br>$T_A=100^\circ\text{C}$ | $I_R$           | 5.0<br>50   |        |        |        |        |        |        | uAmp  |
| Typical Junction Capacitance (Note 1)   | $C_J$           | 15          |        |        |        |        |        |        | pF    |
| Typical Thermal Resistance (Note 2)   | $R_{\theta JA}$ | 50          |        |        |        |        |        |        | °C/W  |
| Operating Junction Temperature Range  | $T_J$           | -55 to +150 |        |        |        |        |        |        | °C    |
| Storage Temperature Range   | $T_{stg}$       | -55 to +150 |        |        |        |        |        |        | °C    |

### NOTES:

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Thermal Resistance Junction to Ambient 0.375"(9.5mm) lead length P.C.B. Mounted.

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### RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

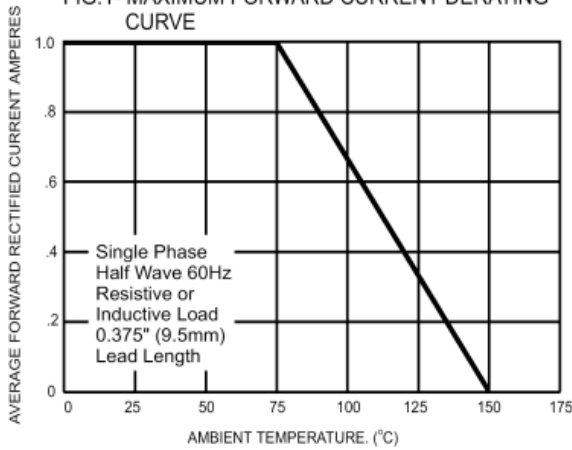


FIG.2- TYPICAL FORWARD CHARACTERISTICS

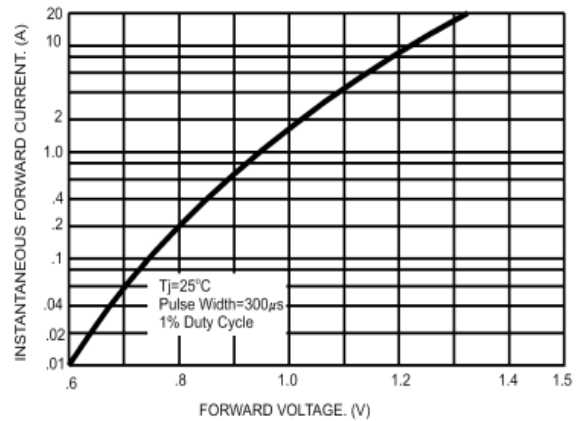


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

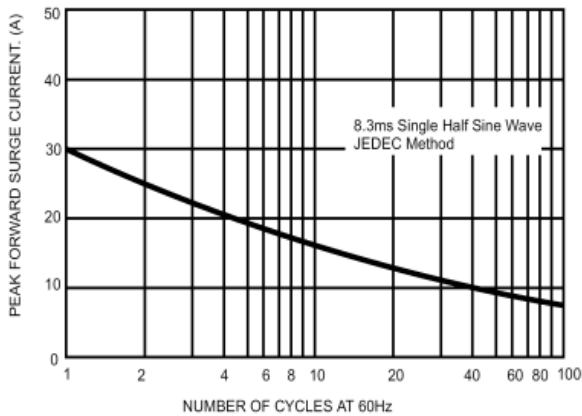


FIG.4- TYPICAL JUNCTION CAPACITANCE

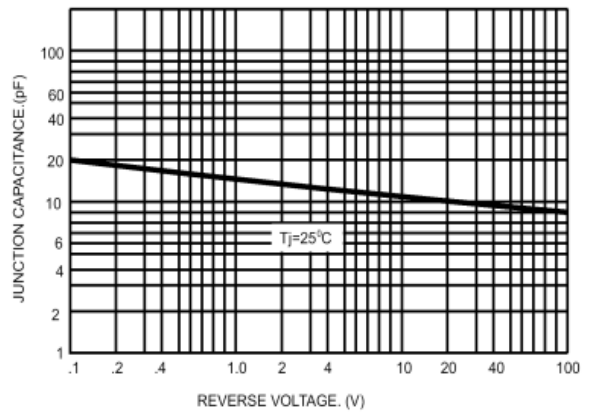


FIG.5- TYPICAL REVERSE CHARACTERISTICS

