

# 1N4001 THRU 1N4007



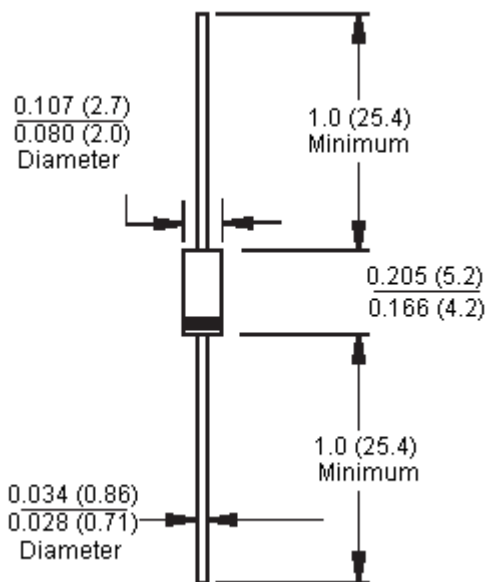
## 1.0 AMP. Silicon Rectifiers

### Features:

- Low forward voltage drop.
- High current capability.
- High reliability.
- High surge current capability.

Voltage Range  
50 to 1300 Volts  
Current  
1.0 Ampere

### DO-41



Dimensions : Inches (Millimetres)

### Mechanical Data:

|                                       |   |
|---------------------------------------|---|
| Cases                                 | : Moulded plastic.  |
| Epoxy                                 | : Rate flame retardant.   |
| Lead                                  | : Axial leads, solderable per MIL-STD-202, method 208 guaranteed.               |
| Polarity                              | : Colour band denotes cathode end.  |
| High temperature soldering guaranteed | : 260°C/10 second/0.375 inches, (9.5mm) lead lengths at 5lbs., (2.3kg) tension. |

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### Maximum Ratings and Electrical Characteristics:

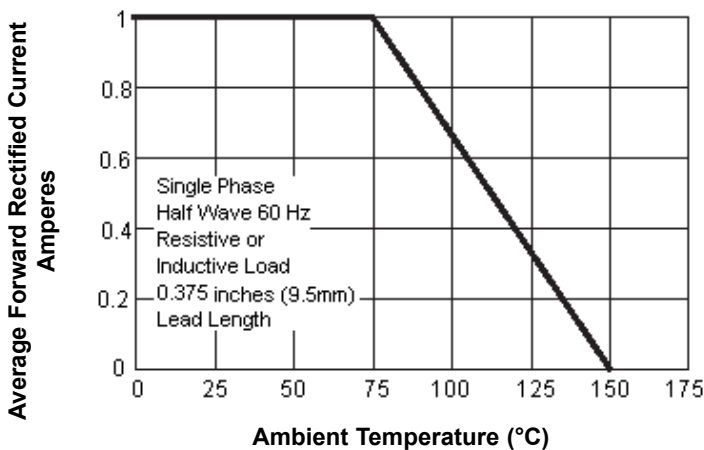
Rating at 25°C ambient temperature unless otherwise specified.  
 Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

| Type Number  | Symbol         | 1N 4001     | 1N 4002 | 1N 4003 | 1N 4004 | 1N 4005 | 1N 4006 | 1N 4007 | Units              |
|--|----------------|-------------|---------|---------|---------|---------|---------|---------|--------------------|
| Maximum recurrent peak reverse voltage   | $V_{RRM}$      | 50          | 100     | 200     | 400     | 600     | 800     | 1000    | V                  |
| Maximum RMS voltage  | $V_{RMS}$      | 35          | 70      | 140     | 280     | 420     | 560     | 700     |                    |
| Maximum DC blocking voltage  | $V_{DC}$       | 50          | 100     | 200     | 400     | 600     | 800     | 1000    |                    |
| Maximum average forward rectified current 0.375 Inches (9.5mm) lead length at $T_A = 75^\circ\text{C}$             | $I_{(AV)}$     | 1.0         |         |         |         |         |         |         | A                  |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)                  | $I_{FSM}$      | 30          |         |         |         |         |         |         | V                  |
| Maximum instantaneous forward voltage at 1.0A  | $V_F$          | 1.0         |         |         |         |         |         |         | V                  |
| Maximum DC reverse current at $T_A = 25^\circ\text{C}$ at rated DC blocking voltage at $T_A = 100^\circ\text{C}$   | $I_R$          | 5.0<br>50   |         |         |         |         |         |         | $\mu\text{A}$      |
| Maximum full load reverse current, full cycle average 0.375 inches (9.5mm) lead length at $T_A = 75^\circ\text{C}$ | $HT_{IR}$      | 30          |         |         |         |         |         |         | $\mu\text{A}$      |
| Typical junction capacitance (Note 1)  | $C_j$          | 10          |         |         |         |         |         |         | pF                 |
| Typical thermal resistance (Note 2)  | $R\theta_{JA}$ | 65          |         |         |         |         |         |         | $^\circ\text{C/W}$ |
| Operating and storage temperature range  | $T_J, T_{STG}$ | -65 to +150 |         |         |         |         |         |         | $^\circ\text{C}$   |

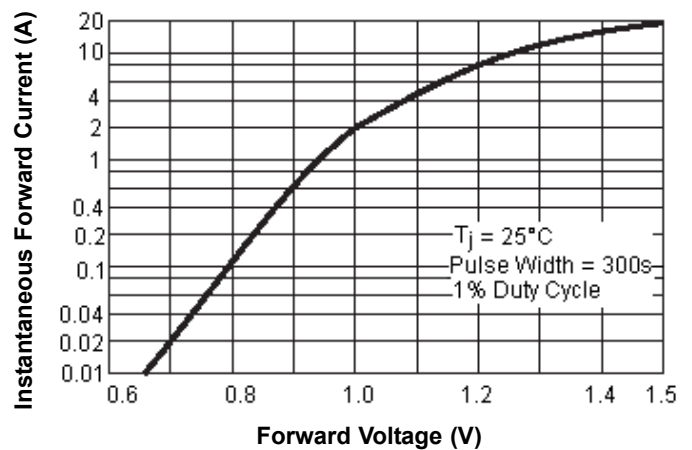
Note: 1. Measured at 1MHz and Applied Reverse Voltage of 4.0 Volts DC  
 2. Mount on Cu-Pad Size 5 x 5mm on PCB.

### Ratings and Characteristic Curves (1N4001)

Maximum Forward Current Derating Curve



Typical Forward Characteristics



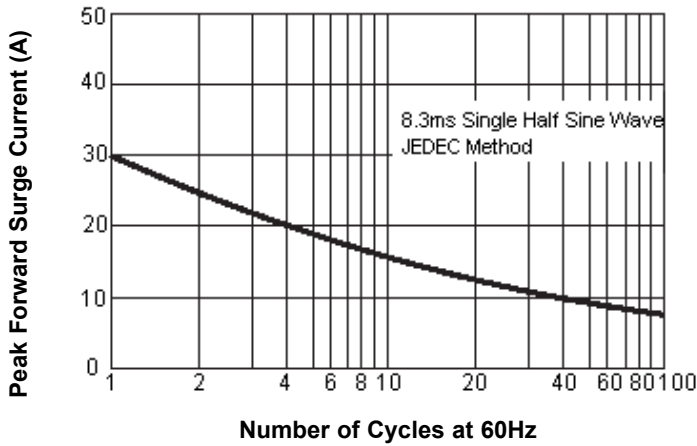
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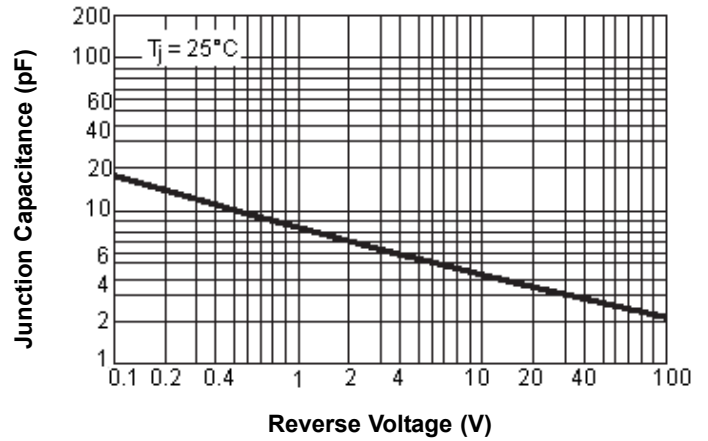
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### Ratings and Characteristic Curves (1N4001)

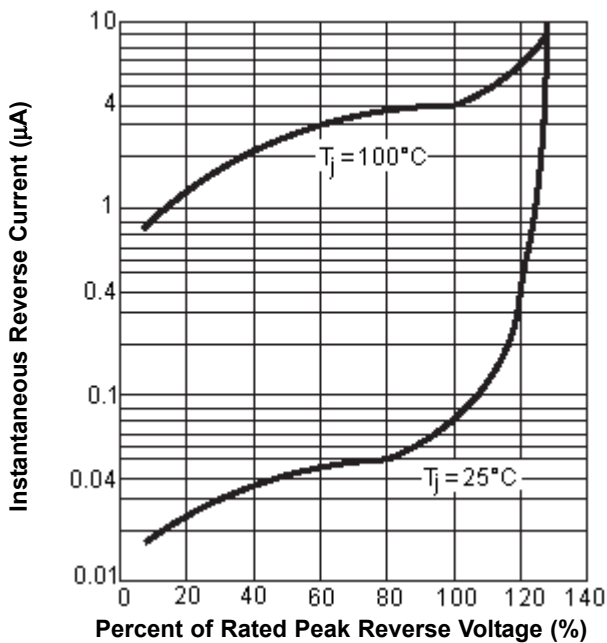
Maximum Non-Repetitive Forward Surge Current



Typical Junction Capacitance



Typical Reverse Characteristics



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