

# 1N4001 THRU 1N4007

## Features

- Low Current Leakage
- Metalurgically Bonded Construction
- Low Cost

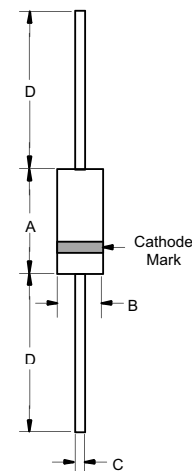
## 1 Amp Rectifier 50 - 1000 Volts

## Maximum Ratings

- Operating Temperature: -55°C to +125°C
- Storage Temperature: -55°C to +150°C
- Typical Thermal Resistance: 26 °C/W Junction to Ambient

| Catalog Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|----------------|----------------|--|---------------------|-----------------------------|
| 1N4001         | ---            | 50V                                    | 35V                 | 50V                         |
| 1N4002         | ---            | 100V                                   | 70V                 | 100V                        |
| 1N4003         | ---            | 200V                                   | 140V                | 200V                        |
| 1N4004         | ---            | 400V                                   | 280V                | 400V                        |
| 1N4005         | ---            | 600V                                   | 420V                | 600V                        |
| 1N4006         | ---            | 800V                                   | 560V                | 800V                        |
| 1N4007         | ---            | 1000V                                  | 700V                | 1000V                       |

## DO-41



## Electrical Characteristics @ 25°C Unless Otherwise Specified

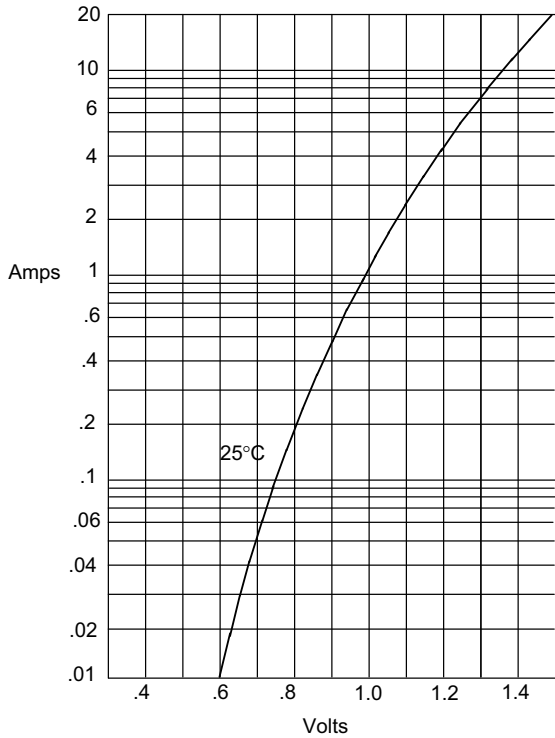
|   |             |                                       |   |
|---|-------------|---------------------------------------|---|
| Average Forward Current                                 | $I_{F(AV)}$ | 1.0A                                  | $T_A = 75^\circ\text{C}$                                |
| Peak Forward Surge Current                              | $I_{FSM}$   | 30A                                   | 8.3ms, half sine  |
| Maximum Instantaneous Forward Voltage                   | $V_F$       | 1.1V                                  | $I_{FM} = 1.0\text{A}; T_J = 25^\circ\text{C}^*$        |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | $I_R$       | 5.0 $\mu\text{A}$<br>50 $\mu\text{A}$ | $T_J = 25^\circ\text{C}$<br>$T_J = 125^\circ\text{C}$   |
| Typical Junction Capacitance                            | $C_J$       | 15pF                                  | Measured at 1.0MHz, $V_R=4.0\text{V}$                   |
| Maximum Reverse Recovery Time                           | $T_{rr}$    | 2.0us                                 | $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$ |

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

| DIM | DIMENSIONS |      |       |      | NOTE |
|-----|------------|------|-------|------|------|
|     | INCHES     |      | MM    |      |      |
|     | MIN        | MAX  | MIN   | MAX  |      |
| A   | .166       | .205 | 4.10  | 5.20 |      |
| B   | .080       | .107 | 2.00  | 2.70 |      |
| C   | .028       | .034 | .70   | .90  |      |
| D   | 1.000      | ---  | 25.40 | ---  |      |

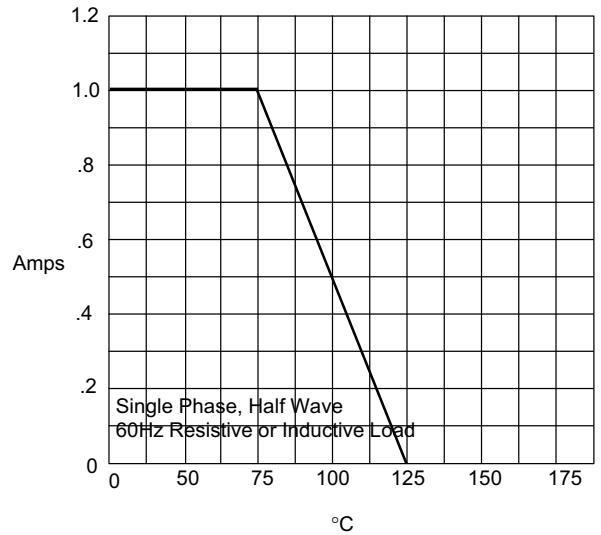
# 1N4001 thru 1N4007

Figure 1  
Typical Forward Characteristics



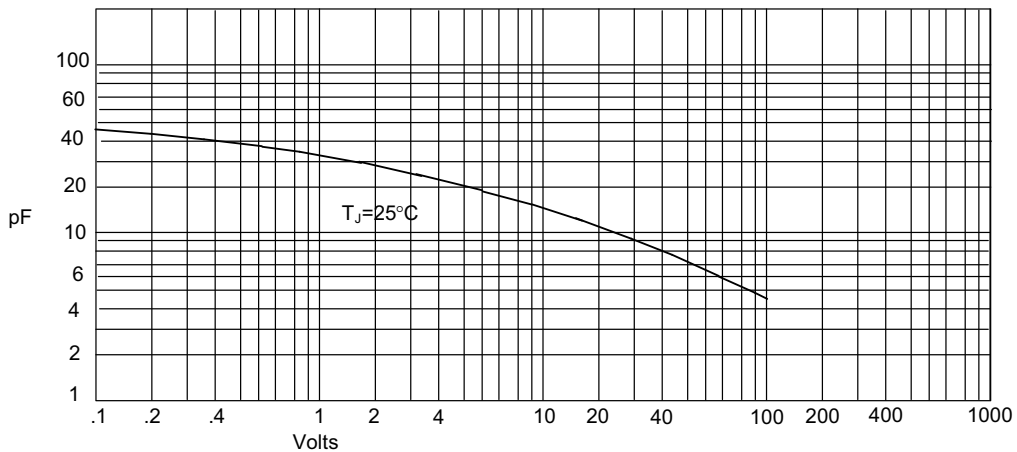
Instantaneous Forward Current - Amperes *versus*  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



Average Forward Rectified Current - Amperes *versus*  
Ambient Temperature - °C

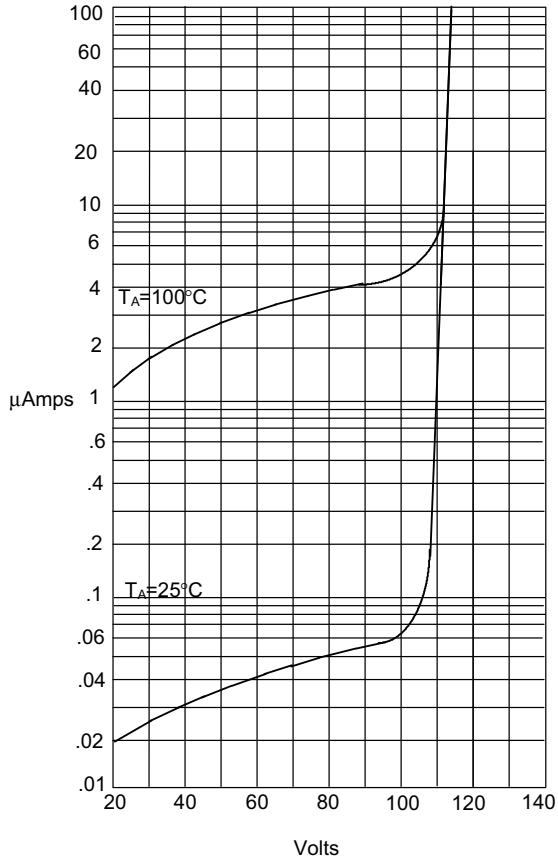
Figure 3  
Junction Capacitance



Junction Capacitance - pF *versus*  
Reverse Voltage - Volts

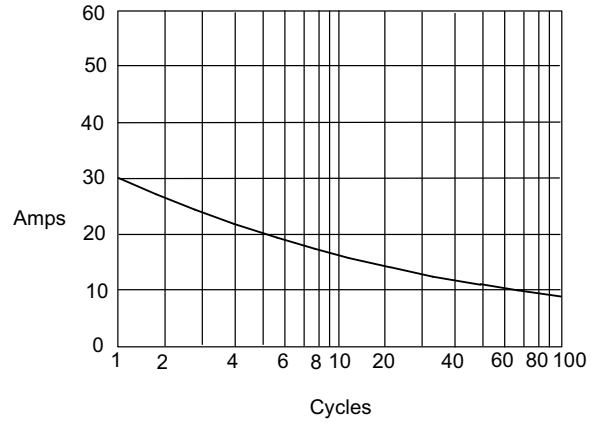
1N4001 thru 1N4007

Figure 4  
Typical Reverse Characteristics



Instantaneous Reverse Leakage Current - MicroAmperes *versus* Percent Of Rated Peak Reverse Voltage - Volts

Figure 5  
Peak Forward Surge Current



Peak Forward Surge Current - Amperes *versus* Number Of Cycles At 60Hz - Cycles