



Micro Commercial Components



Micro Commercial Components  
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**1N4001  
 THRU  
 1N4007**

**1 Amp Rectifier  
 50 - 1000 Volts**

**Features**

- Halogen free available upon request by adding suffix "-HF"
- Low Current Leakage and Low Cost
- Lead Free Finish/RoHS Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

**Maximum Ratings**

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Typical Thermal Resistance: 35°C/W Junction to Case  
 25°C/W Junction to Lead at 0.375"  
 Lead Length P.C.B. Mounted

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

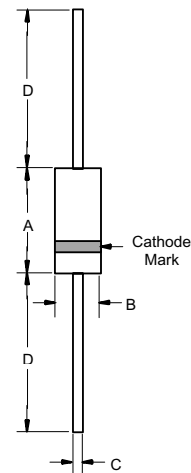
**Electrical Characteristics @ 25°C Unless Otherwise Specified**

|   |             |                     |  |
|---|-------------|---------------------|--|
| 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                   | $V_F$       | 1.0V                | $I_{FM} = 1.0\text{A};$<br>$T_J = 25^\circ\text{C}^*$        |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | $I_R$       | 5.0μA<br>50μA       | $T_J = 25^\circ\text{C}$<br>$T_J = 125^\circ\text{C}$        |
| Typical Junction Capacitance                            | $C_J$       | 15pF                | Measured at 1.0MHz, $V_R=4.0\text{V}$                        |
| Typical Reverse Recovery Time                           | $T_{rr}$    | 2.0μs               | $I_F=0.5\text{A}, I_R=1.0\text{A},$<br>$I_{rr}=0.25\text{A}$ |
| Rating for fusing                                       | $I^2t$      | 3.7A <sup>2</sup> s | $t<8.3\text{ms}$   |

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Note: 1. High Temperature Solder Exemption Applied, see EU Directive Annex 7.

**DO-41**

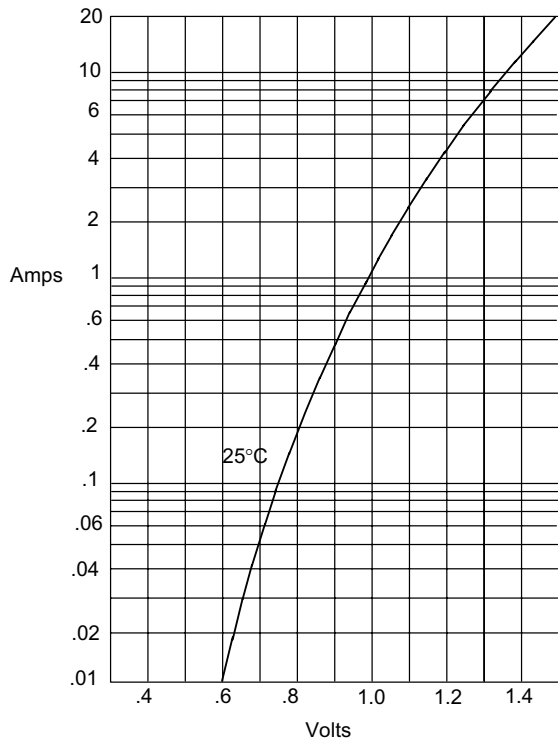


DIMENSIONS

| DIM | INCHES |      | MM    |      | NOTE |
|-----|--------|------|-------|------|------|
|     | 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 | ---  |      |

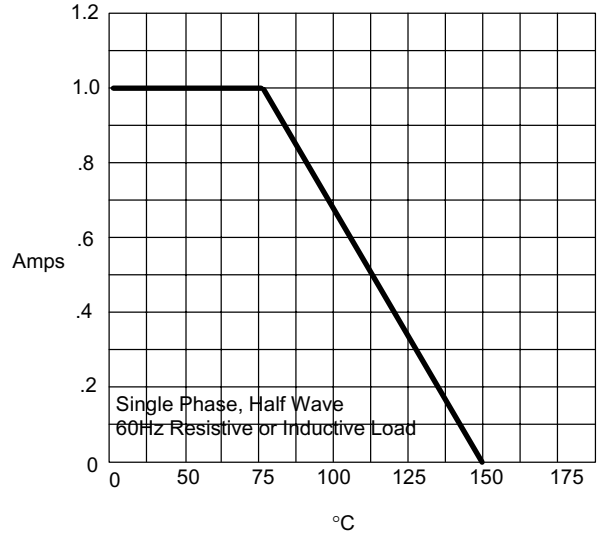
# 1N4001 thru 1N4007

Figure 1  
Typical Forward Characteristics



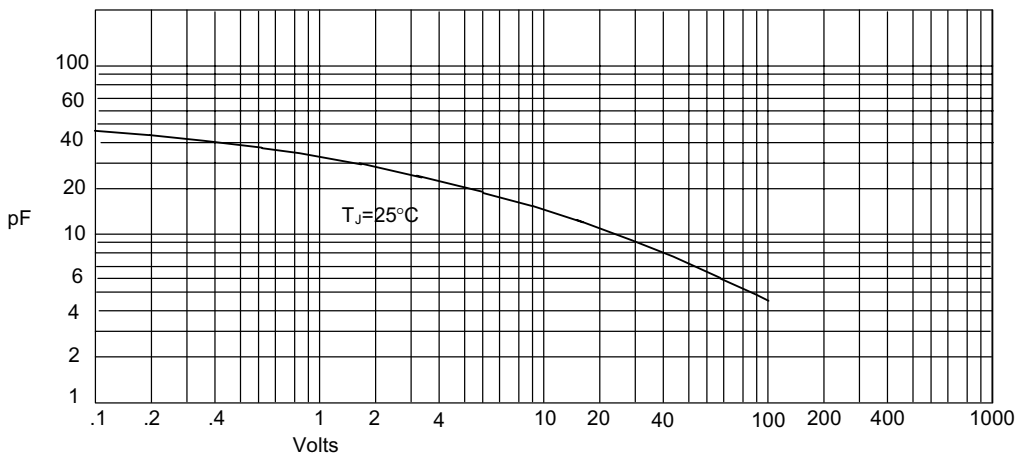
Instantaneous Forward Current - Amperes *versus*  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



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

Figure 3  
Junction Capacitance

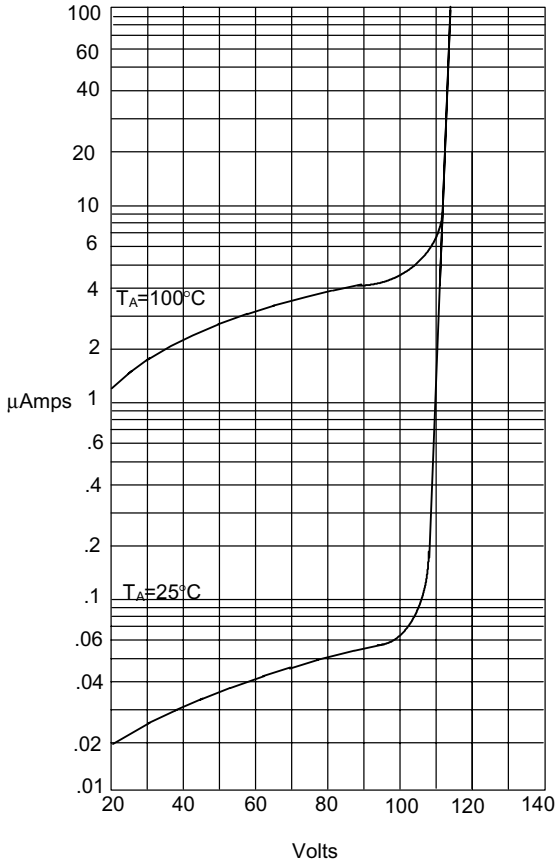


Junction Capacitance - pF *versus*  
Reverse Voltage - Volts

1N4001 thru 1N4007

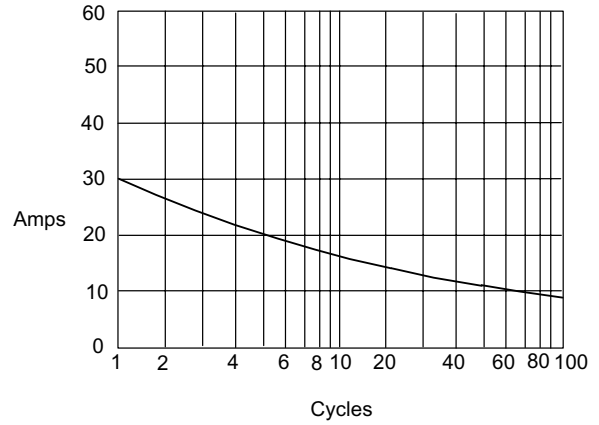


Figure 4  
Typical Reverse Characteristics



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



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### Ordering Information :

| Device         | Packing                      |
|----------------|------------------------------|
| Part Number-TP | Tape&Reel: 5Kpcs/Reel        |
| Part Number-AP | Ammo Packing: 5Kpcs/Ammo Box |
| Part Number-BP | Bulk: 50Kpcs/Carton          |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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