



THE DATASHEET OF 1N4007-TP





Micro Commercial Components



Micro Commercial Components
130 W Cochran St, Unit B
Simi Valley, CA 93065
Tel:818-701-4933

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 |

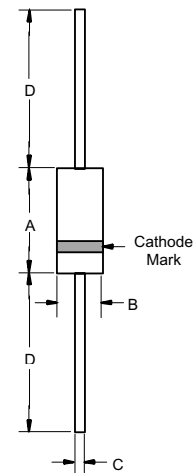
Electrical Characteristics @ 25°C Unless Otherwise Specified

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

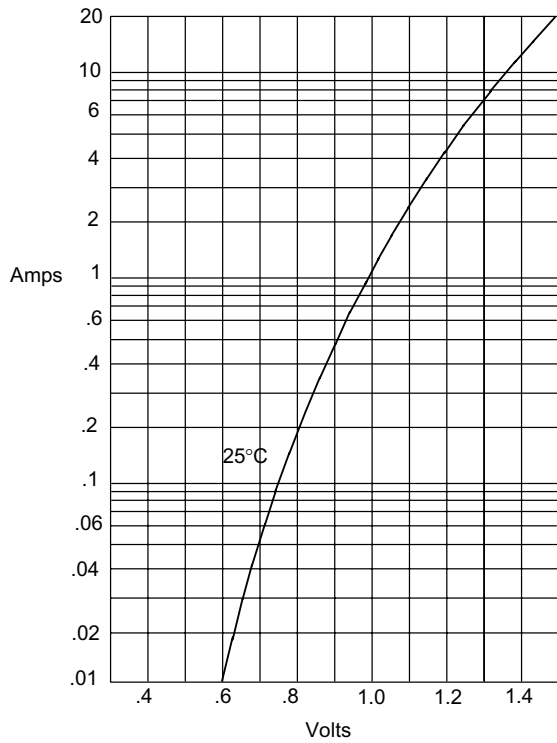


DIMENSIONS

| 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 | --- | |

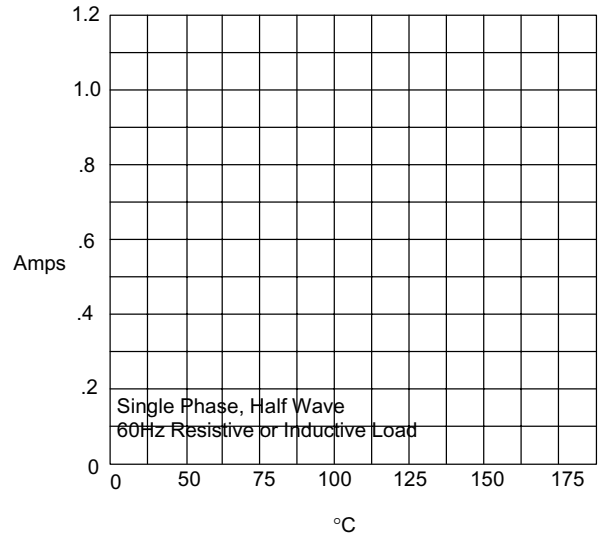
1N4001 thru 1N4007

Figure 1
Typical Forward Characteristics



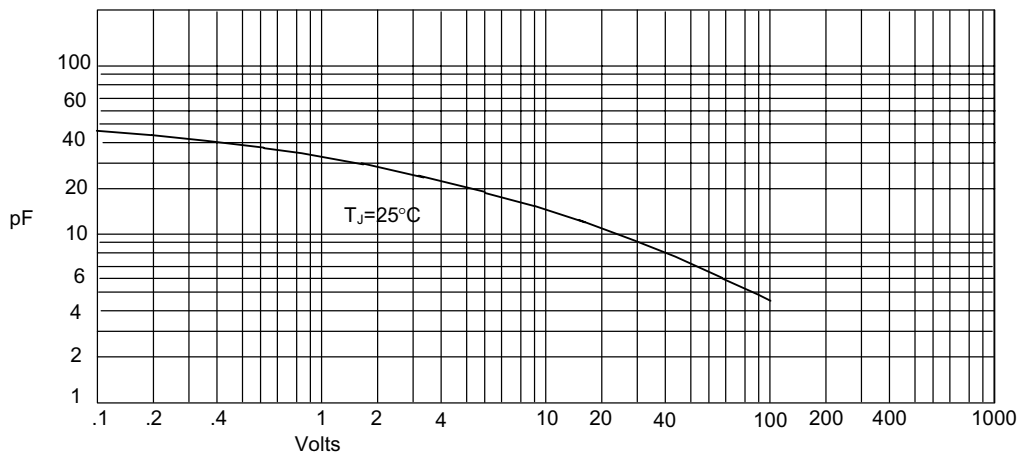
Instantaneous Forward Current - Amperes *versus*
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



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

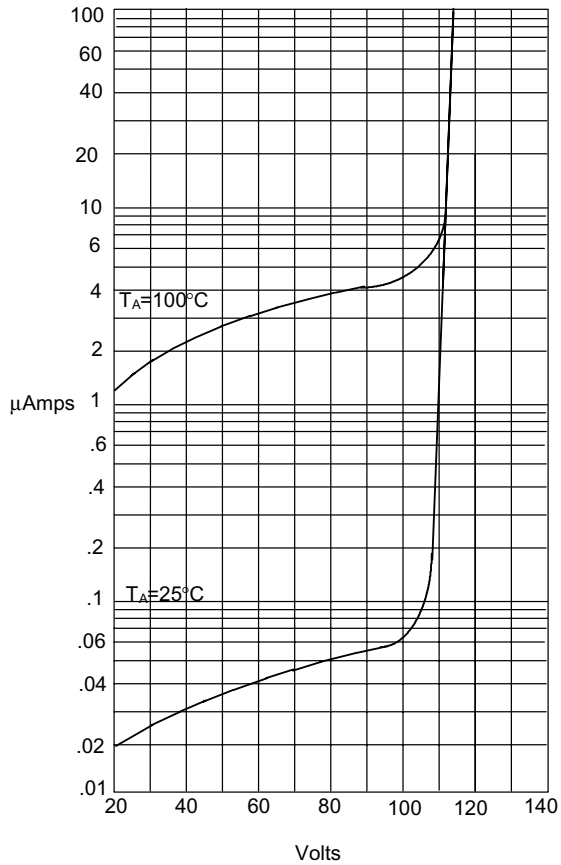
Figure 3
Junction Capacitance



Junction Capacitance - pF *versus*
Reverse Voltage - Volts

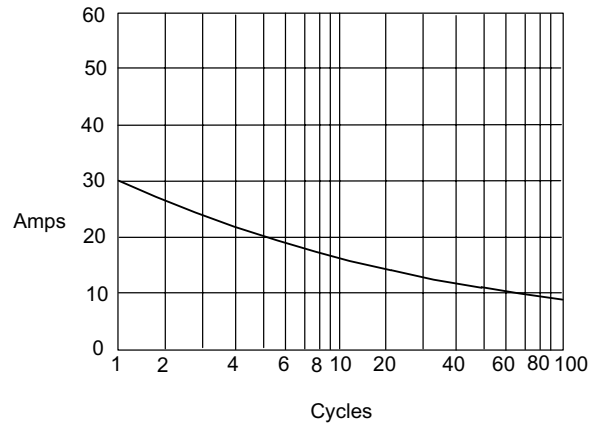
1N4001 thru 1N4007

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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