



THE 1N4001-1N4007 IS <u>NOT</u> RECOMMENDED FOR NEW DESIGNS. PLEASE USE THE 1N4007G_HF.

1.0A RECTIFIER

Features

- Diffused Junction
- High Current Capability and Low-Forward Voltage Drop
- Surge Overload Rating to 30A Peak
- Low Reverse Leakage Current
- Lead-Free Finish; RoHS Compliant (Notes 1 & 2)
- For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please contact us or your local Diodes representative. https://www.diodes.com/quality/product-definitions/

Mechanical Data

Package: DO-41

 Package Material: Molded Plastic. UL Flammability Classification Rating 94V-0

• Moisture Sensitivity: Level 1 per J-STD-020

 Terminals: Finish - Bright Tin. Plated Leads Solderable per MIL-STD-202, Method 208 ³

Polarity: Cathode BandMarking: Type Number

• Weight: 0.30 grams (Approximate)

Ordering Information (Note 3)

| Part Number | Package | Packing | | |
|-------------|---------------|---------|-----------------|--|
| | Package | Qty. | Carrier | |
| 1N4001-T | DO-41 Plastic | 5k | 13" Tape & Reel | |
| 1N4002-T | DO-41 Plastic | 5k | 13" Tape & Reel | |
| 1N4003-T | DO-41 Plastic | 5k | 13" Tape & Reel | |
| 1N4004-T | DO-41 Plastic | 5k | 13" Tape & Reel | |
| 1N4005-T | DO-41 Plastic | 5k | 13" Tape & Reel | |
| 1N4006-T | DO-41 Plastic | 5k | 13" Tape & Reel | |
| 1N4007-T | DO-41 Plastic | 5k | 13" Tape & Reel | |

Notes:

- 1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
- 2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
- 3. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.

1N4001-1N4007 Document number: DS28002 Rev. 10 - 3 1 of 3



Maximum Ratings and Electrical Characteristics (@TA = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

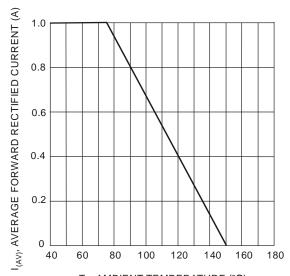
| Characteristic | Symbol | 1N4001 | 1N4002 | 1N4003 | 1N4004 | 1N4005 | 1N4006 | 1N4007 | Unit |
|---|-----------------------------------|--------|--------|--------|-----------|--------|--------|--------|------|
| Peak Repetitive Reverse Voltage | V_{RRM} | | | | | | | | |
| Working Peak Reverse Voltage | VRWM | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| DC Blocking Voltage | V_R | | | | | | | | |
| RMS Reverse Voltage | V _{R(RMS)} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Average Rectified Output Current (Note 4) @ T _A = +75°C | lo | | | | 1.0 | | | | Α |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | IFSM | | | | 30 | | | | Α |
| Forward Voltage @ I _F = 1.0A | VFM | | | | 1.0 | | | | V |
| Peak Reverse Current @ T _A = +25°C | I _{RM} 5.0 50 | | | | | | | | |
| at Rated DC Blocking Voltage @ T _A = +100°C | | | | | | μA | | | |
| Typical Junction Capacitance (Note 5) | Cj | | 1 | 5 | | | 8 | | pF |
| Typical Thermal Resistance Junction to Ambient | RθJA | | | | 100 | | | | k/W |
| Maximum DC Blocking Voltage Temperature | TA | | | | +150 | | | | °C |
| Operating and Storage Temperature Range | T _J , T _{STG} | | 1 | | 65 to +15 | 0 | | | °C |

Notes:

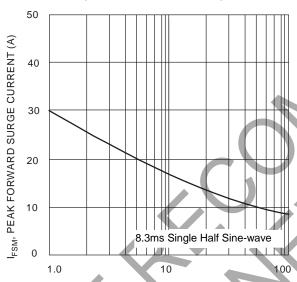
- Leads maintained at ambient temperature at a distance of 9.5mm from the case
 Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.







T_A, AMBIENT TEMPERATURE (°C) Fig. 1 Forward Current Derating Curve



NUMBER OF CYCLES AT 60 Hz Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

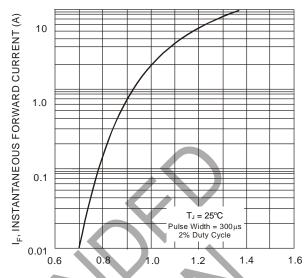


Fig. 2 Typical Forward Characteristics

100

T_J = 25°C

T_J = 25°C

1N4001 - 1N4004

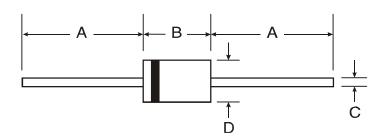
V_R, REVERSE VOLTAGE (V) Fig. 4 Typical Junction Capacitance



Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

DO-41 (Plastic)



| DO-41 (Plastic) | | | | | |
|----------------------|---------|-------|--|--|--|
| Dim | Min Max | | | | |
| Α | 25.40 | - | | | |
| В | 4.06 | 5.21 | | | |
| С | 0.71 | 0.864 | | | |
| D | 2.00 | 2.72 | | | |
| All Dimensions in mm | | | | | |



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August 2023 5 of 3 1N4001-1N4007 © 2023 Copyright Diodes Incorporated. All Rights Reserved. Document number: DS28002 Rev. 10 - 3