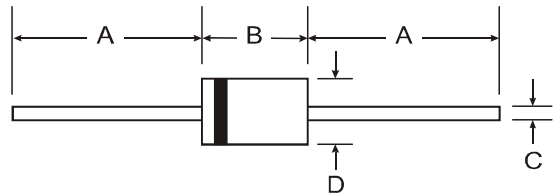


Features

- 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 (Note 3)**

Mechanical Data

- Case: DO-41
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Finish - Bright Tin. Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Mounting Position: Any
- Ordering Information: See Page 2
- Marking: Type Number
- Weight: 0.30 grams (approximate)



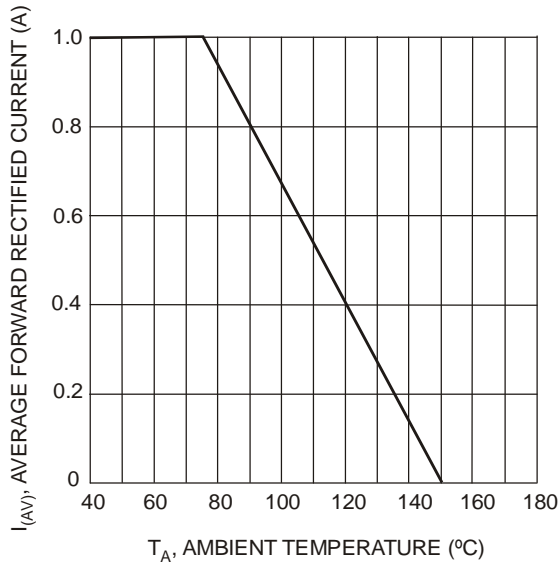
| Dim | DO-41 Plastic | |
|----------------------|---------------|-------|
| | Min | Max |
| A | 25.40 | — |
| B | 4.06 | 5.21 |
| C | 0.71 | 0.864 |
| D | 2.00 | 2.72 |
| All Dimensions in mm | | |

Maximum Ratings and Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

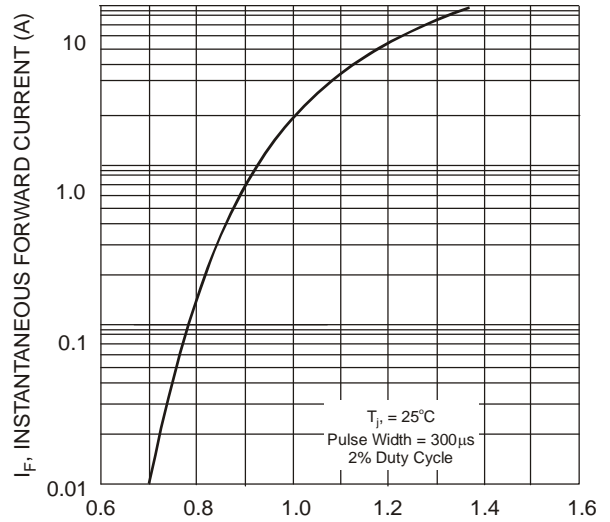
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| Characteristic | Symbol | 1N4001 | 1N4002 | 1N4003 | 1N4004 | 1N4005 | 1N4006 | 1N4007 | Unit |
|--|-----------------|-------------|--------|--------|--------|--------|--------|--------|------------------|
| Peak Repetitive Reverse Voltage | V_{RRM} | | | | | | | | V |
| Working Peak Reverse Voltage | V_{RWM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| DC Blocking Voltage | V_R | | | | | | | | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Average Rectified Output Current (Note 1) @ $T_A = 75^\circ\text{C}$ | I_O | 1.0 | | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 30 | | | | | | | A |
| Forward Voltage @ $I_F = 1.0\text{A}$ | V_{FM} | 1.0 | | | | | | | V |
| Peak Reverse Current @ $T_A = 25^\circ\text{C}$ | I_{RM} | 5.0 | | | | | | | μA |
| at Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$ | | 50 | | | | | | | |
| Typical Junction Capacitance (Note 2) | C_j | 15 | | | | 8 | | | pF |
| Typical Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | 100 | | | | | | | K/W |
| Maximum DC Blocking Voltage Temperature | T_A | +150 | | | | | | | $^\circ\text{C}$ |
| Operating and Storage Temperature Range | T_J, T_{STG} | -65 to +150 | | | | | | | $^\circ\text{C}$ |

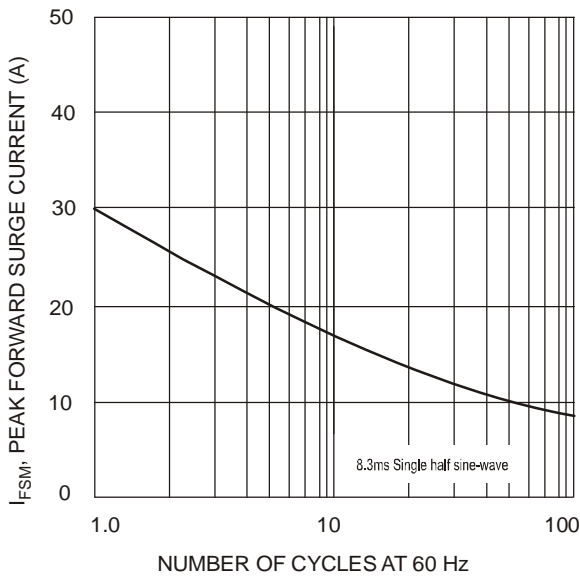
- Notes:
1. Leads maintained at ambient temperature at a distance of 9.5mm from the case.
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
 3. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.



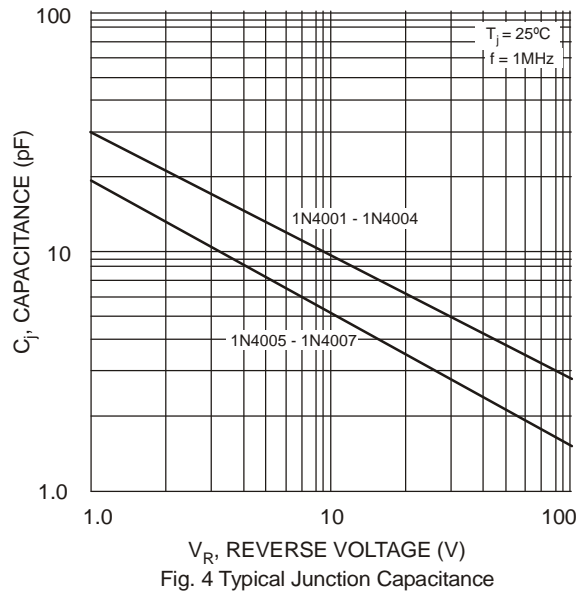
T_A , AMBIENT TEMPERATURE ($^{\circ}\text{C}$)
Fig. 1 Forward Current Derating Curve



V_F , INSTANTANEOUS FORWARD VOLTAGE (V)
Fig. 2 Typical Forward Characteristics



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



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

Ordering Information (Note 4)

| Device | Packaging | Shipping |
|----------|---------------|-------------------------|
| 1N4001-B | DO-41 Plastic | 1K/Bulk |
| 1N4001-T | DO-41 Plastic | 5K/Tape & Reel, 13-inch |
| 1N4002-B | DO-41 Plastic | 1K/Bulk |
| 1N4002-T | DO-41 Plastic | 5K/Tape & Reel, 13-inch |
| 1N4003-B | DO-41 Plastic | 1K/Bulk |
| 1N4003-T | DO-41 Plastic | 5K/Tape & Reel, 13-inch |
| 1N4004-B | DO-41 Plastic | 1K/Bulk |
| 1N4004-T | DO-41 Plastic | 5K/Tape & Reel, 13-inch |
| 1N4005-B | DO-41 Plastic | 1K/Bulk |
| 1N4005-T | DO-41 Plastic | 5K/Tape & Reel, 13-inch |
| 1N4006-B | DO-41 Plastic | 1K/Bulk |
| 1N4006-T | DO-41 Plastic | 5K/Tape & Reel, 13-inch |
| 1N4007-B | DO-41 Plastic | 1K/Bulk |
| 1N4007-T | DO-41 Plastic | 5K/Tape & Reel, 13-inch |

Notes: 4. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>.



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