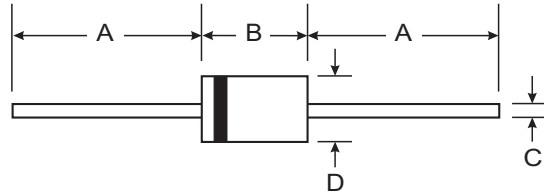


### Features

- 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 4)**

### Mechanical Data

- Case: DO-41, A-405
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish - Bright Tin. Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Mounting Position: Any
- Ordering Information: See Last Page
- Marking: Type Number
- Weight: DO-41 0.30 grams (approximate)  
A-405 0.20 grams (approximate)



| Dim | DO-41 Plastic |       | A-405 |      |
|-----|---------------|-------|-------|------|
|     | Min           | Max   | Min   | Max  |
| A   | 25.40         | —     | 25.40 | —    |
| B   | 4.06          | 5.21  | 4.10  | 5.20 |
| C   | 0.71          | 0.864 | 0.53  | 0.64 |
| D   | 2.00          | 2.72  | 2.00  | 2.70 |

All Dimensions in mm

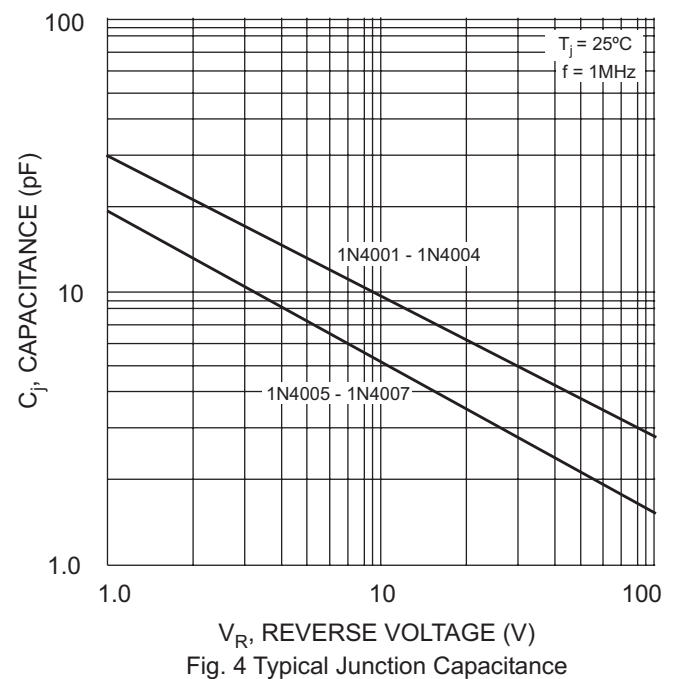
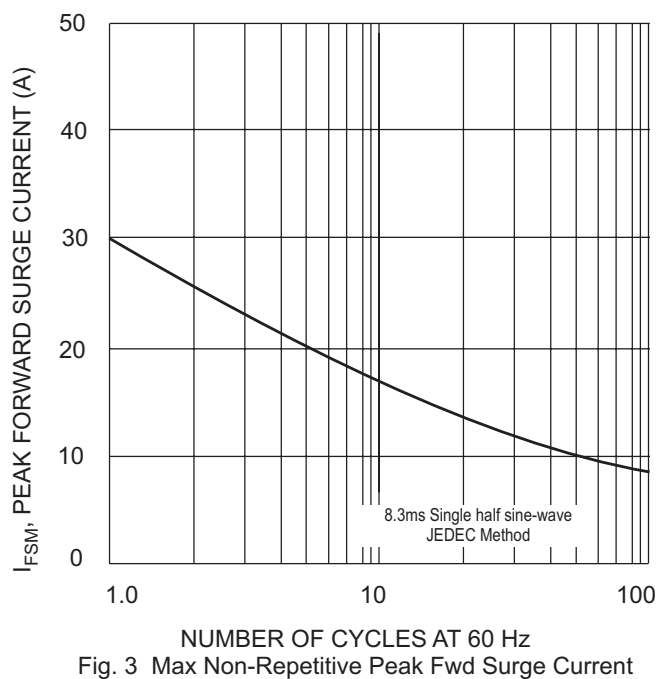
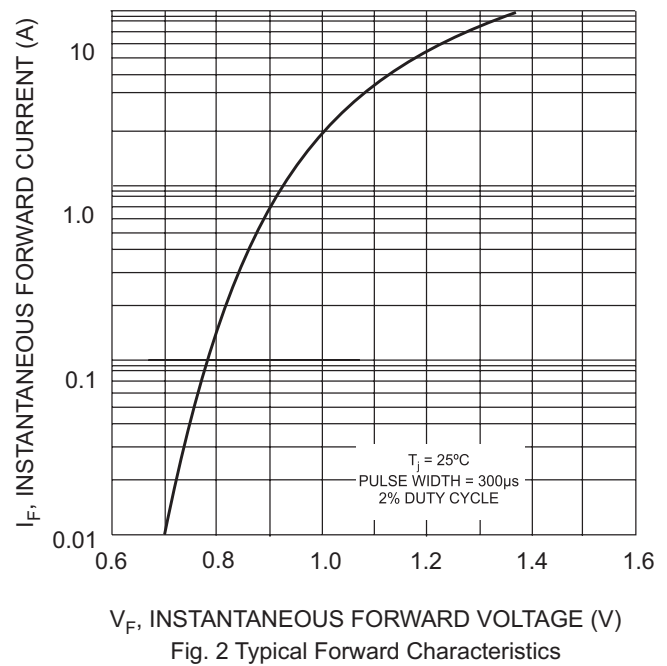
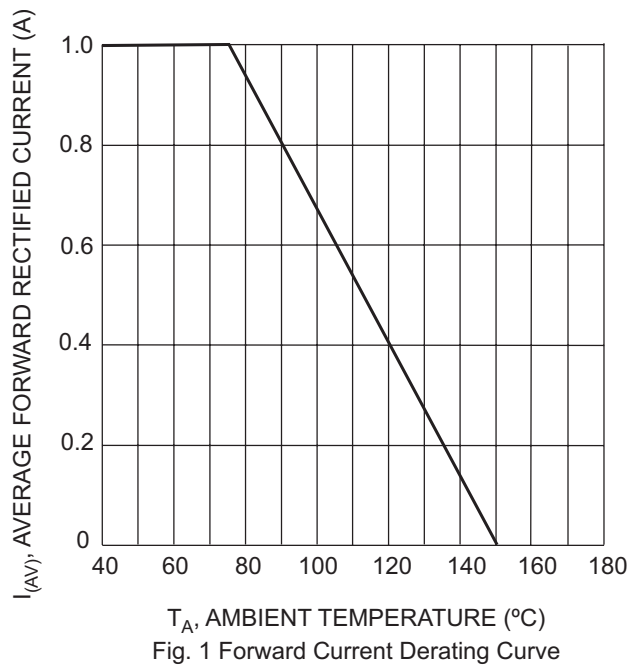
"L" Suffix Designates A-405 Package  
No Suffix Designates DO-41 Package

### 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                          | 1N 4001/L   | 1N 4002/L | 1N 4003/L | 1N 4004/L | 1N 4005/L | 1N 4006/L | 1N 4007/L | Unit               |
|-----------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|--------------------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                                | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 50          | 100       | 200       | 400       | 600       | 800       | 1000      | V                  |
| RMS Reverse Voltage                                                                                                   | $V_{R(RMS)}$                    | 35          | 70        | 140       | 280       | 420       | 560       | 700       | V                  |
| Average Rectified Output Current<br>(Note 1) @ $T_A = 75^{\circ}\text{C}$                                             | $I_O$                           | 1.0         |           |           |           |           |           |           | A                  |
| Non-Repetitive Peak Forward Surge Current 8.3ms<br>single half sine-wave superimposed on rated load<br>(JEDEC Method) | $I_{FSM}$                       | 30          |           |           |           |           |           |           | A                  |
| Forward Voltage @ $I_F = 1.0\text{A}$                                                                                 | $V_{FM}$                        | 1.0         |           |           |           |           |           |           | V                  |
| Peak Reverse Current @ $T_A = 25^{\circ}\text{C}$<br>at Rated DC Blocking Voltage @ $T_A = 100^{\circ}\text{C}$       | $I_{RM}$                        | 5.0<br>50   |           |           |           |           |           |           | $\mu\text{A}$      |
| 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 (Note 3)                                                                      | $T_j, T_{STG}$                  | -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. MHz and applied reverse voltage of 4.0V DC.
  3. JEDEC Value.
  4. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see *EU Directive Annex Notes 5 and 7*.



**Ordering Information** (Note 5)

| Device    | Packaging     | Shipping                |
|-----------|---------------|-------------------------|
| 1N4001-A  | DO-41 Plastic | 5K/Ammo Pack            |
| 1N4001-B  | DO-41 Plastic | 1K/Bulk                 |
| 1N4001-T  | DO-41 Plastic | 5K/Tape & Reel, 13-inch |
| 1N4002-A  | DO-41 Plastic | 5K/Ammo Pack            |
| 1N4002-B  | DO-41 Plastic | 1K/Bulk                 |
| 1N4002-T  | DO-41 Plastic | 5K/Tape & Reel, 13-inch |
| 1N4003-A  | DO-41 Plastic | 5K/Ammo Pack            |
| 1N4003-B  | DO-41 Plastic | 1K/Bulk                 |
| 1N4003-T  | DO-41 Plastic | 5K/Tape & Reel, 13-inch |
| 1N4004-A  | DO-41 Plastic | 5K/Ammo Pack            |
| 1N4004-B  | DO-41 Plastic | 1K/Bulk                 |
| 1N4004-T  | DO-41 Plastic | 5K/Tape & Reel, 13-inch |
| 1N4005-A  | DO-41 Plastic | 5K/Ammo Pack            |
| 1N4005-B  | DO-41 Plastic | 1K/Bulk                 |
| 1N4005-T  | DO-41 Plastic | 5K/Tape & Reel, 13-inch |
| 1N4006-A  | DO-41 Plastic | 5K/Ammo Pack            |
| 1N4006-B  | DO-41 Plastic | 1K/Bulk                 |
| 1N4006-T  | DO-41 Plastic | 5K/Tape & Reel, 13-inch |
| 1N4007-A  | DO-41 Plastic | 5K/Ammo Pack            |
| 1N4007-B  | DO-41 Plastic | 1K/Bulk                 |
| 1N4007-T  | DO-41 Plastic | 5K/Tape & Reel, 13-inch |
| 1N4001L-T | A-405         | 5K/Tape & Reel, 13-inch |
| 1N4002L-T | A-405         | 5K/Tape & Reel, 13-inch |
| 1N4003L-T | A-405         | 5K/Tape & Reel, 13-inch |
| 1N4004L-T | A-405         | 5K/Tape & Reel, 13-inch |
| 1N4005L-T | A-405         | 5K/Tape & Reel, 13-inch |
| 1N4006L-T | A-405         | 5K/Tape & Reel, 13-inch |
| 1N4007L-T | A-405         | 5K/Tape & Reel, 13-inch |

Notes: 5. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>

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