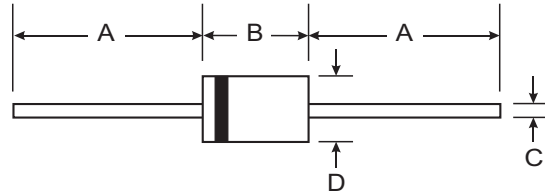


### Features

- Diffused Junction
- Ultra-Fast Switching for High Efficiency
- Surge Overload Rating to 150A Peak
- Low Reverse Leakage Current
- Lead Free Finish, RoHS Compliant (Note 4)**

### Mechanical Data

- Case: DO-201AD
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish - Tin. Plated Leads Solderable per MIL-STD-202, Method 208 (E3)
- Polarity: Cathode Band
- Marking: Type Number
- Ordering Information: See Last Page
- Weight: 1.1 grams (approximate)



| DO-201AD             |       |      |
|----------------------|-------|------|
| Dim                  | Min   | Max  |
| A                    | 25.40 |      |
| B                    | 7.20  | 9.50 |
| C                    | 1.20  | 1.30 |
| D                    | 4.80  | 5.30 |
| All Dimensions in mm |       |      |

### Maximum Ratings and Electrical Characteristics @ T<sub>A</sub> = 25 °C unless otherwise specified

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

| Characteristic                                                                                                                           | Symbol                          | UF 3001     | UF 3002 | UF 3003 | UF 3004 | UF 3005 | UF 3006 | UF 3007 | Unit                 |
|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------|---------|---------|---------|---------|---------|---------|----------------------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage (Note 5)                                          | $V_{RRM}$<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) @ $T_A = 55\text{ }^{\circ}\text{C}$                                                        | $I_O$                           | 3.0         |         |         |         |         |         |         | A                    |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single half sine-wave Superimposed on Rated Load                                      | $I_{FSM}$                       | 150         |         |         |         |         |         |         | A                    |
| Forward Voltage @ $I_F = 3.0\text{A}$                                                                                                    | $V_{FM}$                        | 1.0         |         |         | 1.3     | 1.7     |         |         | V                    |
| Peak Reverse Current @ $T_A = 25\text{ }^{\circ}\text{C}$<br>at Rated DC Blocking Voltage (Note 5) @ $T_A = 100\text{ }^{\circ}\text{C}$ | $I_{RM}$                        | 5.0<br>100  |         |         |         |         |         |         | A                    |
| Reverse Recovery Time (Note 3)                                                                                                           | $t_{rr}$                        | 50          |         |         |         | 75      |         |         | ns                   |
| Typical Total Capacitance (Note 2)                                                                                                       | $C_T$                           | 75          |         |         |         | 50      |         |         | pF                   |
| Typical Thermal Resistance Junction to Ambient                                                                                           | $R_{JA}$                        | 35          |         |         |         |         |         |         | $^{\circ}\text{C/W}$ |
| Operating and Storage Temperature Range                                                                                                  | $T_j, T_{STG}$                  | -65 to +150 |         |         |         |         |         |         | $^{\circ}\text{C}$   |

- Notes:
- Valid provided that leads are maintained at ambient temperature at a distance of 9.5mm from the case.
  - Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  - Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>rr</sub> = 0.25A. See Figure 5.
  - RoHS revision 13.2.2003. High temperature solder exemption applied, see *EU Directive Annex Note 7*.
  - Short duration pulse test used to minimize self-heating effect.

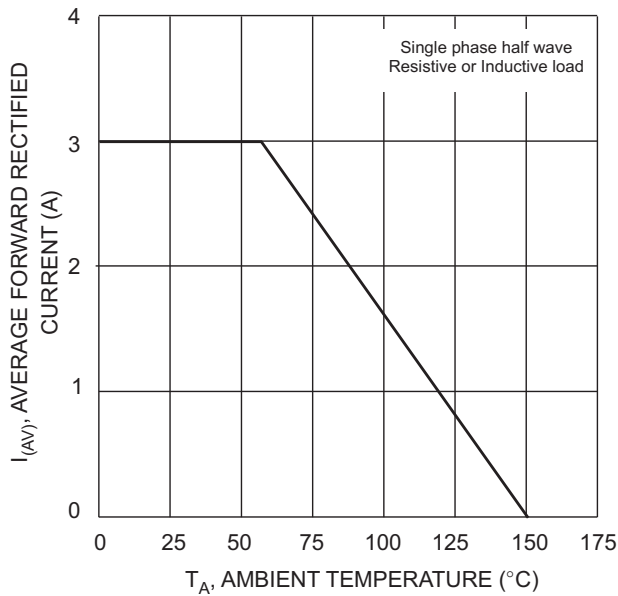


Fig. 1 Forward Current Derating Curve

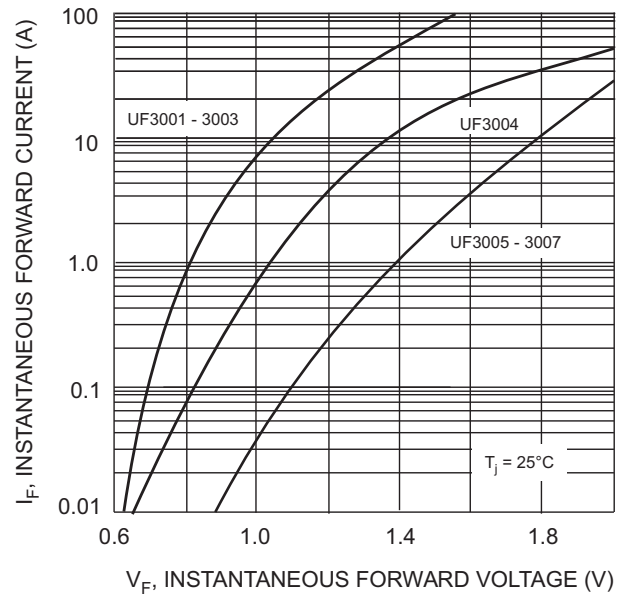


Fig. 2 Typical Forward Characteristics

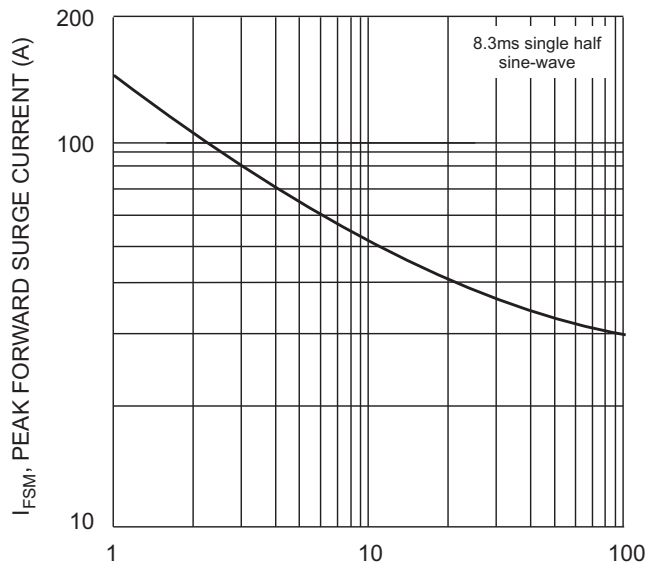


Fig. 3 Peak Forward Surge Current

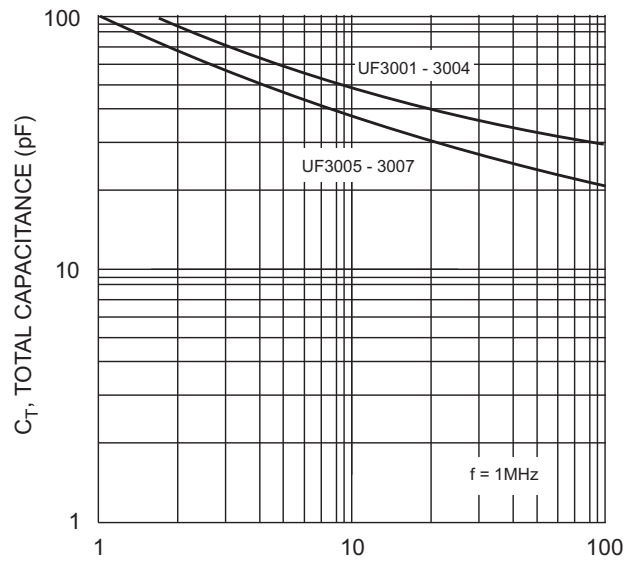
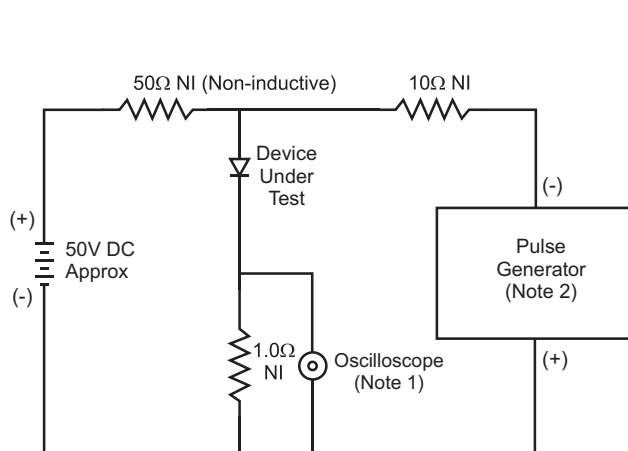
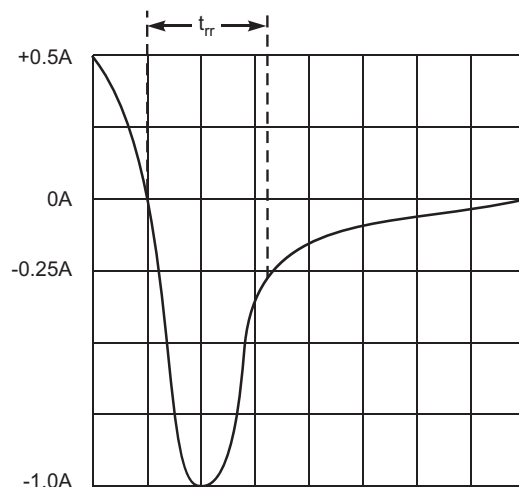


Fig. 4 Typical Total Capacitance



Notes:

1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
2. Rise Time = 10ns max. Input Impedance = 50Ω.



Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

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**Ordering Information** (Note 6)

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| Device   | Packaging | Shipping                  |
|----------|-----------|---------------------------|
| UF3001-B | DO-201AD  | 500/Bulk                  |
| UF3001-T | DO-201AD  | 1.2K/Tape & Reel, 13-inch |
| UF3002-B | DO-201AD  | 500/Bulk                  |
| UF3002-T | DO-201AD  | 1.2K/Tape & Reel, 13-inch |
| UF3003-B | DO-201AD  | 500/Bulk                  |
| UF3003-T | DO-201AD  | 1.2K/Tape & Reel, 13-inch |
| UF3004-B | DO-201AD  | 500/Bulk                  |
| UF3004-T | DO-201AD  | 1.2K/Tape & Reel, 13-inch |
| UF3005-B | DO-201AD  | 500/Bulk                  |
| UF3005-T | DO-201AD  | 1.2K/Tape & Reel, 13-inch |
| UF3006-B | DO-201AD  | 500/Bulk                  |
| UF3006-T | DO-201AD  | 1.2K/Tape & Reel, 13-inch |
| UF3007-B | DO-201AD  | 500/Bulk                  |
| UF3007-T | DO-201AD  | 1.2K/Tape & Reel, 13-inch |

Notes: 6. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>.