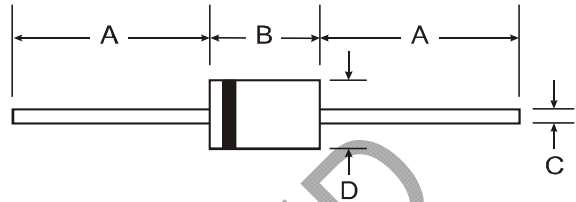


## Features

- Glass Passivated Die Construction
- Fast Switching for High Efficiency
- Surge Overload Rating to 125A 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 Page 3
- Weight: 1.12 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                          | PR 3001G    | PR 3002G | PR 3003G | PR 3004G | PR 3005G | PR 3006G | PR 3007G | 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)<br>@ $T_A = 55^{\circ}C$                                            | $I_O$                           | 3.0         |          |          |          |          |          |          | A             |
| Non-Repetitive Peak Forward Surge Current 8.3ms<br>Single Half Sine-Wave Superimposed on Rated Load              | $I_{FSM}$                       | 125         |          |          |          |          |          |          | A             |
| Forward Voltage<br>@ $I_F = 3.0A$                                                                                | $V_{FM}$                        | 1.3         |          |          |          |          |          |          | V             |
| Peak Reverse Current<br>at Rated DC Blocking Voltage (Note 5)<br>@ $T_A = 25^{\circ}C$<br>@ $T_A = 125^{\circ}C$ | $I_{RM}$                        | 5.0<br>100  |          |          |          |          |          |          | $\mu A$       |
| Reverse Recovery Time (Note 3)                                                                                   | $t_{rr}$                        | 150         |          |          | 250      |          | 500      |          | ns            |
| Typical Total Capacitance (Note 2)                                                                               | $C_T$                           | 50          |          |          |          |          |          |          | pF            |
| Typical Thermal Resistance Junction to Ambient                                                                   | $R_{\theta JA}$                 | 32          |          |          |          |          |          |          | $^{\circ}C/W$ |
| Operating and Storage Temperature Range                                                                          | $T_J, T_{STG}$                  | -65 to +150 |          |          |          |          |          |          | $^{\circ}C$   |

- Notes:
1. Valid provided that leads are maintained at ambient temperature at a distance of 9.5mm from the case.
  2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  3. Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1A, I<sub>rr</sub> = 0.25A. See figure 5.
  4. RoHS revision 13.2.2003. Glass and high temperature solder exemptions applied, see EU Directive Annex Notes 5 and 7.
  5. Short duration pulse test used to minimize self-heating effect.

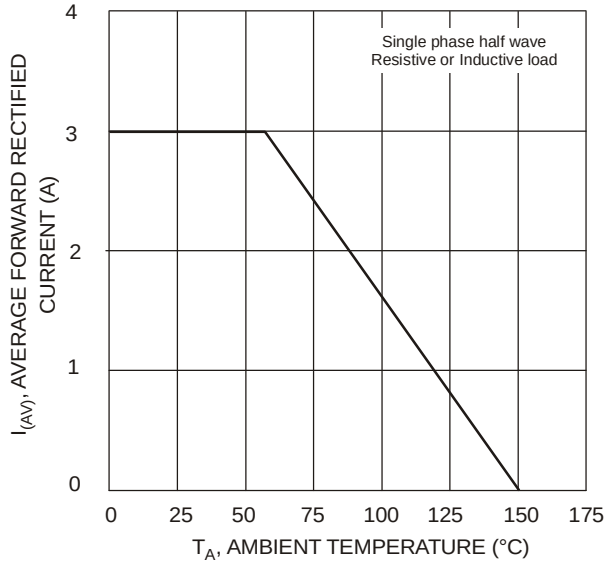


Fig. 1 Forward Derating Curve

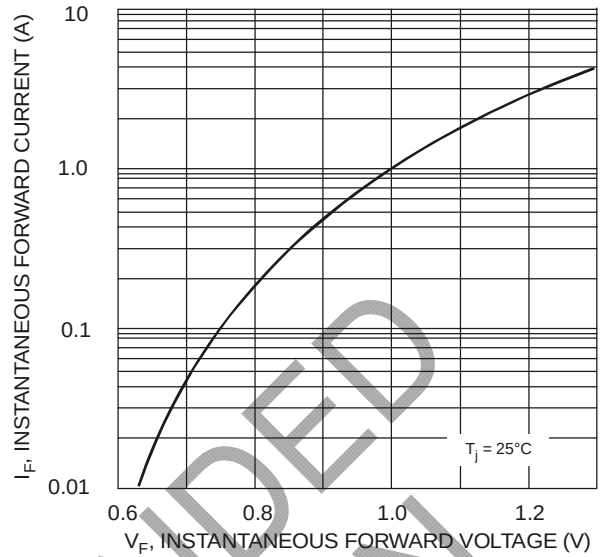


Fig. 2 Typical Forward Characteristics

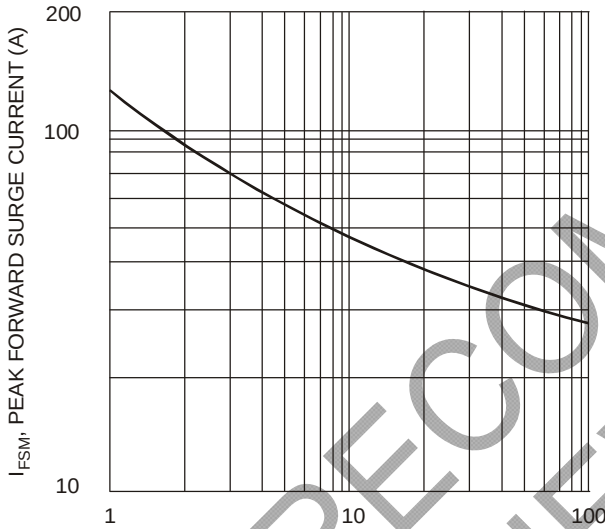


Fig. 3 Peak Forward Surge Current

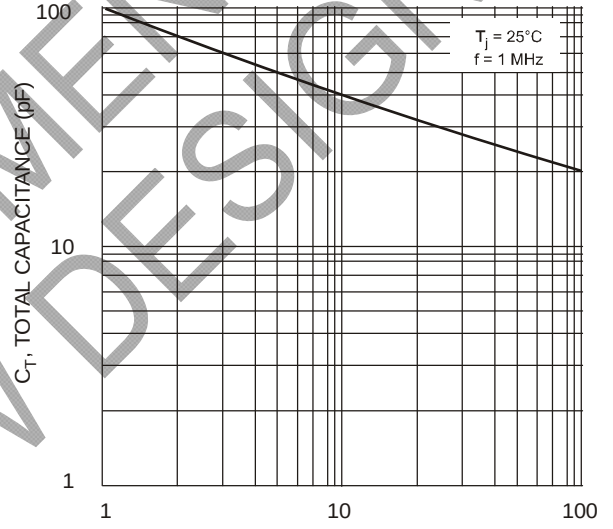
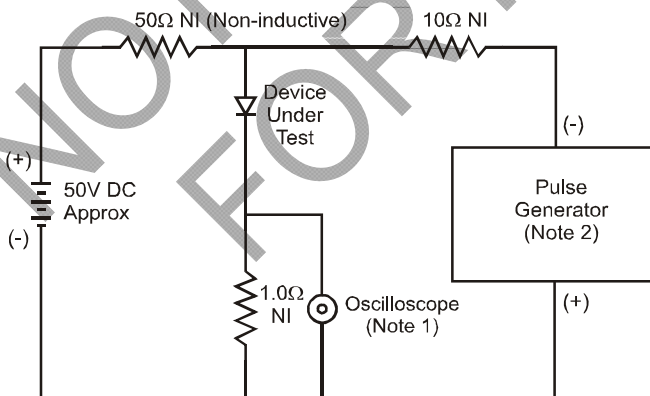
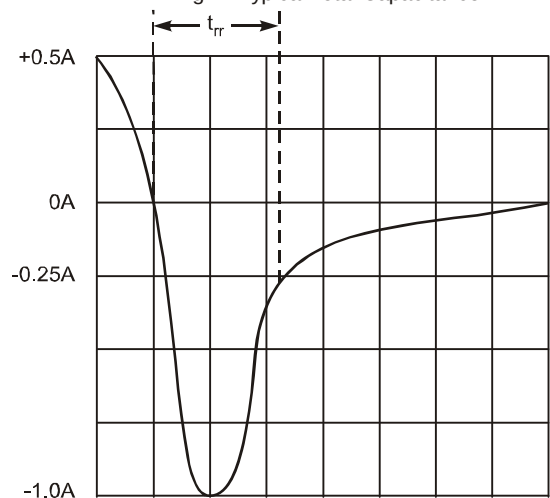


Fig. 4 Typical Total Capacitance



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

## Ordering Information (Note 6)

| Device    | Packaging | Shipping                  |
|-----------|-----------|---------------------------|
| PR3001G-B | DO-201AD  | 500/Bulk                  |
| PR3001G-T | DO-201AD  | 1.2K/Tape & Reel, 13-inch |
| PR3002G-B | DO-201AD  | 500/Bulk                  |
| PR3002G-T | DO-201AD  | 1.2K/Tape & Reel, 13-inch |
| PR3003G-B | DO-201AD  | 500/Bulk                  |
| PR3003G-T | DO-201AD  | 1.2K/Tape & Reel, 13-inch |
| PR3004G-B | DO-201AD  | 500/Bulk                  |
| PR3004G-T | DO-201AD  | 1.2K/Tape & Reel, 13-inch |
| PR3005G-B | DO-201AD  | 500/Bulk                  |
| PR3005G-T | DO-201AD  | 1.2K/Tape & Reel, 13-inch |
| PR3006G-B | DO-201AD  | 500/Bulk                  |
| PR3006G-T | DO-201AD  | 1.2K/Tape & Reel, 13-inch |
| PR3007G-B | DO-201AD  | 500/Bulk                  |
| PR3007G-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>.

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