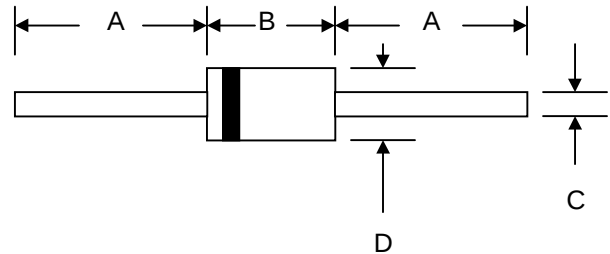


#### Features

- Diffused Junction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability



#### Mechanical Data

- Case: DO-201AD, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 1.2 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- **Lead Free: For RoHS / Lead Free Version,**

| DO-201AD             |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 24.5 | —    |
| B                    | 7.20 | 9.50 |
| C                    | 1.10 | 1.30 |
| D                    | 5.00 | 5.60 |
| 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                                                 | BY500-50    | BY500-100 | BY500-200 | BY500-400 | BY500-600 | BY500-800 | BY500-1000 | Unit |
|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------|-----------|-----------|-----------|-----------|-----------|------------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                                | V <sub>RRM</sub><br>V <sub>RWM</sub><br>V <sub>R</sub> | 50          | 100       | 200       | 400       | 600       | 800       | 1000       | V    |
| RMS Reverse Voltage                                                                                                   | V <sub>R(RMS)</sub>                                    | 35          | 70        | 140       | 280       | 420       | 560       | 700        | V    |
| Average Rectified Output Current<br>(Note 1)<br>@T <sub>A</sub> = 55°C                                                | I <sub>O</sub>                                         | 5.0         |           |           |           |           |           |            | A    |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single half sine-wave superimposed on<br>rated load (JEDEC Method) | I <sub>FSM</sub>                                       | 200         |           |           |           |           |           |            | A    |
| Forward Voltage<br>@I <sub>F</sub> = 5.0A                                                                             | V <sub>FM</sub>                                        | 1.30        |           |           |           |           |           |            | V    |
| Peak Reverse Current<br>At Rated DC Blocking Voltage<br>@T <sub>A</sub> = 25°C<br>@T <sub>A</sub> = 100°C             | I <sub>RM</sub>                                        | 10<br>200   |           |           |           |           |           |            | μA   |
| Reverse Recovery Time (Note 2)                                                                                        | t <sub>rr</sub>                                        | 150         |           |           |           | 250       | 500       |            | nS   |
| Typical Junction Capacitance (Note 3)                                                                                 | C <sub>j</sub>                                         | 28          |           |           |           |           |           |            | pF   |
| Operating Temperature Range                                                                                           | T <sub>j</sub>                                         | -65 to +125 |           |           |           |           |           |            | °C   |
| Storage Temperature Range                                                                                             | T <sub>STG</sub>                                       | -65 to +150 |           |           |           |           |           |            | °C   |

Note: 1. Leads maintained at ambient temperature at a distance of 9.5mm from the case

2. Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>RR</sub> = 0.25A. See figure 5.

3. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

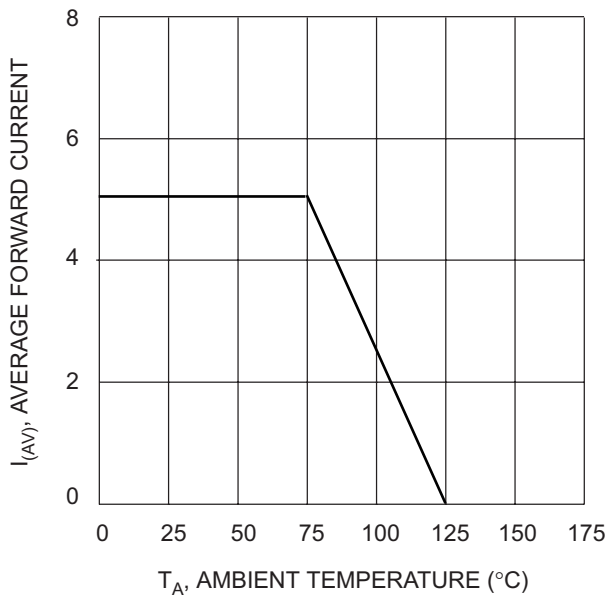


Fig. 1, Typical Forward Current Derating Curve

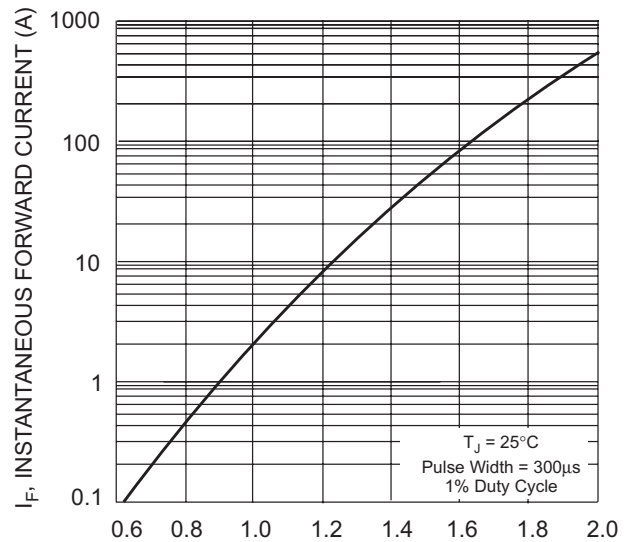


Fig. 3, Typical Instantaneous Forward Characteristics

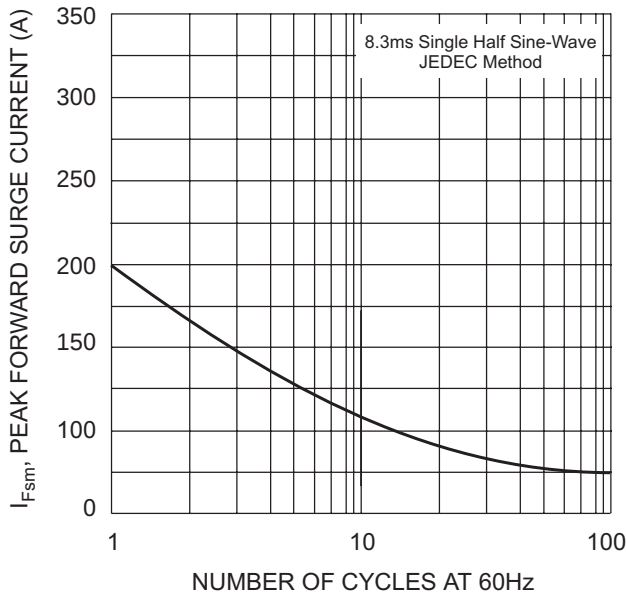


Fig. 2 Max Non-Repetitive Peak Surge Current

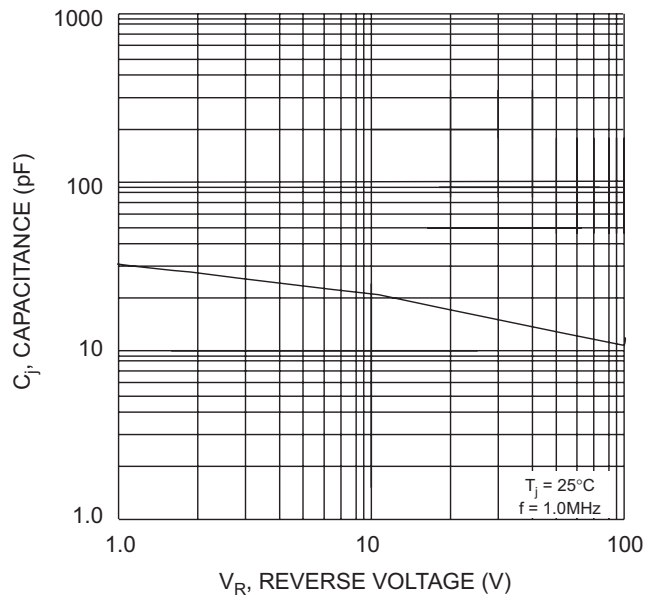
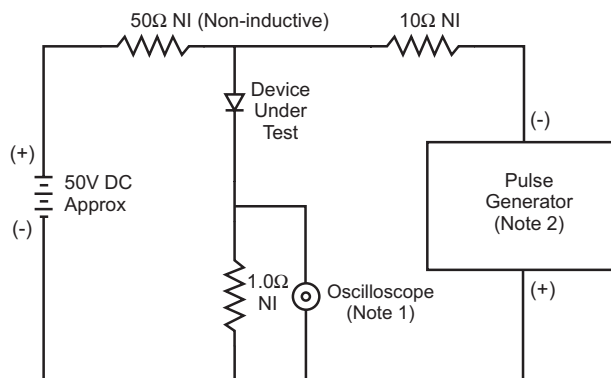


Fig. 4 Typical Junction Capacitance



Notes:

1. Rise Time = 7.0ns max. Input Impedance = 1.0M $\Omega$ , 22pF.
2. Rise Time = 10ns max. Input Impedance = 50 $\Omega$ .

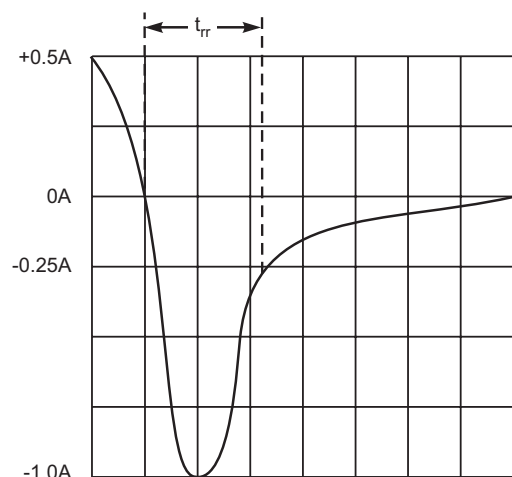


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit