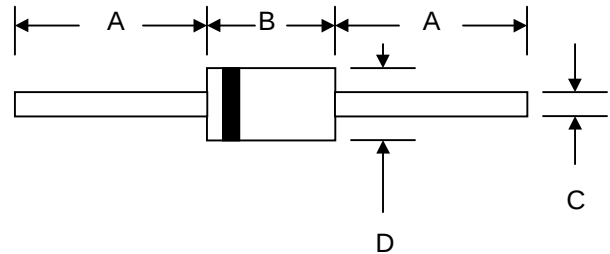


## Features

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

## Mechanical Data

- Case: DO-15, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.40 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- **Lead Free: For RoHS / Lead Free Version, Add “-LF” Suffix to Part Number, See Page 4**



| DO-15                |      |       |
|----------------------|------|-------|
| Dim                  | Min  | Max   |
| A                    | 25.4 | —     |
| B                    | 5.50 | 7.62  |
| C                    | 0.71 | 0.864 |
| D                    | 2.60 | 3.60  |
| 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                                                 | FR151       | FR152 | FR153 | FR154 | FR155 | FR156 | FR157 | 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) @T <sub>A</sub> = 55°C                                                   | I <sub>O</sub>                                         | 1.5         |       |       |       |       |       |       | 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>                                       | 60          |       |       |       |       |       |       | A    |
| Forward Voltage @I <sub>F</sub> = 1.5A                                                                                | V <sub>FM</sub>                                        | 1.2         |       |       |       |       |       |       | V    |
| Peak Reverse Current @T <sub>A</sub> = 25°C<br>At Rated DC Blocking Voltage @T <sub>A</sub> = 100°C                   | I <sub>RM</sub>                                        | 5.0<br>100  |       |       |       |       |       |       | μA   |
| Reverse Recovery Time (Note 2)                                                                                        | t <sub>rr</sub>                                        | 150         |       |       |       | 250   | 500   |       | nS   |
| Typical Junction Capacitance (Note 3)                                                                                 | C <sub>j</sub>                                         | 30          |       |       |       |       |       |       | 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.

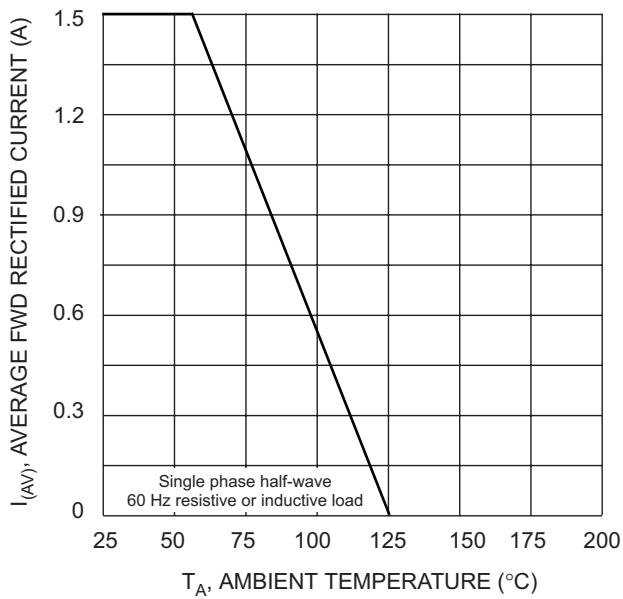


Fig. 1 Forward Derating Curve

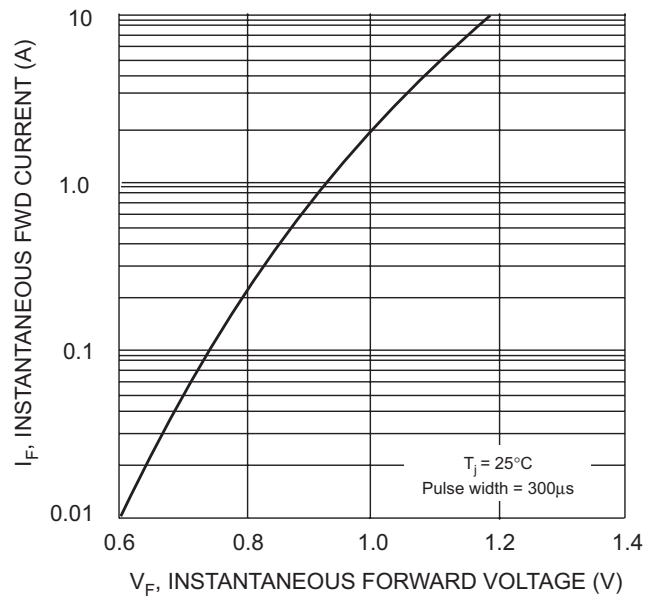


Fig. 2 Typical Forward Characteristics

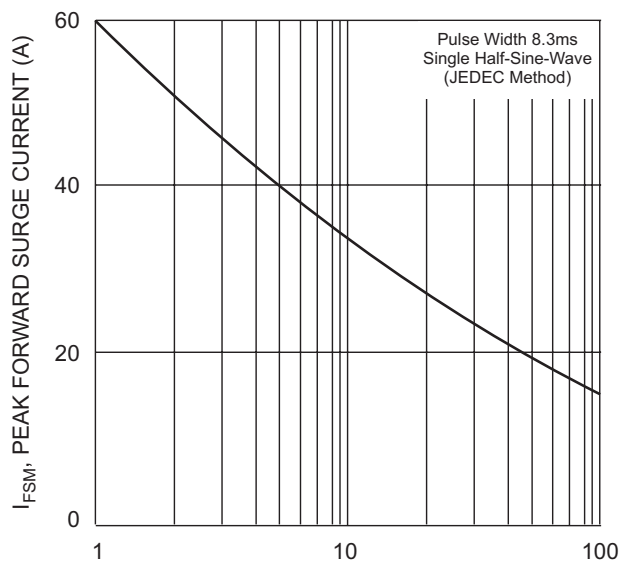


Fig. 3 Peak Forward Surge Current

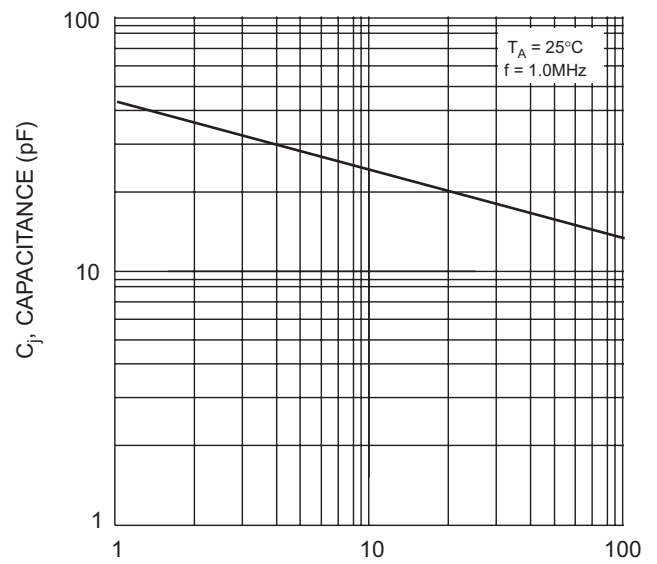


Fig. 4 Typical Junction Capacitance

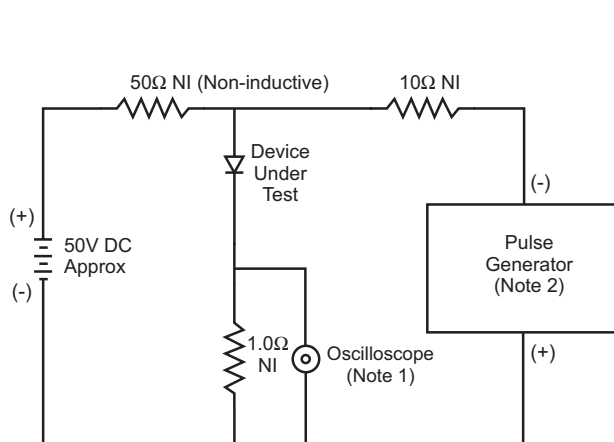
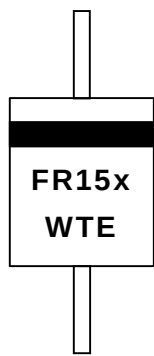


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

## MARKING INFORMATION



Cathode = Polarity Band  
 FR15x = Device Number  
 x = 1, 2, 3, 4, 5, 6 or 7  
 WTE = Manufacturer's Logo

## TAPING SPECIFICATIONS



## PACKAGING INFORMATION

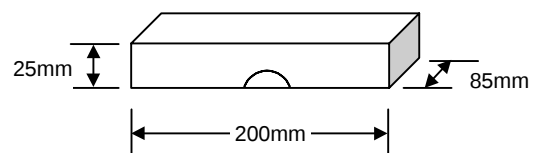
### TAPE & REEL



### TAPE & BOX



### BULK



| Packaging              | Reel Diameter / Box Size (mm) | Quantity (PCS) | Carton Size (mm) | Quantity (PCS) | Approx. Gross Weight (KG) |
|------------------------|-------------------------------|----------------|------------------|----------------|---------------------------|
| <b>TAPE &amp; REEL</b> | 330                           | 4,000          | 370 x 370 x 420  | 20,000         | 12.0                      |
| <b>TAPE &amp; BOX</b>  | 255 x 75 x 150                | 3,000          | 400 x 273 x 415  | 30,000         | 15.0                      |
| <b>BULK</b>            | 200 x 85 x 25                 | 1,000          | 459 x 214 x 256  | 40,000         | 17.5                      |

**Note:** 1. Paper reel, white or gray color. Core material: plastic or metal.  
 2. Components are packed in accordance with EIA standard RS-296-E.

## ORDERING INFORMATION

| Product No.     | Package Type | Shipping Quantity |
|-----------------|--------------|-------------------|
| FR151-T3        | DO-15        | 4000/Tape & Reel  |
| <b>FR151-TB</b> | DO-15        | 3000/Tape & Box   |
| FR151           | DO-15        | 1000 Units/Box    |
| FR152-T3        | DO-15        | 4000/Tape & Reel  |
| <b>FR152-TB</b> | DO-15        | 3000/Tape & Box   |
| FR152           | DO-15        | 1000 Units/Box    |
| FR153-T3        | DO-15        | 4000/Tape & Reel  |
| <b>FR153-TB</b> | DO-15        | 3000/Tape & Box   |
| FR153           | DO-15        | 1000 Units/Box    |
| FR154-T3        | DO-15        | 4000/Tape & Reel  |
| <b>FR154-TB</b> | DO-15        | 3000/Tape & Box   |
| FR154           | DO-15        | 1000 Units/Box    |
| FR155-T3        | DO-15        | 4000/Tape & Reel  |
| <b>FR155-TB</b> | DO-15        | 3000/Tape & Box   |
| FR155           | DO-15        | 1000 Units/Box    |
| FR156-T3        | DO-15        | 4000/Tape & Reel  |
| <b>FR156-TB</b> | DO-15        | 3000/Tape & Box   |
| FR156           | DO-15        | 1000 Units/Box    |
| FR157-T3        | DO-15        | 4000/Tape & Reel  |
| <b>FR157-TB</b> | DO-15        | 3000/Tape & Box   |
| FR157           | DO-15        | 1000 Units/Box    |

1. Products listed in **bold** are WTE **Preferred** devices.
2. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
3. **To order RoHS / Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, FR151-TB-LF.**

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