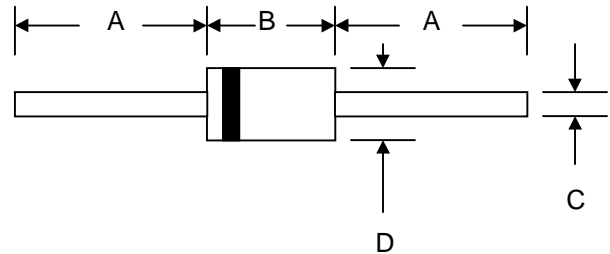


Features

- 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 @ $T_A=25^\circ\text{C}$ unless otherwise specified

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

| Characteristic | Symbol | SF21 | SF22 | SF23 | SF24 | SF25 | SF26 | SF27 | Unit | |
|---|--------------|-------------|------|------|------|------|------|------|------------------|---------------|
| Peak Repetitive Reverse Voltage | V_{RRM} | | | | | | | | | |
| Working Peak Reverse Voltage | V_{RWM} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V | |
| DC Blocking Voltage | V_R | | | | | | | | | |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 35 | 70 | 105 | 140 | 210 | 280 | 420 | V | |
| Average Rectified Output Current (Note 1) @ $T_A = 55^\circ\text{C}$ | I_O | 2.0 | | | | | | | A | |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 50 | | | | | | | A | |
| Forward Voltage @ $I_F = 2.0\text{A}$ | V_{FM} | 0.95 | | | 1.3 | | 1.7 | | V | |
| Peak Reverse Current At Rated DC Blocking Voltage @ $T_A = 25^\circ\text{C}$ @ $T_A = 100^\circ\text{C}$ | I_{RM} | 5.0 | | | | 100 | | | | μA |
| Reverse Recovery Time (Note 2) | t_{rr} | 35 | | | | | | | nS | |
| Typical Junction Capacitance (Note 3) | C_j | 60 | | | | 30 | | | | pF |
| Operating Temperature Range | T_j | -65 to +125 | | | | | | | $^\circ\text{C}$ | |
| Storage Temperature Range | T_{STG} | -65 to +150 | | | | | | | $^\circ\text{C}$ | |

Note: 1. Leads maintained at ambient temperature at a distance of 9.5mm from the case
2. Measured with $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$. See figure 5.
3. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

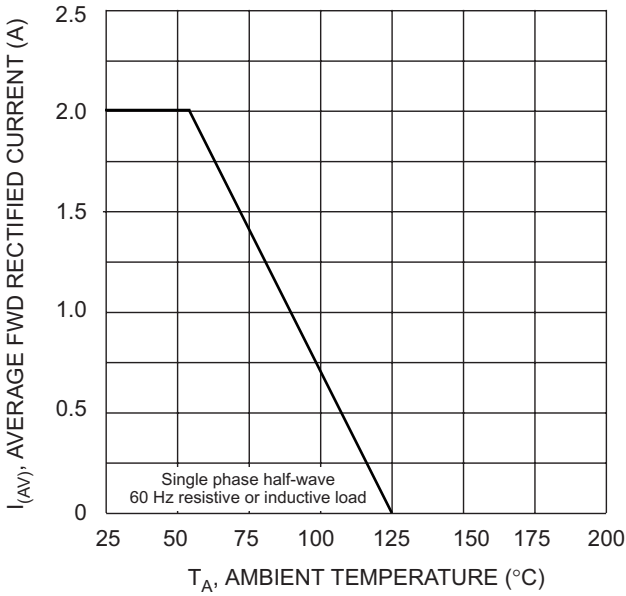


Fig. 1 Forward Current Derating Curve

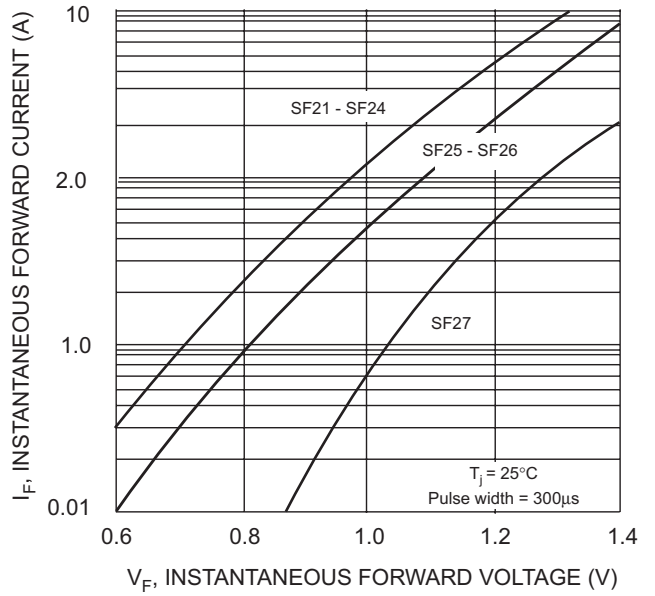


Fig. 2 Typical Forward Characteristics

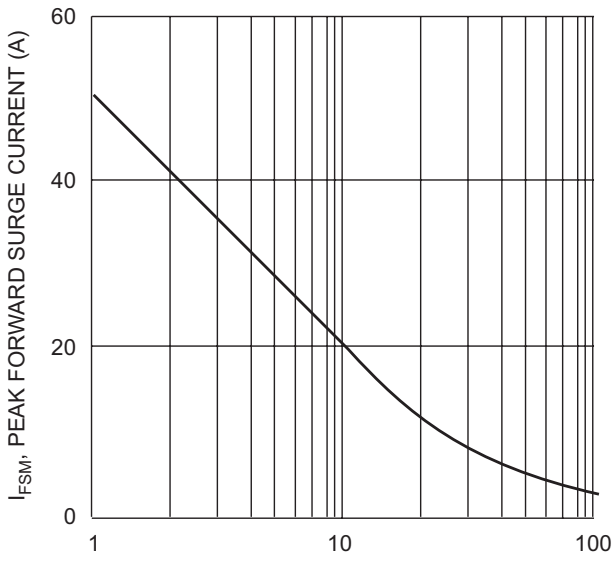


Fig. 3 Peak Forward Surge Current

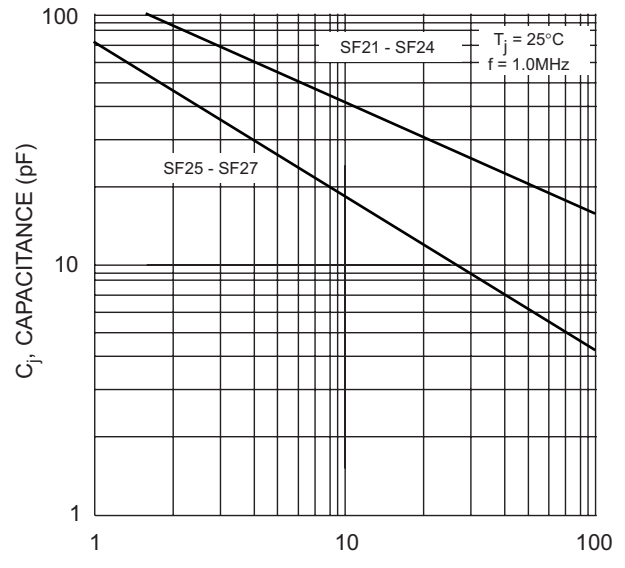
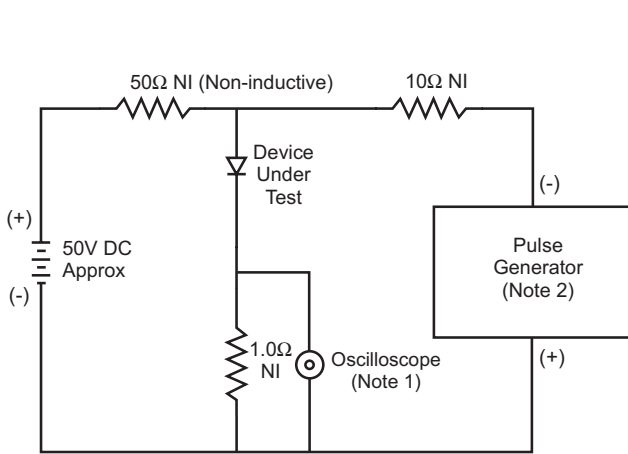
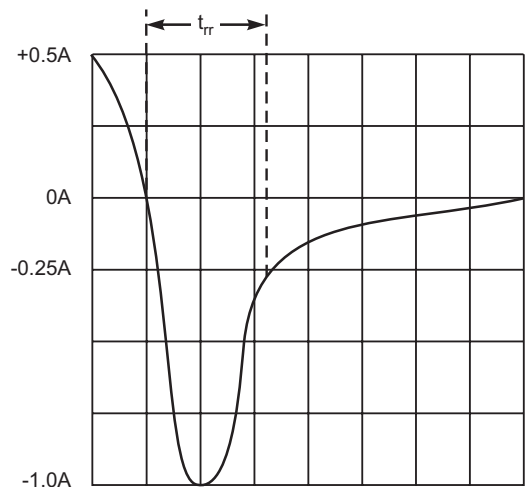


Fig. 4 Typical Junction Capacitance



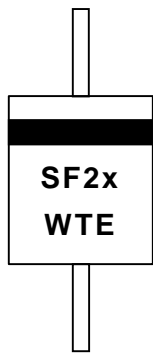
- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
 2. Rise Time = 10ns max. Input Impedance = 50Ω.



Set time base for 5/10ns/cm

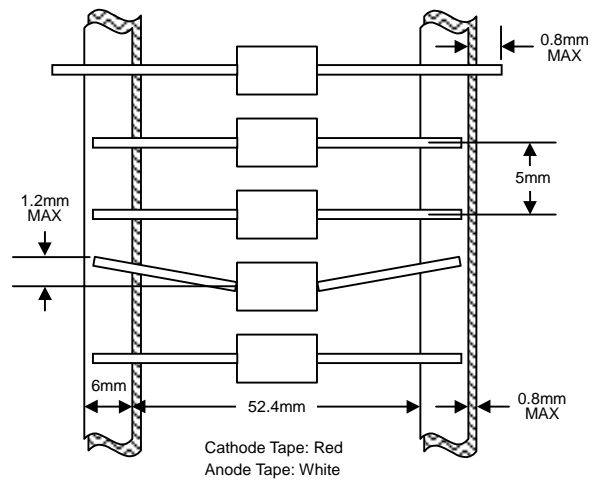
Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

MARKING INFORMATION

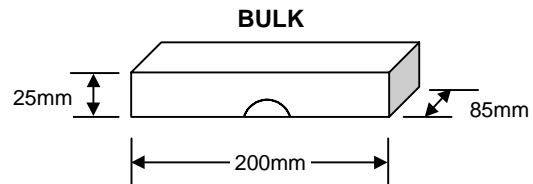
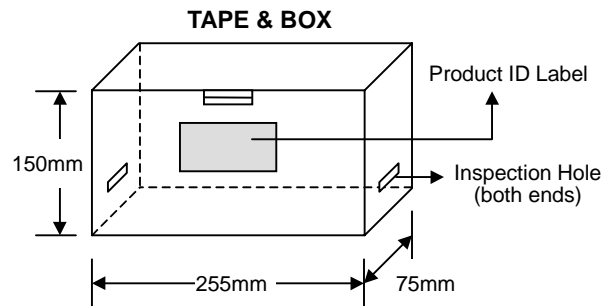


Cathode = Polarity Band
 SF2x = Device Number
 x = 1, 2, 3, 4, 5, 6 or 7
 WTE = Manufacturer's Logo

TAPING SPECIFICATIONS



PACKAGING INFORMATION



| Packaging | Reel Diameter / Box Size (mm) | Quantity (PCS) | Carton Size (mm) | Quantity (PCS) | Approx. Gross Weight (KG) |
|------------------------|-------------------------------|----------------|------------------|----------------|---------------------------|
| TAPE & REEL | 330 | 4,000 | 370 x 370 x 420 | 20,000 | 12.0 |
| TAPE & BOX | 255 x 75 x 150 | 3,000 | 400 x 273 x 415 | 30,000 | 15.0 |
| BULK | 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 |
|----------------|--------------|-------------------|
| SF21-T3 | DO-15 | 4000/Tape & Reel |
| SF21-TB | DO-15 | 3000/Tape & Box |
| SF21 | DO-15 | 1000 Units/Box |
| SF22-T3 | DO-15 | 4000/Tape & Reel |
| SF22-TB | DO-15 | 3000/Tape & Box |
| SF22 | DO-15 | 1000 Units/Box |
| SF23-T3 | DO-15 | 4000/Tape & Reel |
| SF23-TB | DO-15 | 3000/Tape & Box |
| SF23 | DO-15 | 1000 Units/Box |
| SF24-T3 | DO-15 | 4000/Tape & Reel |
| SF24-TB | DO-15 | 3000/Tape & Box |
| SF24 | DO-15 | 1000 Units/Box |
| SF25-T3 | DO-15 | 4000/Tape & Reel |
| SF25-TB | DO-15 | 3000/Tape & Box |
| SF25 | DO-15 | 1000 Units/Box |
| SF26-T3 | DO-15 | 4000/Tape & Reel |
| SF26-TB | DO-15 | 3000/Tape & Box |
| SF26 | DO-15 | 1000 Units/Box |
| SF27-T3 | DO-15 | 4000/Tape & Reel |
| SF27-TB | DO-15 | 3000/Tape & Box |
| SF27 | 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, SF21-TB-LF.**

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WARNING: DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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We power your everyday.