



Super Fast Rectifier Diodes

SF51 THRU SF58 50 to 600 V 5.0A

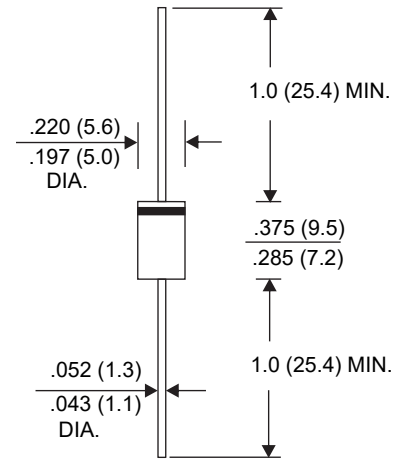
FEATURES

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Fast Recovery times for high efficiency
- Plastic package has Underwriters Laboratory
- Flammability Classification 94V-O
- High temperature soldering : 260°C /10 seconds at terminals

DO-27(DO-201AD)

MECHANICAL DATA

- Case: Molded plastic, DO-27 or DO-201AD
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60HZ, resistive or inductive load. For capacitive load, derate current by 20%.

| Type Number or marks | Symbols | SF51 | SF52 | SF53 | SF54 | SF55 | SF56 | SF58 | Units |
|---|-----------------|-------------|------|------|------|------|------|------|-------|
| Maximum Recurrent Peak Reverse Voltage | VRRM | 50 | 100 | 150 | 200 | 300 | 400 | 600 | Volts |
| Maximum RMS Voltage | VRMS | 35 | 70 | 105 | 140 | 210 | 280 | 420 | Volts |
| Maximum DC Blocking Voltage | VDC | 50 | 100 | 150 | 200 | 300 | 400 | 600 | Volts |
| Maximum Average Forward Rectified Current. Lead Length @Ta(Fig 1) | I(AV) | 5.0 | | | | | | | Amp |
| Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method) | IFSM | 150 | | | | | | | Amp |
| Maximum Forward Voltage @5.0A | VF | 1.0 | | | 1.3 | | 1.7 | | Volts |
| Maximum DC reverse current at rated DC blocking voltage per $T_j=25^{\circ}\text{C}$ $T_j=100^{\circ}\text{C}$ | IR | 5.0 100 | | | | | | | uAmp |
| Typical Thermal Resistance $T_j=25^{\circ}\text{C}$ | $R_{\theta JA}$ | 15 | | | | | | | °C/W |
| Maximum Reverse Recovery Time (Note 1) | TRR | 35 | | | | | | | nS |
| Typical Junction Capacitance (Note 2) | CJ | 80 | | | 60 | | | | pF |
| Operating Temperature Range T_j | T_j | -55 to +125 | | | | | | | °C |
| Storage Temperature Range T_{STG} | T_{STG} | -55 to +150 | | | | | | | °C |

NOTES:

1. Measured with $I_F = 0.5A$, $I_R = 1A$, $IRR = 0.25A$.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.
3. The typical data above is for reference only.



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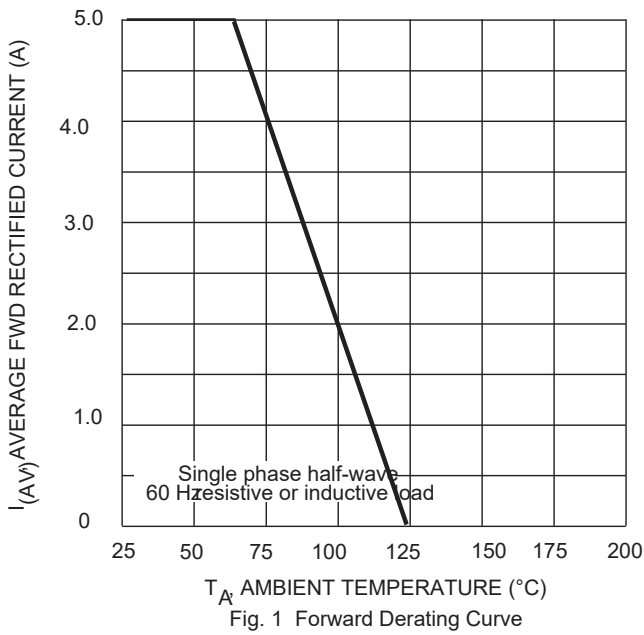


Fig. 1 Forward Derating Curve

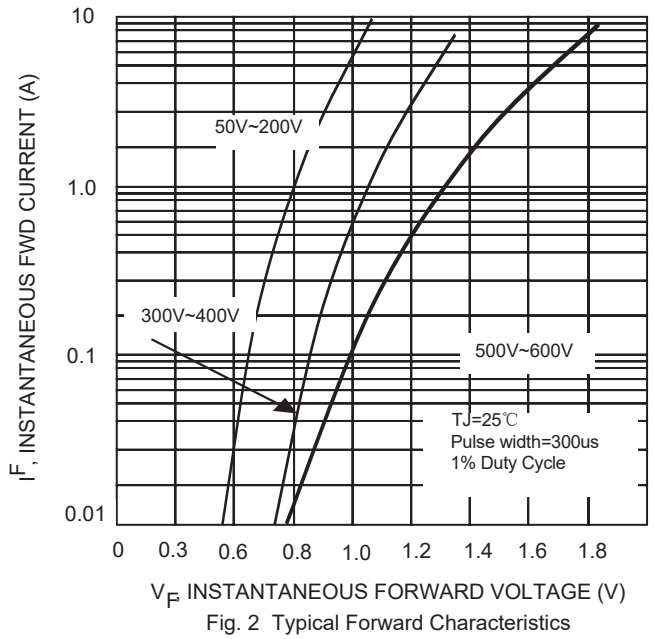


Fig. 2 Typical Forward Characteristics

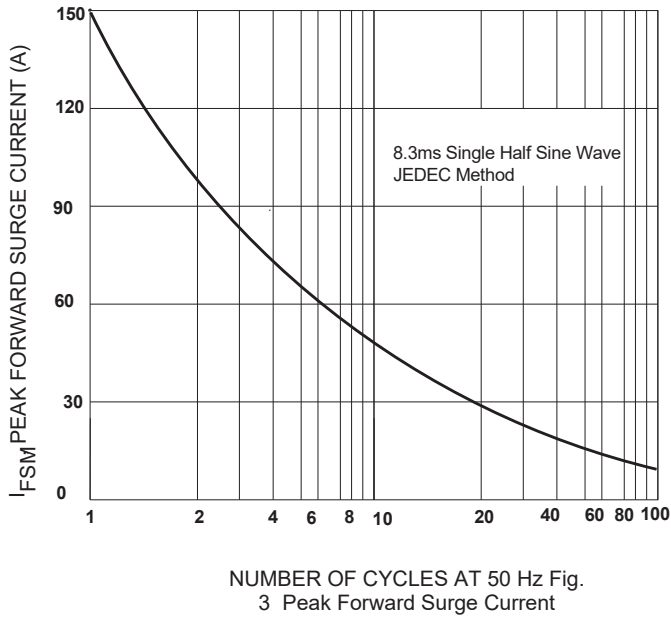


Fig. 3 Peak Forward Surge Current

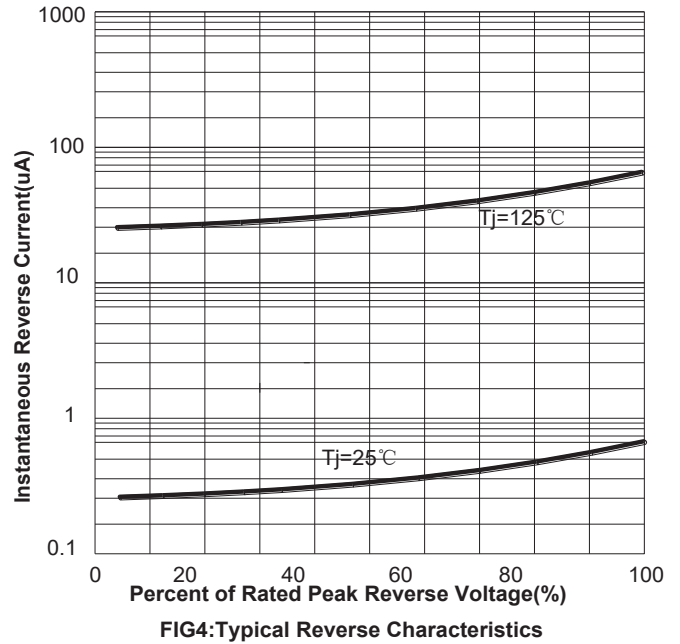
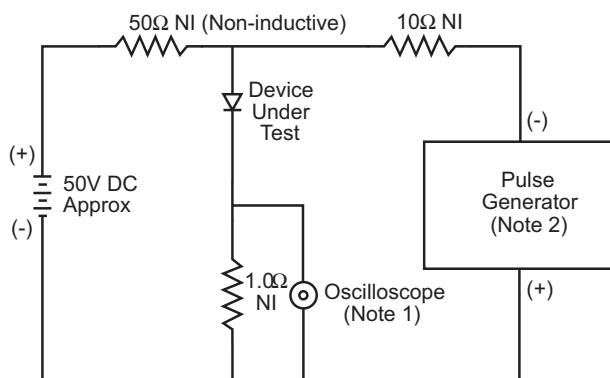


FIG4: Typical Reverse Characteristics



- Notes:
1. Rise Time=7ns max .Input Impedance=1M Ω 22pf
 2. Rise Time=10ns max.Source Impedance=50 Ω

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

