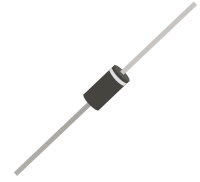


## SF51-G Thru. SF58-G

**Reverse Voltage: 50 to 600 Volts**

**Forward Current: 5.0 Amp**

**RoHS Device**

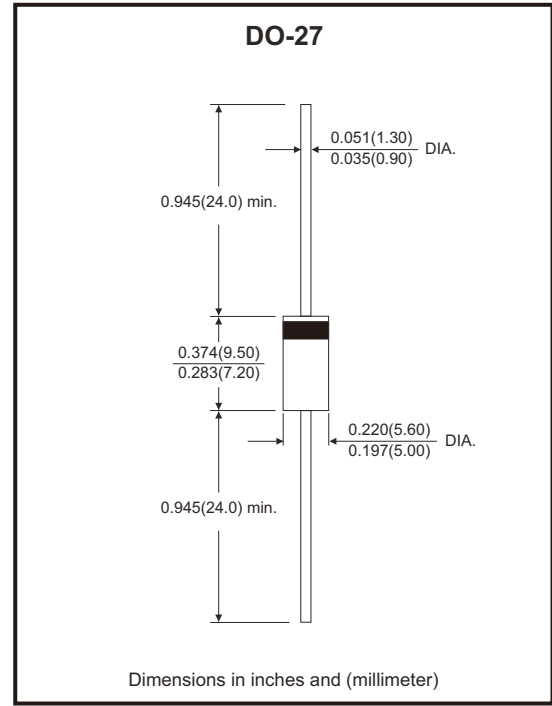


### Features

- Open junction chip.
- Low reverse leakage.
- High forward surge current capability.
- High temperature soldering guaranteed 250°C/10 seconds at terminals.

### Mechanical data

- Epoxy: UL 94V-0 rate flame retardant.
- Case: DO-27, molded plastic.
- Terminals: Solder plated, solderable per MIL-STD-750, method 2026.
- Polarity: Color band denotes cathode.
- Weight: 0.98 grams approx.
- Mounting position: Any.



### Circuit Diagram



### 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%.

| Parameter                                                                          |                        | Symbol                            | SF51-G      | SF52-G | SF53-G | SF54-G | SF55-G | SF56-G | SF58-G | Unit |
|------------------------------------------------------------------------------------|------------------------|-----------------------------------|-------------|--------|--------|--------|--------|--------|--------|------|
| Max. repetitive peak reverse voltage                                               |                        | V <sub>RRM</sub>                  | 50          | 100    | 150    | 200    | 300    | 400    | 600    | V    |
| Max. RMS voltage                                                                   |                        | V <sub>RMS</sub>                  | 35          | 70     | 105    | 140    | 210    | 280    | 420    | V    |
| Max. DC blocking voltage                                                           |                        | V <sub>DC</sub>                   | 50          | 100    | 150    | 200    | 300    | 400    | 600    | V    |
| Max. average forward rectified current at T <sub>L</sub> =100°C                    |                        | I <sub>(AV)</sub>                 | 5.0         |        |        |        |        |        |        | A    |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load |                        | I <sub>FSM</sub>                  | 200         |        |        |        |        |        |        | A    |
| Max. instantaneous forward voltage at 5.0A                                         |                        | V <sub>F</sub>                    | 0.95        |        |        |        | 1.25   |        | 1.7    | V    |
| Max. DC reverse current at rated DC blocking voltage                               | @T <sub>A</sub> =25°C  | I <sub>R</sub>                    | 10          |        |        |        |        |        |        | μA   |
|                                                                                    | @T <sub>A</sub> =125°C | I <sub>R</sub>                    | 500         |        |        |        |        |        |        |      |
| Max. reverse recovery time (Note 1)                                                |                        | T <sub>rr</sub>                   | 35          |        |        |        |        |        |        | nS   |
| Typical Junction capacitance (Note 2)                                              |                        | C <sub>J</sub>                    | 80          |        |        |        |        |        |        | pF   |
| Typical thermal resistance                                                         |                        | R <sub>θJA</sub>                  | 45          |        |        |        |        |        |        | °C/W |
| Operating junction and storage temperature range                                   |                        | T <sub>J</sub> , T <sub>STG</sub> | -55 to +150 |        |        |        |        |        |        | °C   |

Notes: 1. Reverse recovery time test condition:  $I_F=0.5\text{A}$ ,  $I_R=0.1\text{A}$ ,  $I_{rr}=0.25\text{A}$   
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

Rating and Characteristic Curves ( SF51-G Thru. SF58-G )

Fig.1 - Derating Curve Output Rectified Current

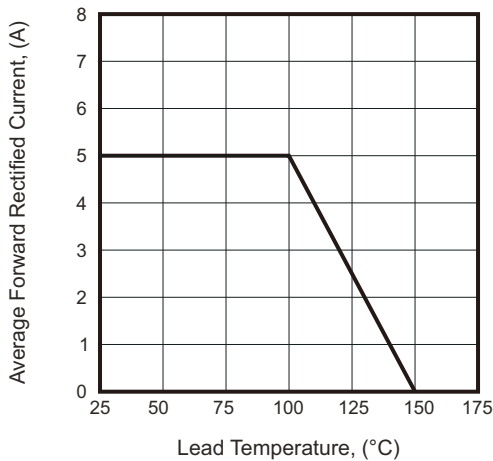


Fig.2 - Max. Non-Repetitive Peak Forward Surge Current Per Leg

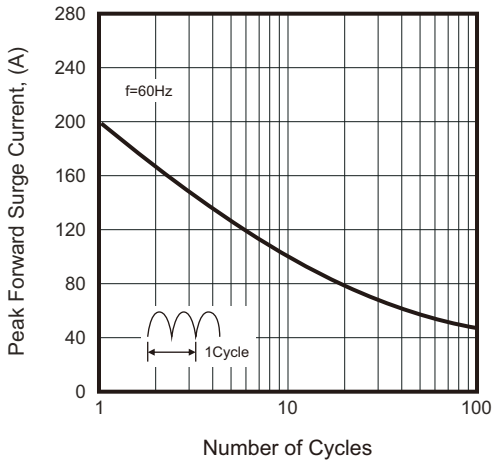


Fig.3 - Typical Forward Voltage Characteristics

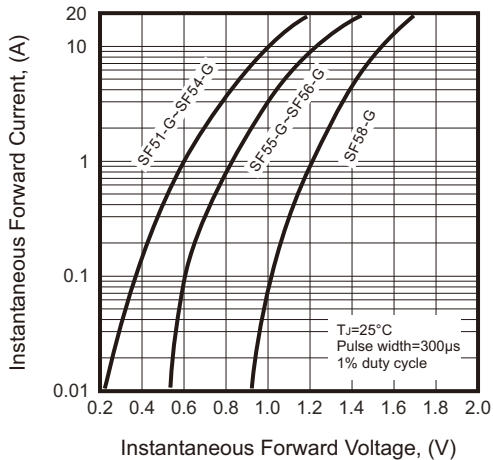
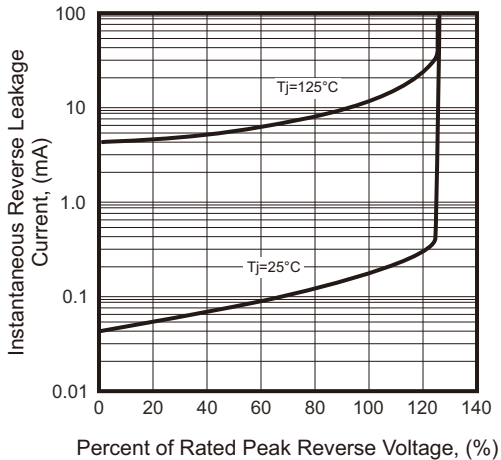
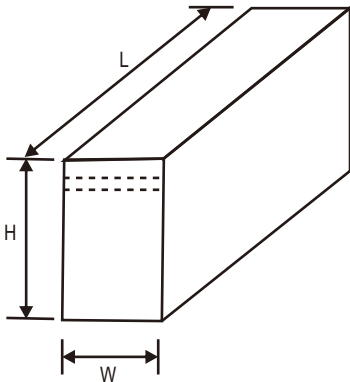
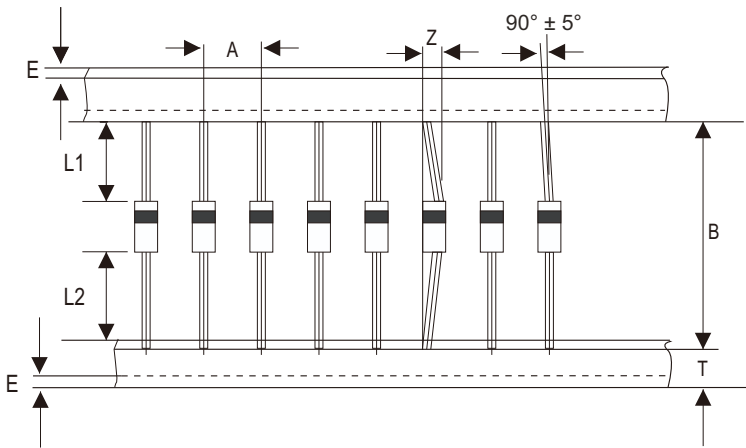


Fig.4 - Typical Reverse Leakage Characteristics



Taping Specification For Axial Lead Diodes



|       |        |               |               |             |               |             |             |
|-------|--------|---------------|---------------|-------------|---------------|-------------|-------------|
| DO-27 | SYMBOL | A             | B             | Z           | T             | E           | L1-L2       |
|       | (mm)   | 10.00 ± 0.50  | 52.40 ± 1.50  | 1.20 (max)  | 6.00 ± 0.50   | 0.80 (max)  | 1.00 (max)  |
|       | (inch) | 0.394 ± 0.020 | 2.063 ± 0.059 | 0.047 (max) | 0.236 ± 0.020 | 0.031 (max) | 0.039 (max) |

|       |        |        |        |       |
|-------|--------|--------|--------|-------|
| DO-27 | SYMBOL | L      | W      | H     |
|       | (mm)   | 255.00 | 150.00 | 75.00 |
|       | (inch) | 10.039 | 5.906  | 2.953 |

Marking Code

| Part Number | Marking code |
|-------------|--------------|
| SF51-G      | SF51         |
| SF52-G      | SF52         |
| SF53-G      | SF53         |
| SF54-G      | SF54         |
| SF55-G      | SF55         |
| SF56-G      | SF56         |
| SF58-G      | SF58         |



SFXX = Product type marking code

Standard Packaging

| Case Type | AMMO PACK      |                   |
|-----------|----------------|-------------------|
|           | BOX<br>( pcs ) | CARTON<br>( pcs ) |
| DO-27     | 1,250          | 12,500            |