



Tonghua Electronics

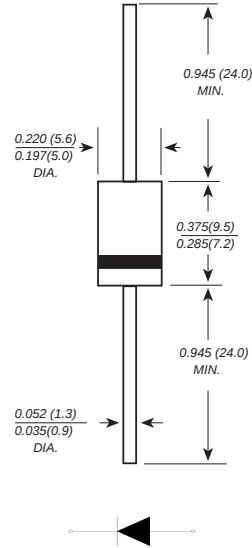
## SF31G~SF38G

### 3.0Amp Super Fast Rectifiers

#### Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction chip
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed  
250°C/10 seconds at terminals

DO-27



Dimensions in inches and (millimeters)

#### Mechanical Data

Case : Molded plastic body

Terminals : Solder plated, solderable per MIL-STD-750, Method 2026

Polarity : Polarity symbol marking on body

Mounting Position : Any

Weight : 0.0345 ounce, 0.98 grams

#### 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 current derate by 20%.

| Parameter                                                                                                   | SYMBOLS                          | SF31G       | SF32G | SF33G | SF34G | SF35G | SF36G | SF37G | SF38G | UNITS |
|-------------------------------------------------------------------------------------------------------------|----------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Maximum repetitive peak reverse voltage                                                                     | V <sub>RRM</sub>                 | 50          | 100   | 150   | 200   | 300   | 400   | 500   | 600   | V     |
| Maximum RMS voltage                                                                                         | V <sub>RMS</sub>                 | 35          | 70    | 105   | 140   | 210   | 280   | 350   | 420   | V     |
| Maximum DC blocking voltage                                                                                 | V <sub>DC</sub>                  | 50          | 100   | 150   | 200   | 300   | 400   | 500   | 600   | V     |
| Maximum average forward rectified current at T <sub>L</sub> =100°C                                          | I <sub>(AV)</sub>                | 3.0         |       |       |       |       |       |       |       | A     |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load                          | I <sub>FSM</sub>                 | 150.0       |       |       |       |       |       |       |       | A     |
| Maximum instantaneous forward voltage at 3.0A                                                               | V <sub>F</sub>                   | 0.95        |       |       |       | 1.25  |       | 1.7   |       | V     |
| Maximum DC reverse current    T <sub>A</sub> =25°C<br>at rated DC blocking voltage    T <sub>A</sub> =125°C | I <sub>R</sub>                   | 5.0<br>500  |       |       |       |       |       |       |       | uA    |
| Maxinum reverse recovery time(Note 1)                                                                       | T <sub>rr</sub>                  | 35          |       |       |       |       |       |       |       | ns    |
| Typical junction capacitance (Note2)                                                                        | C <sub>J</sub>                   | 75.0        |       |       |       |       |       |       |       | pF    |
| Typical thermal resistance                                                                                  | R <sub>qJA</sub>                 | 45.0        |       |       |       |       |       |       |       | °C/W  |
| Operating junction and storage temperature range                                                            | T <sub>J</sub> ,T <sub>STG</sub> | -55 to +150 |       |       |       |       |       |       |       | °C    |

Note: 1.Reverse recovery time test condition:  $I_F=0.5\text{A}$   $I_R=1.0\text{A}$   $I_{rr}=0.25\text{A}$

2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.

## Ratings And Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

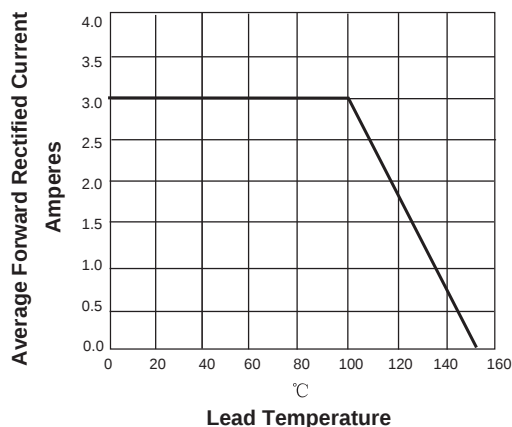


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

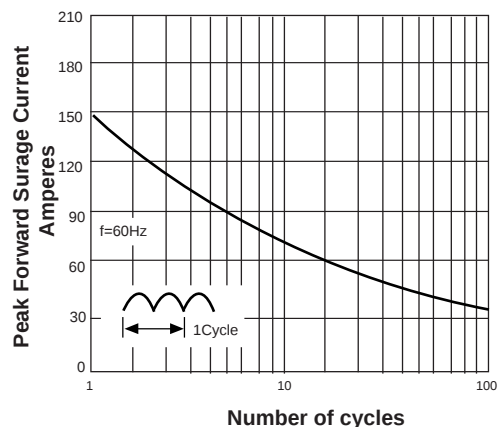


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

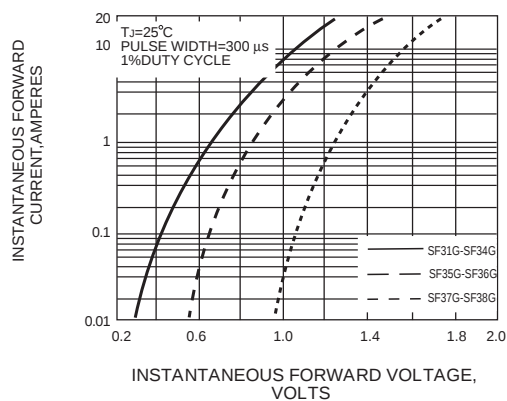
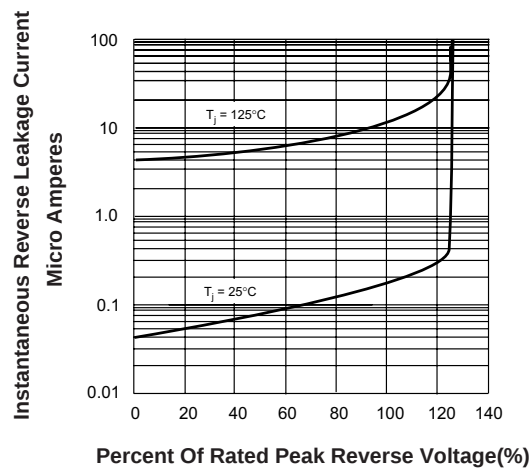
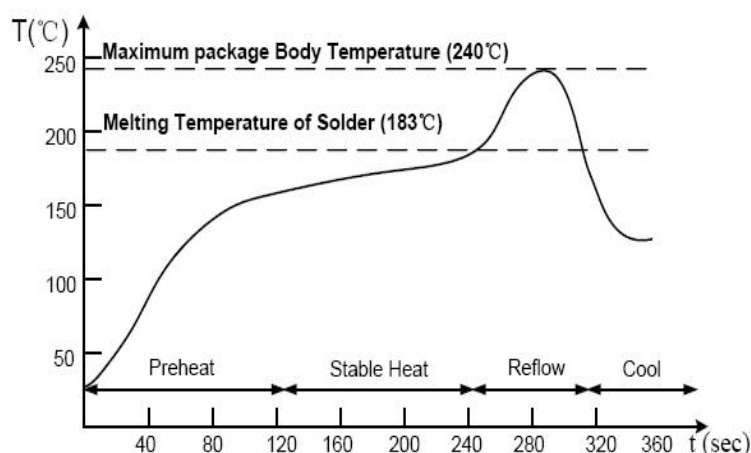


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



## Suggested Soldering Temperature Profile

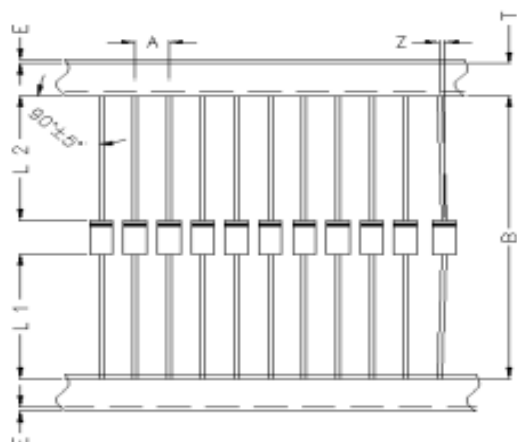


### Note

- ◆ Recommended reflow methods: IR, vapor phase oven, hot air oven, wave solder.
- ◆ The device can be exposed to a maximum temperature of 265°C for 10 seconds.
- ◆ Devices can be cleaned using standard industry methods and solvents.
- ◆ If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

## Package Information

### Taping Specifications



| Item                | Symbol | Specifications(mm) |
|---------------------|--------|--------------------|
| Component Pitch     | A      | 10.0±0.5           |
| Inner Tape Pitch    | B      | 52.4±1.5           |
| Component alignment | Z      | 1.2 Max            |
| Tape width          | T      | 6.0±0.5            |
| Exposed adhesive    | E      | 0.8 Max            |
| Body eccentricity   | L1-L2  | 1.0 Max            |

### Ammunition Package Specifications

| Package | Inner Box Size (mm) | QTY/Box (Kpcs) | Carton Size (mm) | Q'TY/Carton (Kpcs) |
|---------|---------------------|----------------|------------------|--------------------|
| DO - 27 | 255*150*75          | 1.25           | 420*276*312      | 12.5               |