



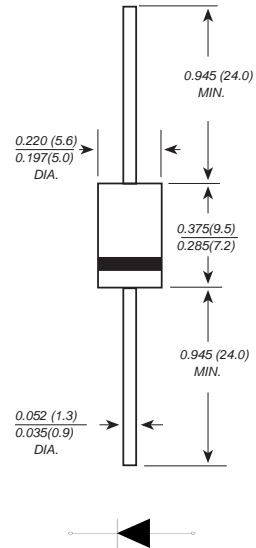
SF51G~SF58G

5.0Amp 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 | SF51G | SF52G | SF53G | SF54G | SF55G | SF56G | SF57G | SF58G | UNITS | |
|---|----------------|-------------|-------|-------|-------|-------|-------|-------|-------|------------------|--------------------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | V | |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | 350 | 420 | V | |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | V | |
| Maximum average forward rectified current at $T_L=100^\circ\text{C}$ | $I_{(AV)}$ | 5.0 | | | | | | | | A | |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 150.0 | | | | | | | | A | |
| Maximum instantaneous forward voltage at 5.0A | V_F | 1.0 | | | | 1.3 | | 1.7 | | V | |
| Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=125^\circ\text{C}$ | I_R | 5.0 | | | | 500 | | | | μA | |
| Maximum reverse recovery time(Note 1) | T_{rr} | 35 | | | | | | | | | ns |
| Typical junction capacitance (Note2) | C_J | 78.0 | | | | | | | | | pF |
| Typical thermal resistance | R_{qJA} | 45.0 | | | | | | | | | $^\circ\text{C/W}$ |
| Operating junction and storage temperature range | T_J, T_{STG} | -55 to +150 | | | | | | | | $^\circ\text{C}$ | |

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

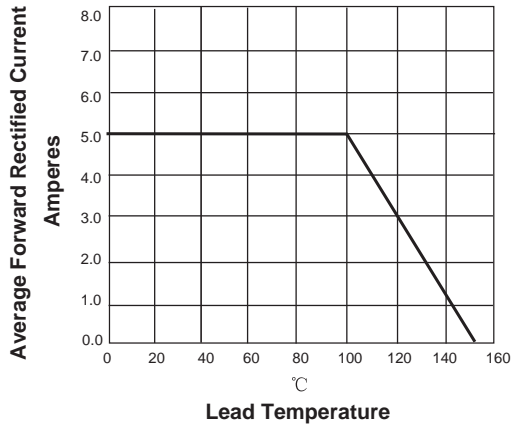


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

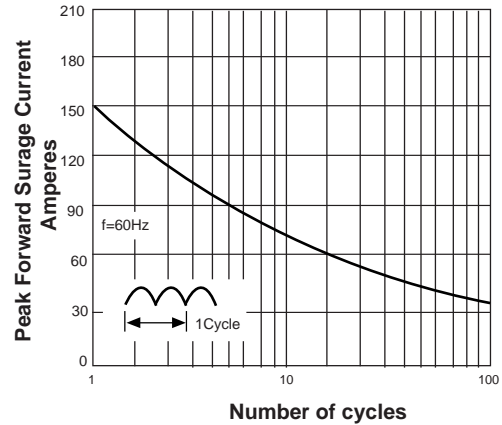


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

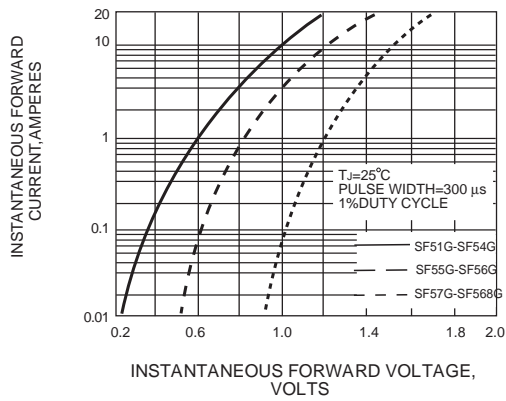
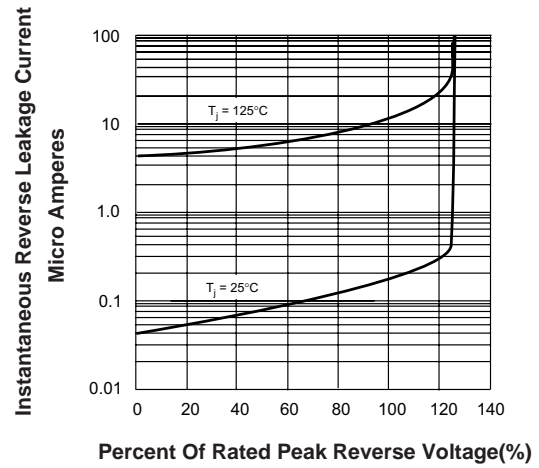
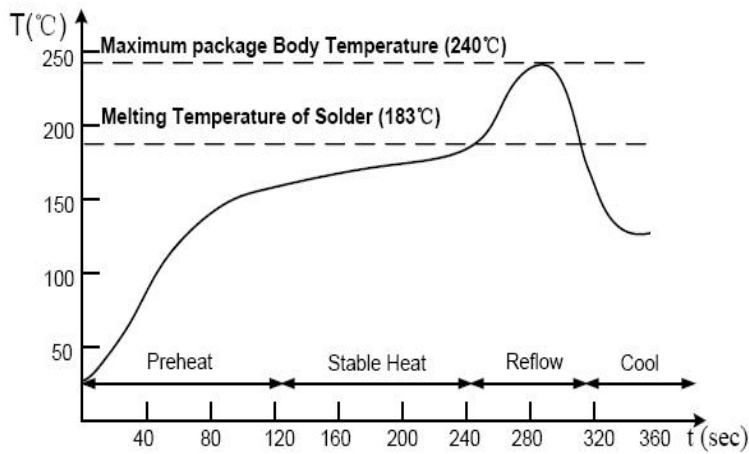


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS





Suggested Soldering Temperature Profile

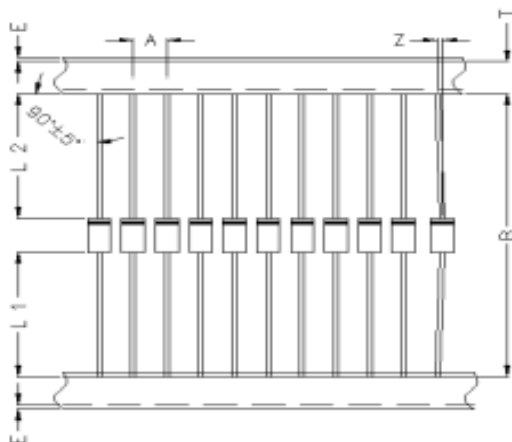


Note

- ◆ 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 |