

DO-41

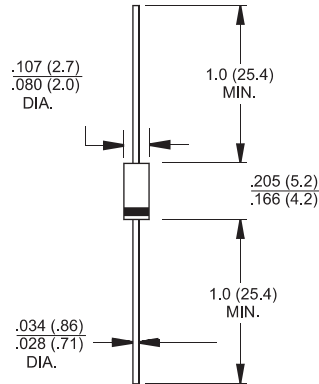


Features

- ✧ High efficiency, low VF
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability
- ✧ Low power loss.
- ✧ For use in low voltage, high frequency inverter, free wheeling, and polarity protection application

Mechanical Data

- ✧ Case: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Polarity: Color band denotes cathode
- ✧ High temperature soldering guaranteed:
260°C/10 seconds/.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Mounting position: Any
- ✧ Weight: 0.35 gram



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| Type Number | Symbol | SF | | | | | | | | Units |
|---|------------------------------------|-------------|-----|-----|-----|----------|-----|-----|-----|--------------|
| | | 11G | 12G | 13G | 14G | 15G | 16G | 17G | 18G | |
| Maximum Recurrent 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 .375 (9.5mm) Lead Length @ $T_A = 55^\circ C$ | $I_{(AV)}$ | 1.0 | | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 30 | | | | | | | | A |
| Maximum Instantaneous Forward Voltage @ 1.0A | V_F | 0.95 | | | 1.3 | | 1.7 | | | V |
| Maximum DC Reverse Current @ $T_A=25^\circ C$ at Rated DC Blocking Voltage @ $T_A=125^\circ C$ | I_R | 5.0 | | | | 100 | | | | uA uA |
| Maximum Reverse Recovery Time (Note 1) | T_{rr} | | | | | 35 | | | | nS |
| Typical Junction Capacitance (Note 2) | C_j | 20 | | | | 10 | | | | pF |
| Typical Thermal Resistance | $R_{\theta JA}$ $R_{\theta JL}$ | | | | | 80 20 | | | | $^\circ C/W$ |
| Operating Temperature Range | T_J | -65 to +150 | | | | | | | | $^\circ C$ |
| Storage Temperature Range | T_{STG} | -65 to +150 | | | | | | | | $^\circ C$ |

- Notes:
1. Reverse Recovery Test Conditions: $I_F=0.5A$, $I_R=1.0A$, $I_{RR}=0.25A$
 2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.
 3. Mount on Cu-Pad Size 5mm x 5mm on PCB.

RATINGS AND CHARACTERISTIC CURVES (SF11G THRU SF18G)

FIG.1- MAXIMUM AVERAGE FORWARD CURRENT DERATING

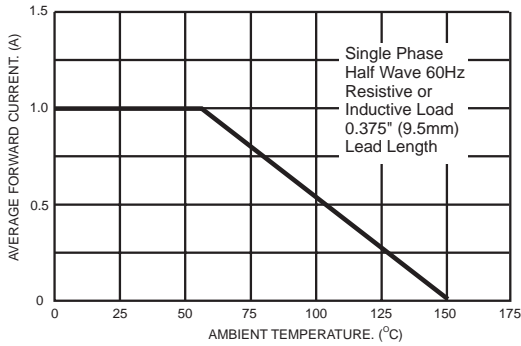


FIG.2- TYPICAL REVERSE CHARACTERISTICS

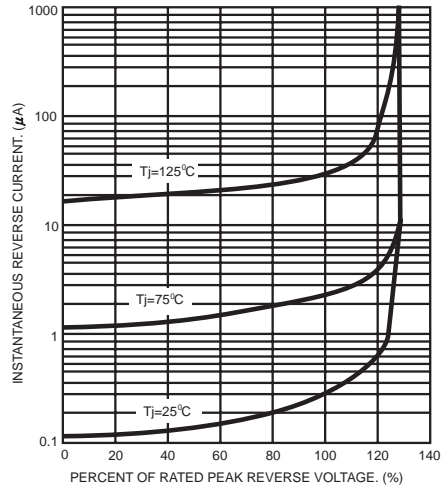


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

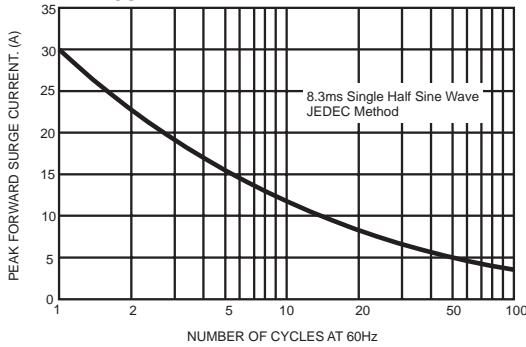


FIG.5- TYPICAL FORWARD CHARACTERISTICS

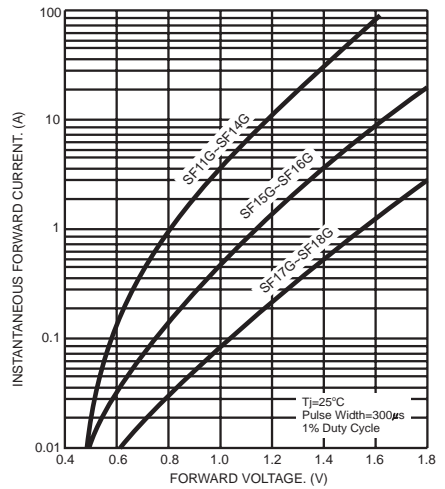


FIG.4- TYPICAL JUNCTION CAPACITANCE

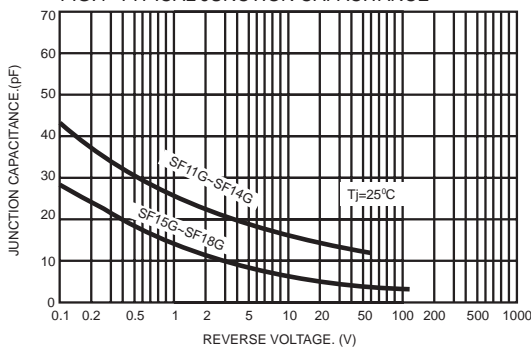
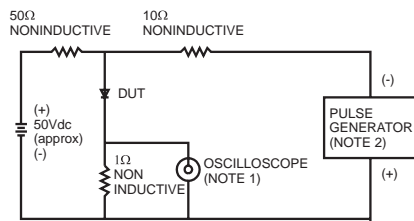


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES: 1. Rise Time=7ns max. Input Impedance=1 megohm 22pf
2. Rise Time=10ns max. Source Impedance=50 ohms

