

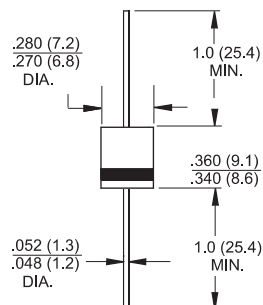


## Features

- ✧ Low forward voltage drop
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability
- ✧ Fast switching for high efficiency

## Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode end
- ✧ High temperature soldering guaranteed:  
260 °C /10 seconds/.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Weight: 1.65 grams



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          | SFR 601     | SFR 602 | SFR 603 | SFR 604 | SFR 605 | SFR 606 | SFR 607 | Units              |
|---|-----------------|-------------|---------|---------|---------|---------|---------|---------|--------------------|
| Maximum Recurrent Peak Reverse Voltage  | $V_{RRM}$       | 50          | 100     | 200     | 400     | 600     | 800     | 1000    | V                  |
| Maximum RMS Voltage   | $V_{RMS}$       | 35          | 70      | 140     | 280     | 420     | 560     | 700     | V                  |
| Maximum DC Blocking Voltage   | $V_{DC}$        | 50          | 100     | 200     | 400     | 600     | 800     | 1000    | V                  |
| Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length @ $T_A = 55^\circ C$             | $I_{(AV)}$      | 6.0         |         |         |         |         |         |         | A                  |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method ) | $I_{FSM}$       | 200         |         |         |         |         |         |         | A                  |
| Maximum Instantaneous Forward Voltage @6.0A   | $V_F$           | 1.2         |         |         |         |         |         |         | V                  |
| Maximum DC Reverse Current @ $T_A=25^\circ C$ at Rated DC Blocking Voltage @ $T_A=125^\circ C$      | $I_R$           | 10<br>250   |         |         |         |         |         |         | $\mu A$<br>$\mu A$ |
| Maximum Reverse Recovery Time ( Note 1 )  | $T_{rr}$        | 120         |         |         | 200     |         | 350     |         | nS                 |
| Typical Junction Capacitance ( Note 2 )   | $C_j$           | 100         |         |         |         |         |         |         | pF                 |
| Typical Thermal resistance ( Note 3 )   | $R_{\theta JA}$ | 35          |         |         |         |         |         |         | $^\circ C/W$       |
| 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 Volts D.C.
  3. Mount on Cu-Pad Size 16mm x 16mm on P.C.B.

## RATINGS AND CHARACTERISTIC CURVES (SFR601 THRU SFR607)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

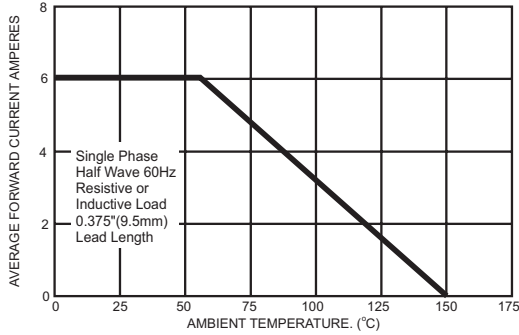


FIG.2- TYPICAL REVERSE CHARACTERISTICS PER LEG

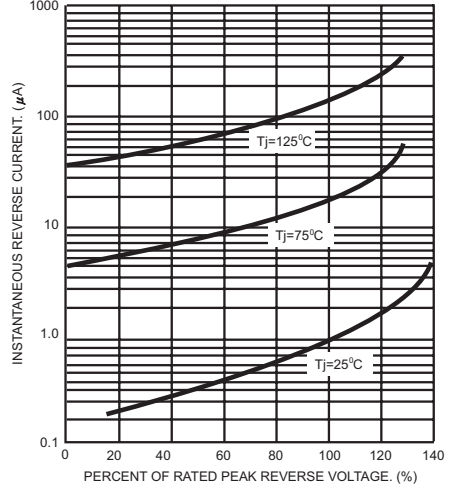


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

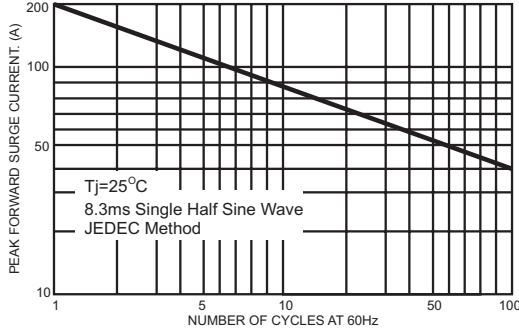


FIG.5- TYPICAL FORWARD CHARACTERISTICS

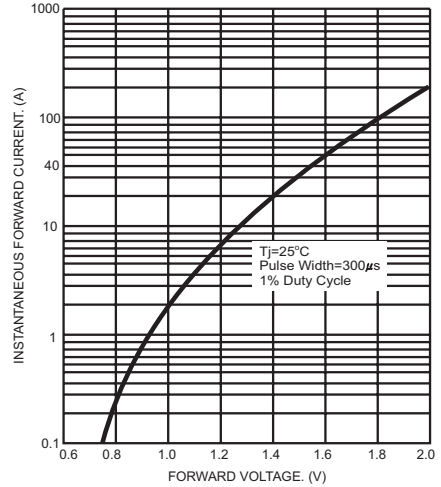


FIG.4- TYPICAL JUNCTION CAPACITANCE

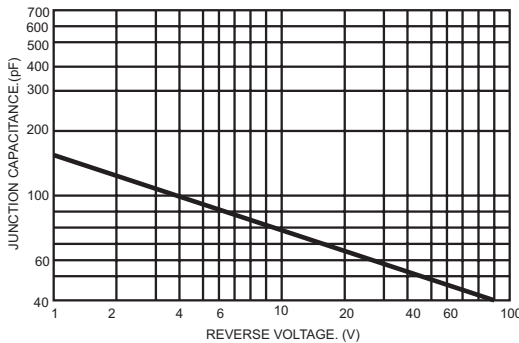


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

