



# SF11G THRU SF18G

## 1.0 AMP. Glass Passivated Super Fast Rectifiers



Voltage Range  
50 to 600 Volts  
Current  
1.0 Ampere

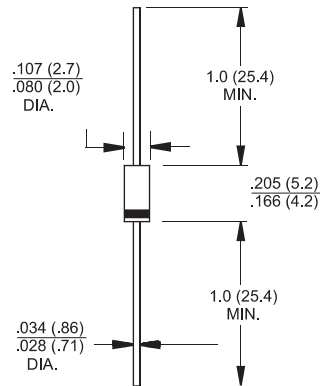
### Features

- ✧ Low forward voltage drop
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability

### Mechanical Data

- ✧ Case: Molded plastic
- ✧ Epoxy: UL 94V-O 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
- ✧ Mounting position: Any
- ✧ Weight: 0.35 gram

### DO-41



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<br>11G   | SF<br>12G | SF<br>13G | SF<br>14G | SF<br>15G | SF<br>16G | SF<br>17G | SF<br>18G | Units    |
|--------------------------------------------------------------------------------------------------------|--------------------------------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|
| Maximum Recurrent 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 .375 (9.5mm) Lead Length @T <sub>A</sub> = 55°C              | I <sub>(AV)</sub>                    | 1.0         |           |           |           |           |           |           |           | A        |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )    | I <sub>FSM</sub>                     | 30          |           |           |           |           |           |           |           | A        |
| Maximum Instantaneous Forward Voltage @ 1.0A                                                           | V <sub>F</sub>                       | 0.95        |           |           |           | 1.3       |           | 1.7       |           | V        |
| Maximum DC Reverse Current @ T <sub>A</sub> =25°C at Rated DC Blocking Voltage @ T <sub>A</sub> =125°C | I <sub>R</sub>                       | 5.0<br>100  |           |           |           |           |           |           |           | uA<br>uA |
| Maximum Reverse Recovery Time (Note 1)                                                                 | T <sub>rr</sub>                      | 35          |           |           |           |           |           |           |           | nS       |
| Typical Junction Capacitance (Note 2)                                                                  | C <sub>j</sub>                       | 20          |           |           |           | 10        |           |           |           | pF       |
| Typical Thermal Resistance (Note 3)                                                                    | R <sub>θJA</sub><br>R <sub>θJL</sub> | 80<br>20    |           |           |           |           |           |           |           | °C/W     |
| Operating Temperature Range                                                                            | T <sub>J</sub>                       | -65 to +150 |           |           |           |           |           |           |           | °C       |
| Storage Temperature Range                                                                              | T <sub>STG</sub>                     | -65 to +150 |           |           |           |           |           |           |           | °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- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

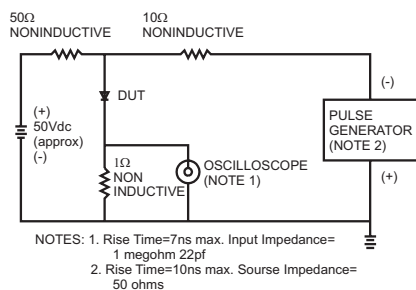


FIG.2- MAXIMUM AVERAGE FORWARD CURRENT DERATING

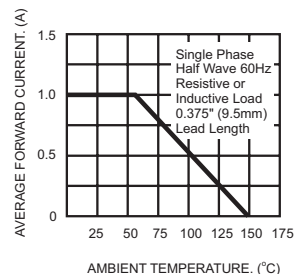


FIG.3- TYPICAL REVERSE CHARACTERISTICS

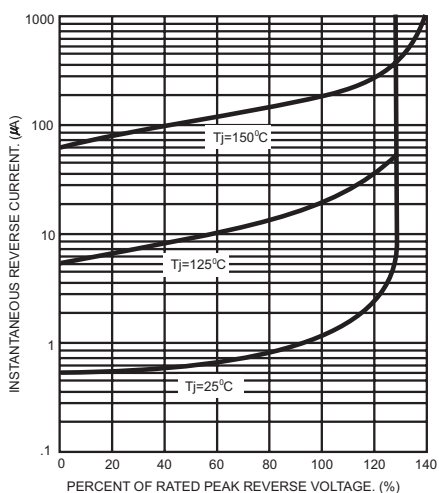


FIG.4- TYPICAL FORWARD CHARACTERISTICS

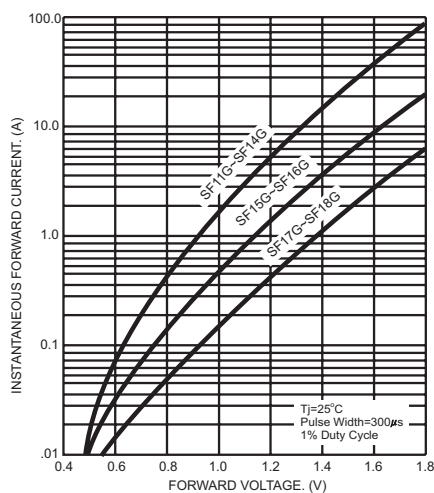


FIG.5- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

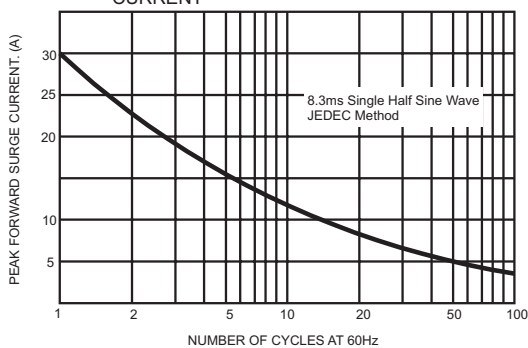


FIG.6- TYPICAL JUNCTION CAPACITANCE

