



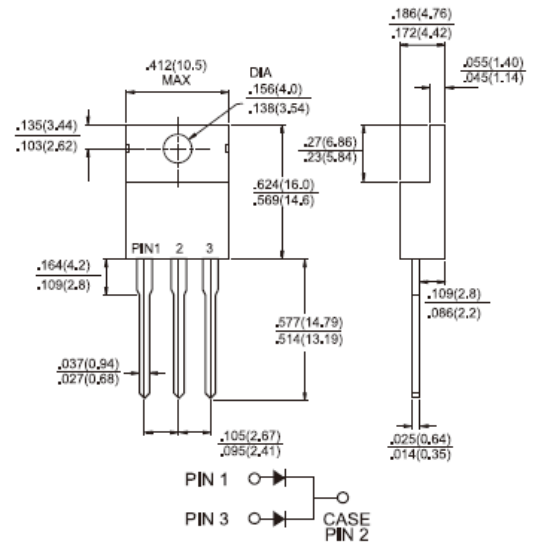
**SF801G - SF808G**  
**8.0AMPS. Glass Passivated Super Fast Rectifiers**  
**TO-220AB**

**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
- ◇ Green compound with suffix "G" on packing code & prefix "G" on datecode.

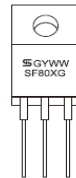
**Mechanical Data**

- ◇ Case: TO-220AB Molded plastic
- ◇ Epoxy: UL 94V-0 rate flame retardant
- ◇ Terminals: Pure tin plated, lead free. Solderable per MIL-STD-202, Method 208 guaranteed
- ◇ Polarity: As marked
- ◇ High temperature soldering guaranteed: 260°C/10 seconds 16".,(4.06mm) from case.
- ◇ Weight: 1.90 grams



**Dimensions in inches and (millimeters)**

**Marking Diagram**



- SF80XG = Specific Device Code
- G = Green Compound
- Y = Year
- WW = Work Week

**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 801G	SF 802G	SF 803G	SF 804G	SF 805G	SF 806G	SF 807G	SF 808G	Units
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	480	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	500	600	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	8								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	125								A
Maximum Instantaneous Forward Voltage (Note 1) @ 4 A	$V_F$	0.975			1.3		1.7			V
Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=100^\circ\text{C}$	$I_R$					10				uA
						400				uA
Maximum Reverse Recovery Time (Note 2)	$T_{rr}$					35				nS
Typical Junction Capacitance (Note 3)	$C_j$	70					50			pF
Typical Thermal Resistance	$R_{\theta JC}$					3.0				°C/W
Operating Temperature Range $T_J$	$T_J$					- 65 to + 150				°C
Storage Temperature Range $T_{STG}$	$T_{STG}$					- 65 to + 150				°C

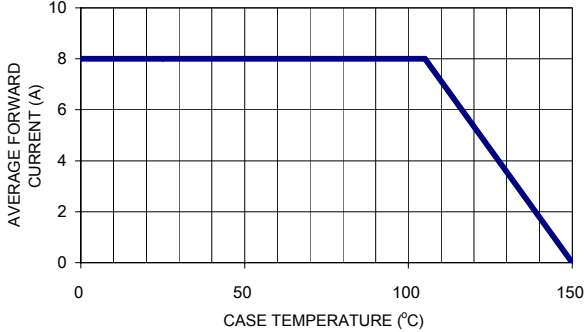
Note 1: Pulse Test with PW=300 usec, 1% Duty Cycle

Note 2: Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$ .

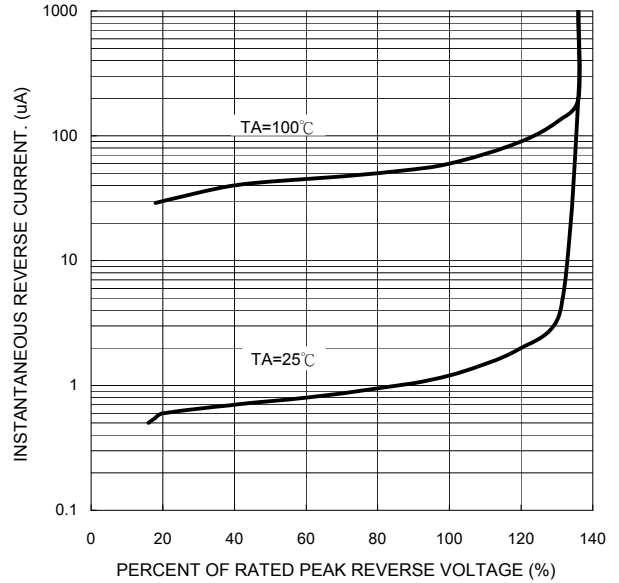
Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.

**RATINGS AND CHARACTERISTIC CURVES (SF801G THRU SF808G)**

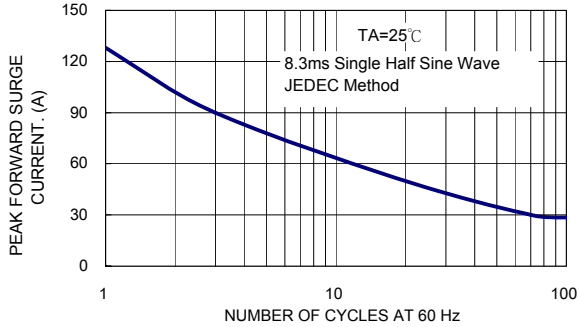
**FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE**



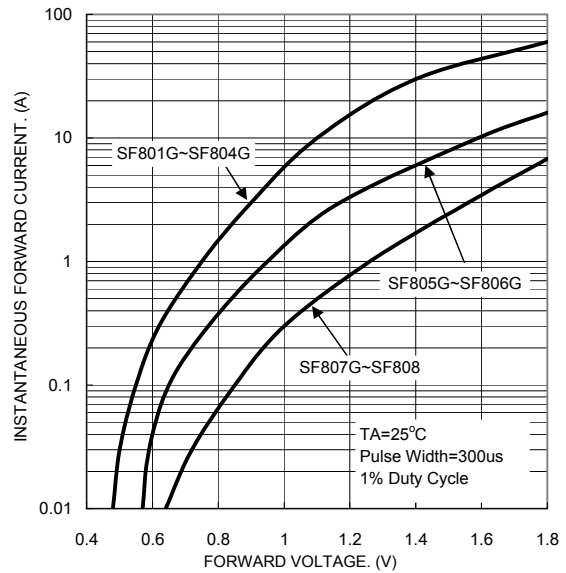
**FIG. 2- TYPICAL REVERSE CHARACTERISTICS**



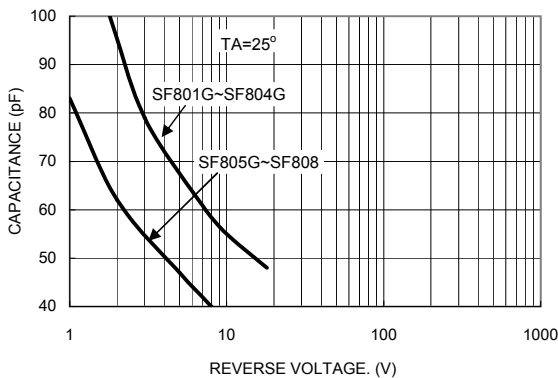
**FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



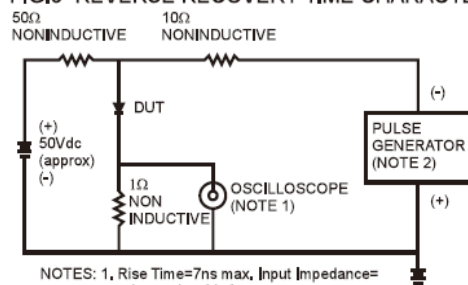
**FIG. 5- TYPICAL FORWARD CHARACTERISTICS**



**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

