TAIWAN SEMICONDUCTOR

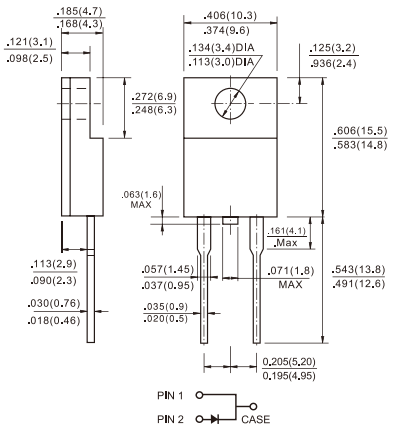
RoHS COMPLIANCE

SFAF1001G - SFAF1008G

Isolated 10.0 AMPS.

Glass Passivated Super Fast Rectifiers

ITO-220AC



Dimensions in inches and (millimeters)

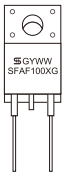
Features

- ✧ UL Recognized File # E-326243
- ✧ High efficiency, low VF
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability
- ✧ Low power loss.
- ✧ For use in low voltage, high frequency inventor, free wheeling, and polarity protection application
- ✧ Green compound with suffix “G” on packing code & prefix “G” on datecode.

Mechanical Data

- ✧ Cases: ITO-220AC 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) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Weight: 1.70 grams

Marking Diagram



SFAF100XG = 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	SFAF 1001G	SFAF 1002G	SFAF 1003G	SFAF 1004G	SFAF 1005G	SFAF 1006G	SFAF 1007G	SFAF 1008G	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	420	V
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	500	600	V
Maximum Average Forward Rectified Current @T_C = 100 °C	$I_{F(AV)}$	10								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150								A
Maximum Instantaneous Forward Voltage @ 10.0A	V_F	0.975				1.3		1.7		V
Maximum DC Reverse Current @T_A=25 °C at Rated DC Blocking Voltage @ T_A=100 °C (Note 1)	I_R	10 400								uA uA
Maximum Reverse Recovery Time (Note 4)	Trr	35								nS
Typical Junction Capacitance (Note 2)	Cj	170				140				pF
Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	4								°C/W
Operating Temperature Range	T_J	-65 to +150								°C
Storage Temperature Range	TSTG	-65 to +150								°C

Notes: 1. Pulse Test with PW=300 usec,1% Duty Cycle
2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.
3. Mounted on Heatsink size (2” x 3” x 0.25”) Al-Plate.
4. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Version: D10

RATINGS AND CHARACTERISTIC CURVES (SFAF1001G THRU SFAF1008G)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

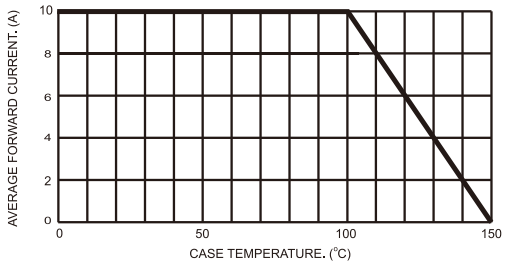


FIG.2- TYPICAL REVERSE CHARACTERISTICS

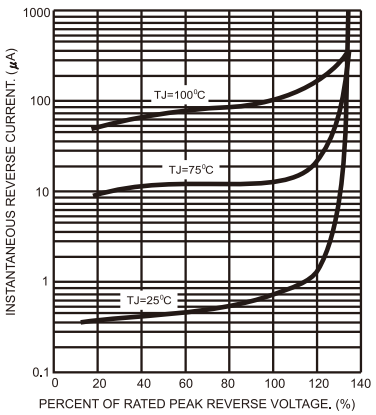


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

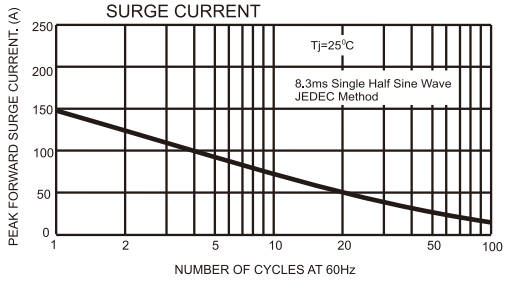


FIG.5- TYPICAL FORWARD CHARACTERISTICS

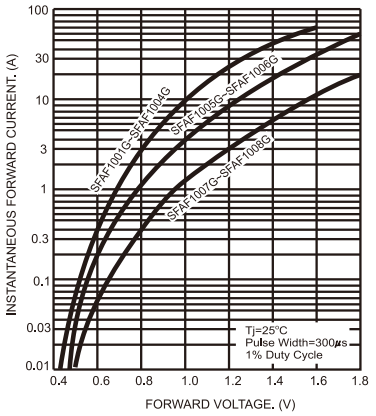


FIG.4- TYPICAL JUNCTION CAPACITANCE

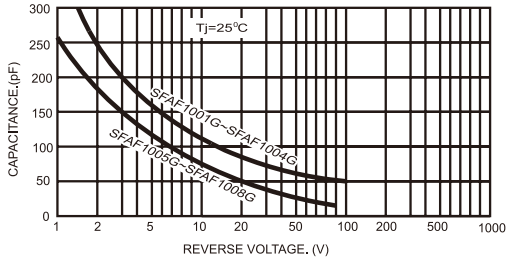


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM