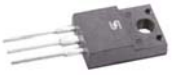
TAIWAN SEMICONDUCTOR

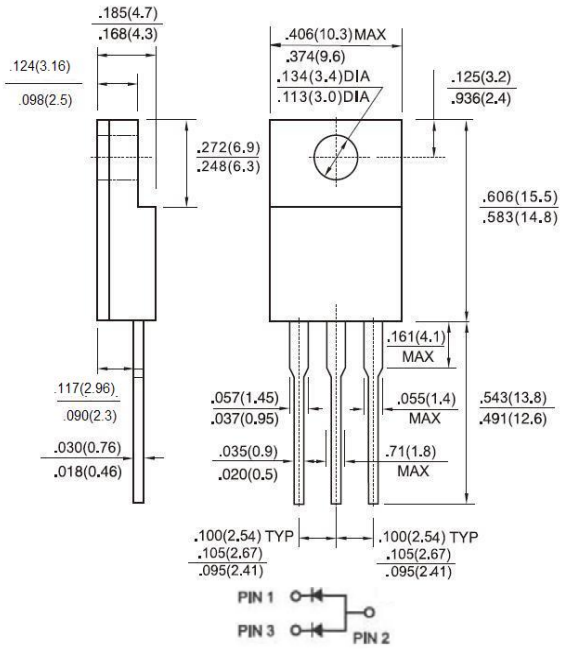
SFF2005GA

Isolated 20.0Amps Glass Passivated Super Fast Rectifier

RoHS COMPLIANCE



ITO-220AB



Dimensions in inches and (millimeters)

Features

- ✧ 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

- ✧ Case: ITO-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: 260℃/10 seconds/.16",(4.06mm) from case
- ✧ Weight: 1.75 grams

Marking Diagram

SFF200XGA	= Specific Device Code
G	= Green Compound
Y	= Year
WW	= Work Week

Maximum Ratings and Electrical Characteristics

Rating at 25 ℃ 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	SFF2005GA	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	300	V
Maximum RMS Voltage	V_{RMS}	210	V
Maximum DC Blocking Voltage	V_{DC}	300	V
Maximum Average Forward Rectified Current @T_C=100℃	$I_{F(AV)}$	20	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 @ 10A	V_F	1.3	V
Maximum Reverse Current @ Rated VR T_A=25 ℃ (Note 1) T_A=100 ℃	I_R	10 400	uA
Maximum Reverse Recovery Time (Note 2)	Trr	35	nS
Typical Junction Capacitance (Note 3)	Cj	90	pF
Typical Thermal Resistance	$R_{\theta jC}$	7	^{O}C/W
Operating Temperature Range	T_J	- 65 to + 150	^{O}C
Storage Temperature Range	T_{STG}	- 65 to + 150	^{O}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 4.0V D.C.

RATINGS AND CHARACTERISTIC CURVES (SFF2005GA)

FIG.1 FORWARD CURRENT DERATING CURVE

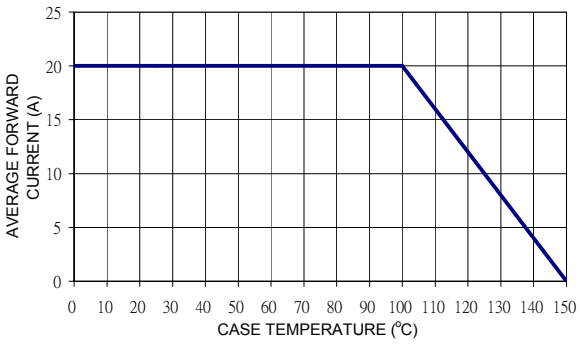


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

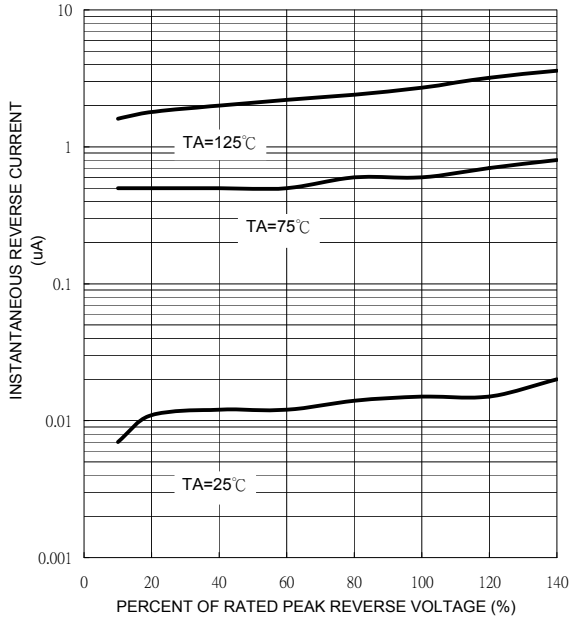


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

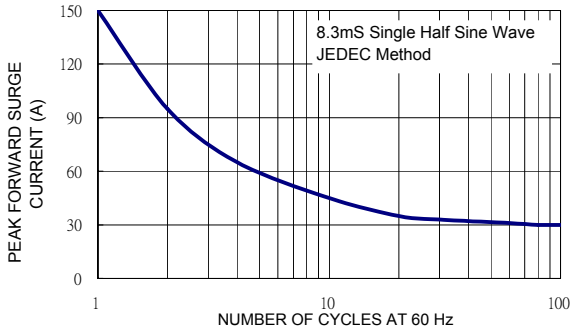


FIG. 5 TYPICAL FORWARD CHARACTERISRICS

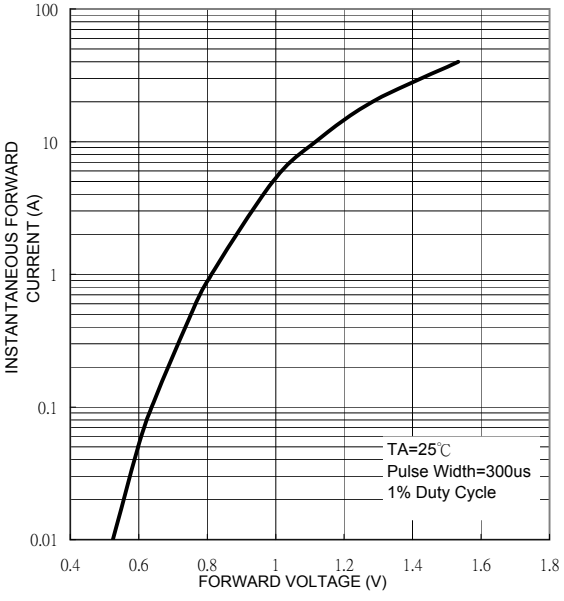


FIG. 4 TYPICAL JUNCTION CAPACITANCE

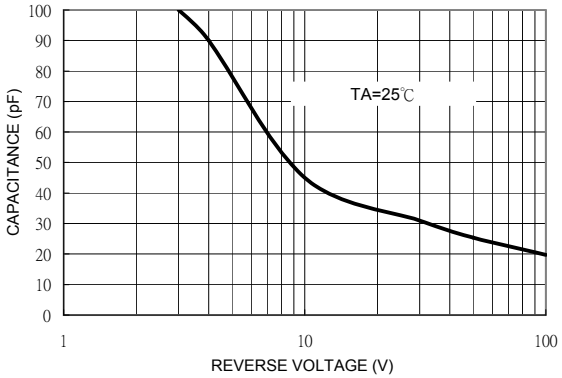


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM