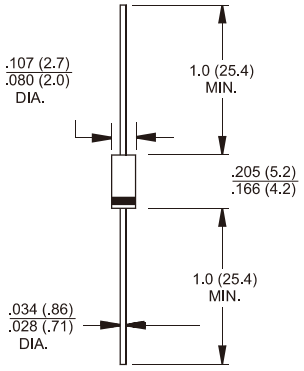
TAIWAN SEMICONDUCTOR

Pb RoHS COMPLIANCE

SF11 - SF18

1.0 AMP. Super Fast Rectifiers

DO-41



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

- ✧ Cases: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Pure tin plated, lead free., solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode
- ✧ High temperature soldering guaranteed: 260°C/10 seconds/.375”,(9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Weight: 0.34 grams

Marking Diagram



SFXX = 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 11	SF 12	SF 13	SF 14	SF 15	SF 16	SF 17	SF 18	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 .375 (9.5mm) Lead Length @T_A = 55 °C	$I_{F(AV)}$	1.0								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	30								A
Maximum Instantaneous Forward Voltage @ 1.0A	V_F	0.95				1.3		1.7		V
Maximum DC Reverse Current at @ T_A=25 °C Rated DC Blocking Voltage(Note1)@ T_A=125°C	I_R	5.0 100								uA uA
Maximum Reverse Recovery Time (Note 2)	Trr	35								nS
Typical Junction Capacitance (Note 3)	Cj	30				15				pF
Typical Thermal Resistance (Note 4)	$R_{\theta JA}$	70								°C/W
Operating Temperature Range	T_J	-65 to +125								°C
Storage Temperature Range	T_{STG}	-65 to +150								°C

Notes: 1. Pulse Test with PW=300 usec,1% Duty Cycle
2. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A
3. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.
4. Mount on Cu-Pad Size 5mm x 5mm on PCB.

Version: C10

RATINGS AND CHARACTERISTIC CURVES (SF11 THRU SF18)

FIG.1- MAXIMUM AVERAGE FORWARD CURRENT DERATING

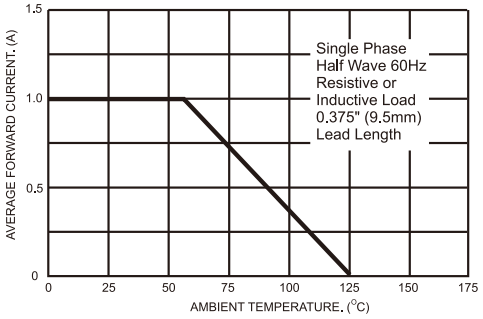


FIG.2- TYPICAL REVERSE CHARACTERISTICS

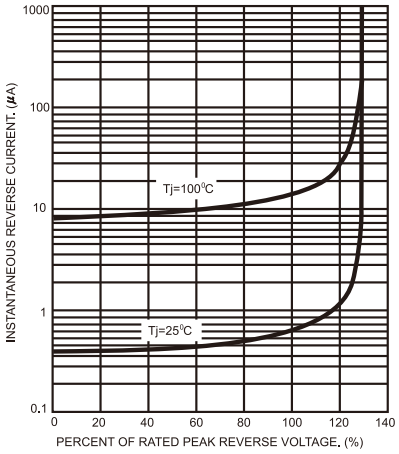


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

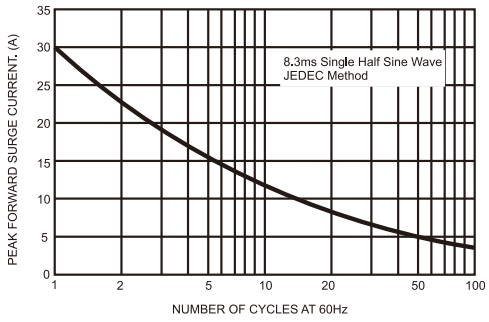


FIG.4- TYPICAL JUNCTION CAPACITANCE

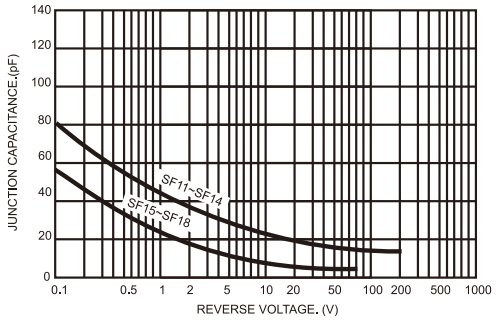


FIG.5- TYPICAL FORWARD CHARACTERISTICS

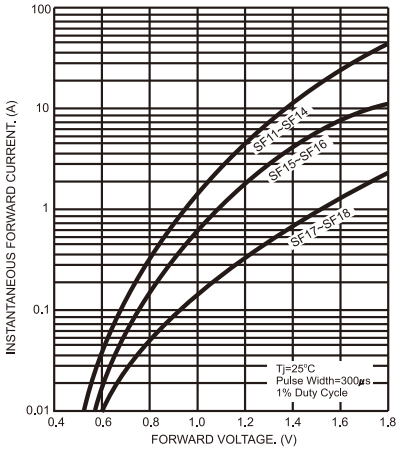


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

