TAIWAN SEMICONDUCTOR

The Smartest Choice

SFT11G - SFT18G

1.0AMP. Glass Passivated Super Fast Rectifiers

TS-1

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



Pb-Free

RoHS COMPLIANT

Mechanical Data

- ✧ Case: 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℃/10 seconds/.375",(9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Mounting position: Any
- ✧ Weight: 0.20 grams

Ordering Information (example)

Part No.	Package	Packing	INNER TAPE	Packing code	Packing code (Green)
SFT11G	TS-1	3K / AMMO box	26mm	P0	P0G

Maximum Ratings and Electrical Characteristics

Rating at 25 ℃ ambient temperature unless otherwise specified.

Parameter	Symbol	SFT 11G	SFT 12G	SFT 13G	SFT 14G	SFT 15G	SFT 16G	SFT 17G	SFT 18G	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	$I_{F(AV)}$	1								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 (Note 1) @ 1 A	V_F	0.95				1.3		1.7		V
Maximum DC Reverse Current at Rated @ T_A=25 ℃	I_R	5								uA
DC Blocking Voltage @ T_A=125 ℃		100								uA
Maximum Reverse Recovery Time (Note 2)	Trr	35								nS
Typical Junction Capacitance (Note 3)	Cj	20				10				pF
Typical Thermal Resistance	$R_{\theta JA}$	100								^{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.

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RATINGS AND CHARACTERISTIC CURVES (SFT11G THRU SFT18G)

FIG.1- MAXIMUM AVERAGE FORWARD CURRENT DERATING

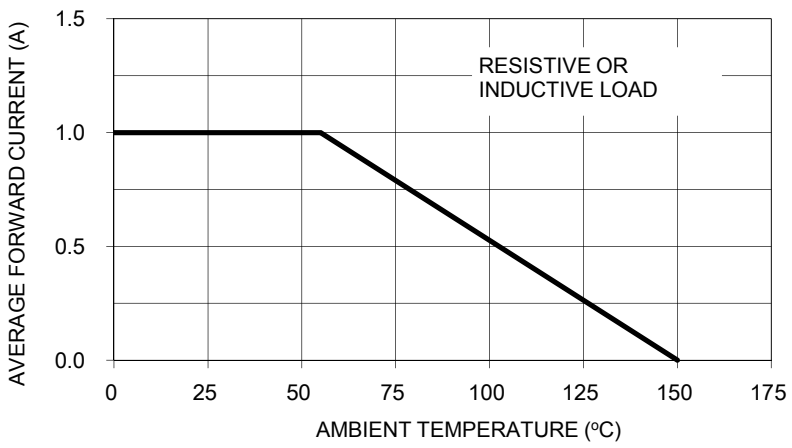


FIG.2- TYPICAL REVERSE CHARACTERISTICS

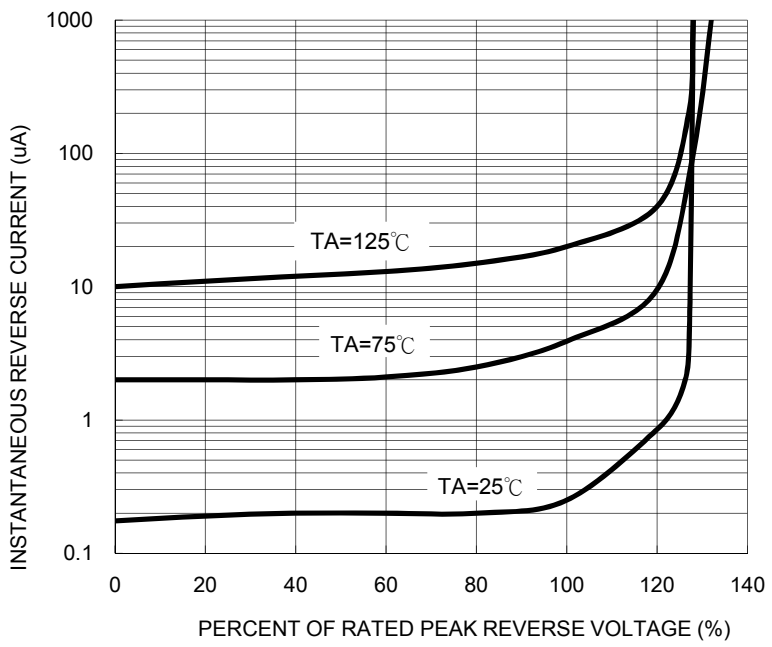


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

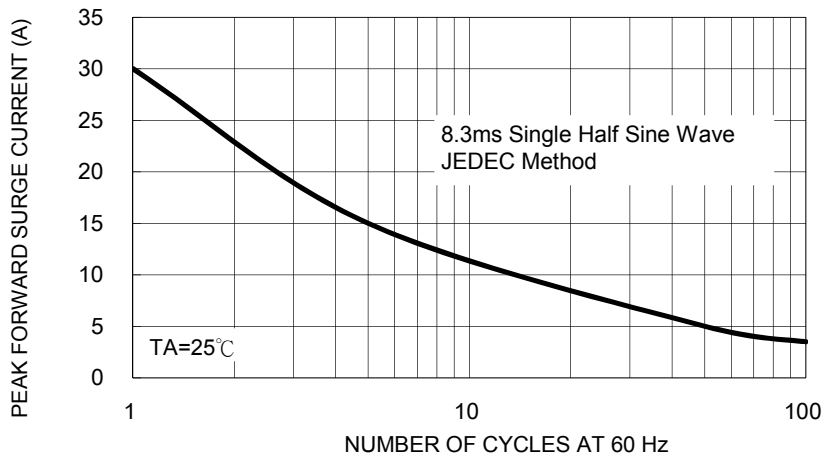


FIG. 4- TYPICAL JUNCTION CAPACITANCE

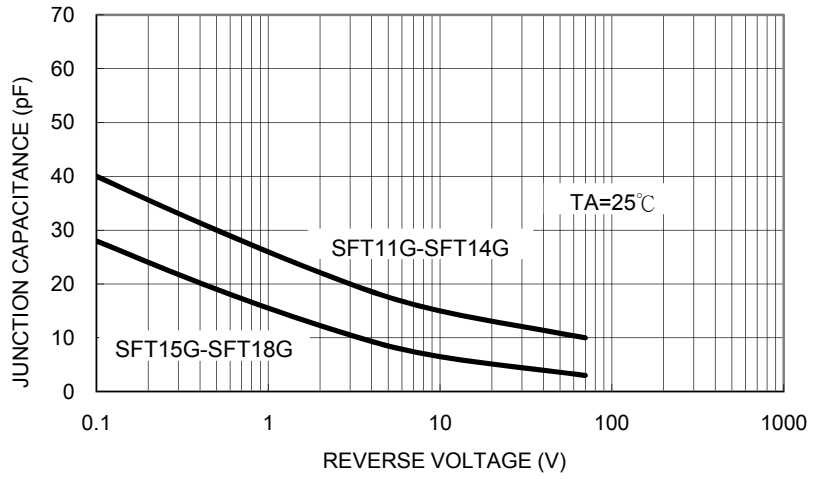


FIG. 5- TYPICAL FORWARD CHARACTERISTICS

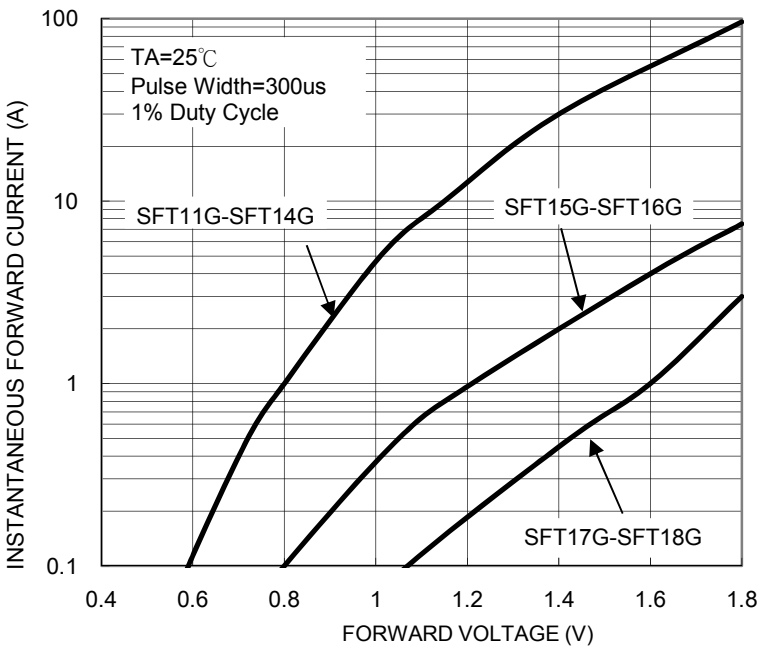
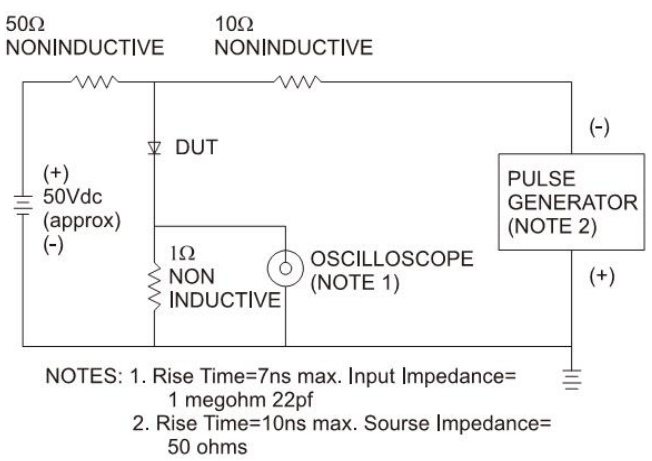
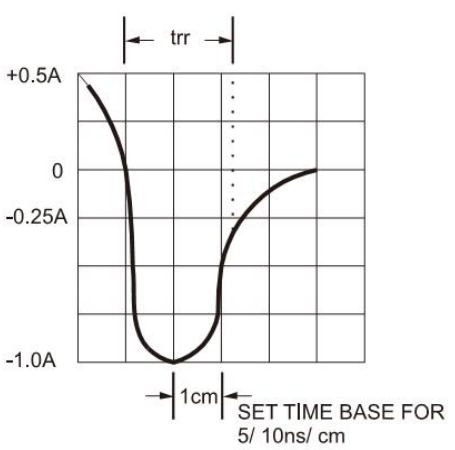


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES: 1. Rise Time=7ns max. Input Impedance= 1 megohm 22pf
2. Rise Time=10ns max. Sourse Impedance= 50 ohms

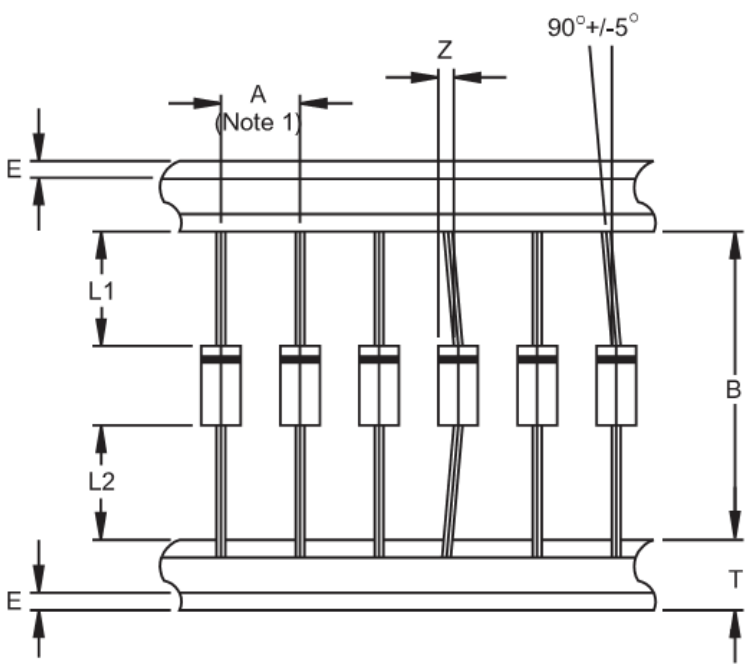


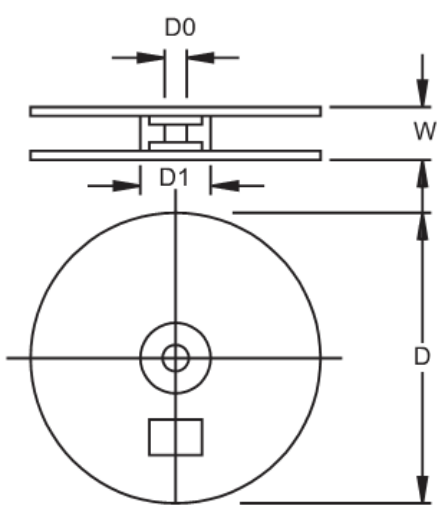
Ordering information

Part No.	Package	Packing	INNER TAPE	Packing code	Packing code (Green)
SFT1xG (Note)	TS-1	3K / AMMO box	26mm	A1	A1G
	TS-1	3K / AMMO box	52mm	A0	A0G
	TS-1	5K / 13" Reel	52mm	R0	R0G
	TS-1	1K / Bulk packing		B0	B0G

Note: "x" is Device Code from "1" thru "8".

AXIAL LEAD TAPING SPECIFICATIONS

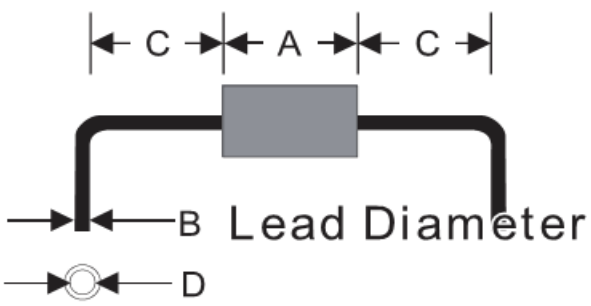




Outline	A	B	Z	T	E	L1-L2	D	D1	D0	W
	±0.5	±1.5	MAX	±0.4	MAX	MAX		±0.3	±0.4	±1.0
TS-1	5	26	1.2	6	0.8	1	330	85.7	16.6	76
TS-1	5	52.4	1.2	6	0.8	1	330	85.7	16.6	76

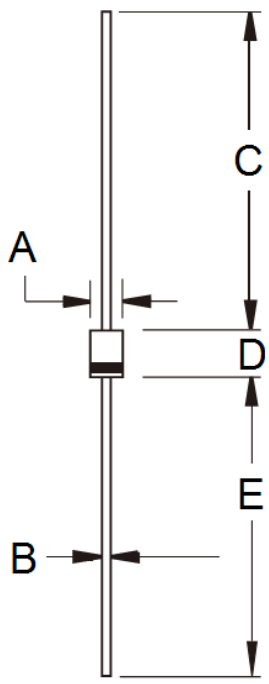
Unit (mm)

Suggested Mounting Hole Rule



Symbol	Unit(mm)
A	3
B	0.6
C	3.0
D	1

Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	2.00	2.70	0.079	0.106
B	0.53	0.64	0.021	0.025
C	25.40	-	1.000	-
D	3.00	3.30	0.118	0.130
E	25.40	-	1.000	-

Marking Diagram



P/N = Specific Device Code
G = Green Compound
YW = Date Code