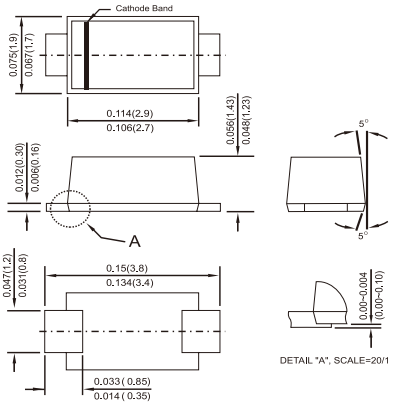
TAIWAN SEMICONDUCTOR

RSFAL - RSFML

0.5 AMP. Surface Mount Fast Recovery Rectifiers

Sub SMA

Pb RoHS COMPLIANCE



Dimensions in inches and (millimeters)

Features

- ✧ For surface mounted application
- ✧ Glass passivated junction chip
- ✧ High temperature metallurgically bonded construction
- ✧ Plastic material used carries Underwriters Laboratory Classification 94V-0
- ✧ Fast switching for high efficiency
- ✧ High temperature soldering: 260 °C / 10 seconds at terminals
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode.

Mechanical Data

- ✧ Cases: Sub SMA plastic case
- ✧ Terminals: Pure tin plated, Lead free.
- ✧ Polarity: Indicated by cathode band
- ✧ Packing: 8mm / 12mm tape per EIA STD RS-481
- ✧ Weight: 0.015 grams

Marking Diagram

FXL = Specific Device Code
G = Green Compound
Y = Year
M = Work Month

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	RSF AL	RSF BL	RSF DL	RSF GL	RSF JL	RSF KL	RSF ML	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current See Fig. 1 @T_L=55°C	$I_{F(AV)}$	0.5							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	10							A
Max. Full Load Reverse Current, Full cycle Average T_A=55 °C	I_R	30							uA
Maximum Instantaneous Forward Voltage @ 0.5A	V_F	1.3							V
Maximum DC Reverse Current at @ T_A=25 °C Rated DC Blocking Voltage (Note 1) @ T_A=125 °C	I_R	5 50							uA uA
Maximum Reverse Recovery Time (Note 4)	Trr	150				250	500		nS
Typical Junction Capacitance (Note 2)	Cj	4.0							pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	150 32							°C /W
Operating Temperature Range	T_J	-55 to +150							°C
Storage Temperature Range	T_{STG}	-55 to +150							°C

Notes: 1. Pulse Test with PW=300 usec,1% Duty Cycle
2. Measured at 1 MHz and Applied V_R=4.0 Volts
3. Measured on P.C.Board with 0.2" x 0.2" (5mm x 5mm) Copper Pad Areas.
4. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

TAIWAN SEMICONDUCTOR

RATINGS AND CHARACTERISTIC CURVES (RSFAL THRU RSFML)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

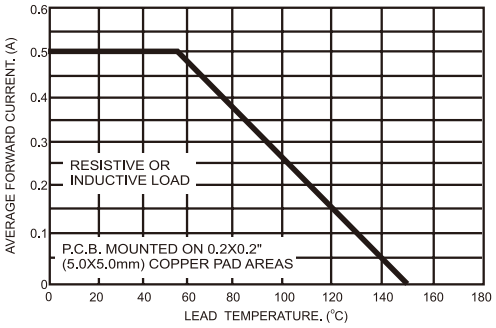


FIG.2- TYPICAL REVERSE CHARACTERISTICS

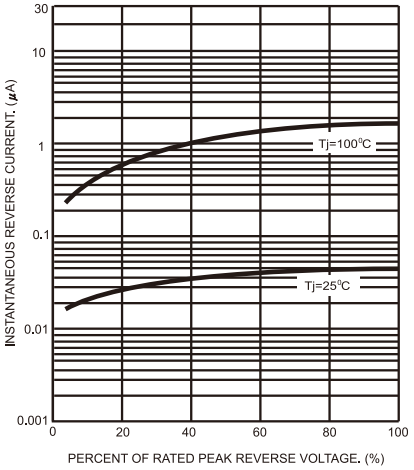


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

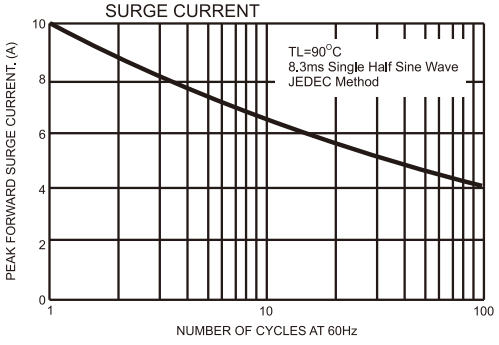


FIG.4- TYPICAL JUNCTION CAPACITANCE

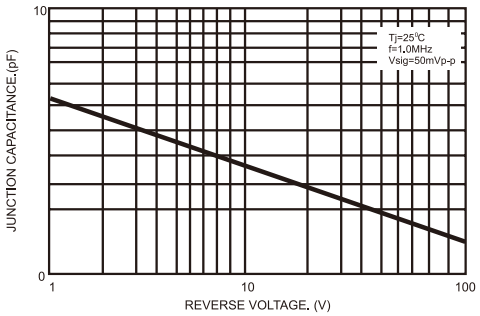


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

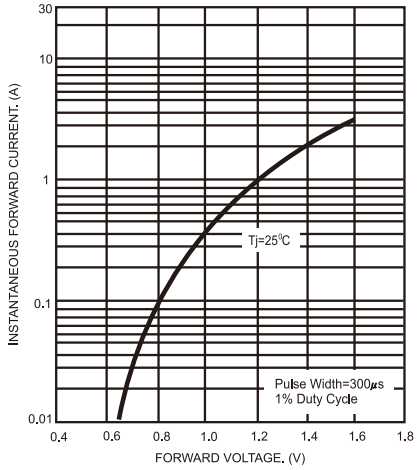
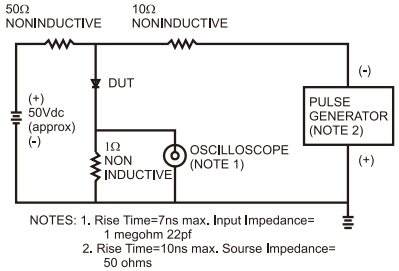
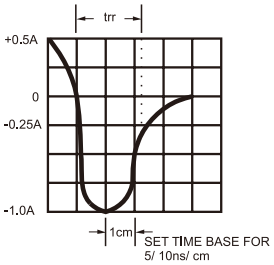


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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



Version: F10