

RSFAL - RSFML

0.5 AMP. Surface Mount Fast Recovery Rectifiers

Sub SMA

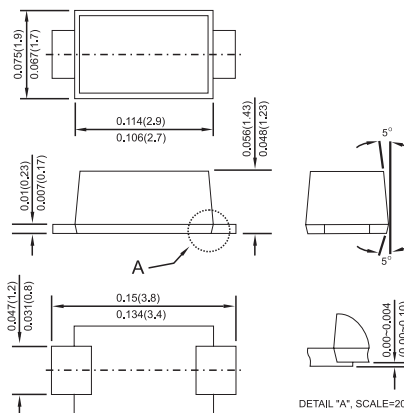


Features

- ✦ 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

Mechanical Data

- ✦ Cases: Sub SMA plastic case
- ✦ Terminals: Pure tin plated, Lead free.
- ✦ Polarity: Indicated by cathode band
- ✦ Packing: 12mm tape per EIA STD RS-481
- ✦ Weight: 15mg



Dimensions in inches and (millimeters)

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	
Marking Code (Note 4)		FALYM	FBLYM	FDLYM	FGLYM	FJLYM	FKLYM	FMLYM		
Maximum Average Forward Rectified Current See Fig. 1 @ $T_A=55^\circ\text{C}$	$I_{(AV)}$	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 $T_A=55^\circ\text{C}$	I_R	30							μA	
Maximum Instantaneous Forward Voltage @ 0.5A	V_F	1.3							V	
Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=125^\circ\text{C}$	I_R	5 50							μA μA	
Maximum Reverse Recovery Time (Note 1)	T_{rr}	150			250	500			nS	
Typical Junction Capacitance (Note 2)	C_j	4.0							pF	
Non-repetitive Peak Reverse Avalanche Energy L=120mH max prior to Surge, Inductive load Switched off	E_{RSM}	10					7			mJ
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	150 32							$^\circ\text{C}/\text{W}$	
Operating Temperature Range	T_J	-55 to +150							$^\circ\text{C}$	
Storage Temperature Range	T_{STG}	-55 to +150							$^\circ\text{C}$	

- Notes:
- Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
 - Measured at 1 MHz and Applied $V_R=4.0$ Volts
 - Measured on P.C.Board with 0.2" x 0.2" (5mm x 5mm) Copper Pad Areas.
 - FALYM: F=0.5A, A=50V, L=Low Profile, Y=Year Code, M=Month Code.

RATINGS AND CHARACTERISTIC CURVES (RSFAL THRU RSFML)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

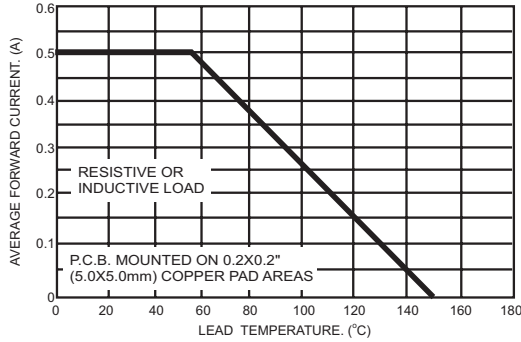


FIG.2- TYPICAL REVERSE CHARACTERISTICS

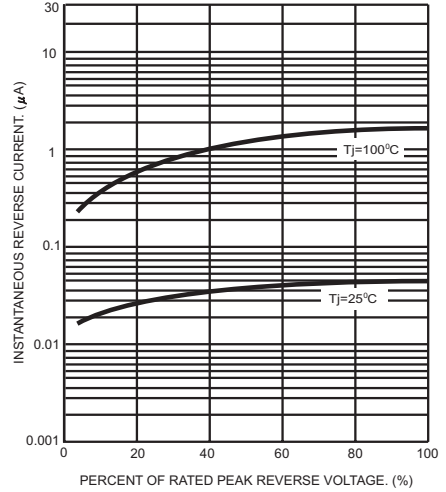


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

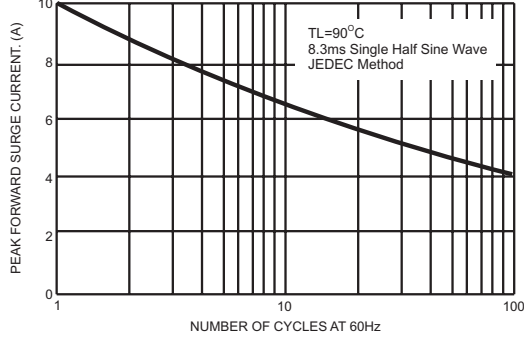


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

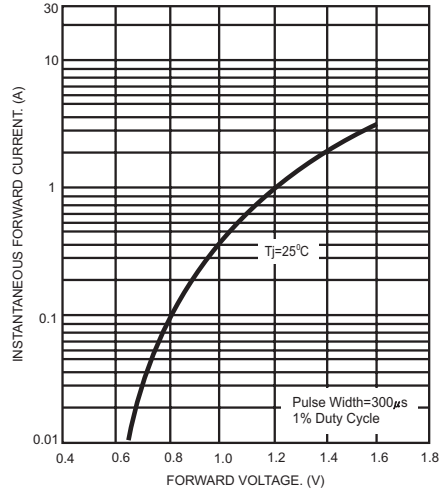


FIG.4- TYPICAL JUNCTION CAPACITANCE

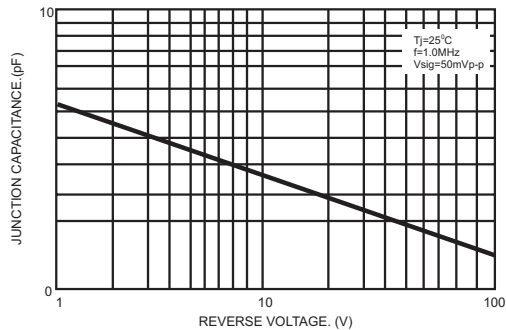


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

