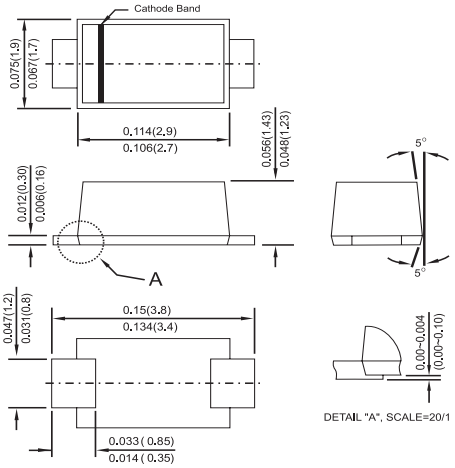
TAIWAN SEMICONDUCTOR

RS1AL - RS1ML

0.8 AMP. Surface Mount Fast Recovery Rectifiers

Sub SMA

RoHS COMPLIANCE



Dimensions in inches and (millimeters)

Features

- ✧ For surface mounted application
- ✧ Glass passivated junction chip
- ✧ Built-in strain relief, ideal for automated placement
- ✧ 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: Molded plastic
- ✧ Terminals: Solder plated
- ✧ Polarity: Indicated by cathode band
- ✧ Packing: 8mm / 12mm tape per EIA STD RS-481
- ✧ Weight: 15 mg

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	RS 1AL	RS 1BL	RS 1DL	RS 1GL	RS 1JL	RS 1KL	RS 1ML	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 1)		RALYM	RBLYM	RDLYM	RGLYM	RJLYM	RKLYM	RMLYM	
Maximum Average Forward Rectified Current See Fig. 1 @T_L=90°C	$I_{(AV)}$	0.8							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	1.3							V
Maximum DC Reverse Current @ T_A =25 °C at Rated DC Blocking Voltage @ T_A=125 °C	I_R	5 50							uA uA
Maximum Reverse Recovery Time (Note 2)	T_{RR}	150				250	500		nS
Typical Junction Capacitance (Note 3)	Cj	10							pF
Typical Thermal Resistance (Note 4)	$R_{\theta JA}$ $R_{\theta JL}$	105 32							°C /W
Operating Temperature Range	T_J	-55 to +150							°C
Storage Temperature Range	T_{STG}	-55 to +150							°C

Notes:
1. RALYM: R=1.0A, A=50V, L-Low Profile, Y-Year Code, M-Month Code.
2. Reverse Recovery Test Conditions: IF=0.5A, IR=1.0A, IRR=0.25A
3. Measured at 1 MHz and Applied VR=4.0 Volts
4. Mounted on P.C.B. with 0.2" x 0.2" (5 mm x 5 mm) Copper Pad Areas.

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RATINGS AND CHARACTERISTIC CURVES (RS1AL THRU RS1ML)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

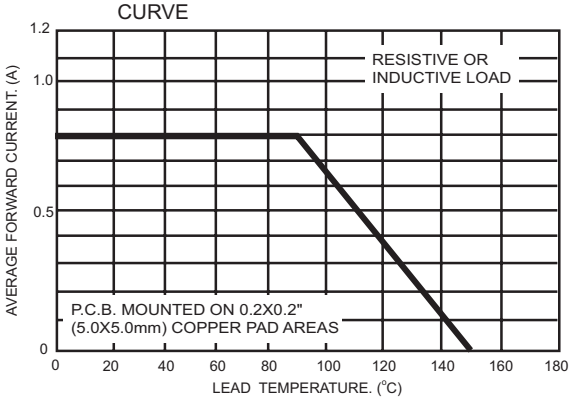


FIG.2- TYPICAL REVERSE CHARACTERISTICS

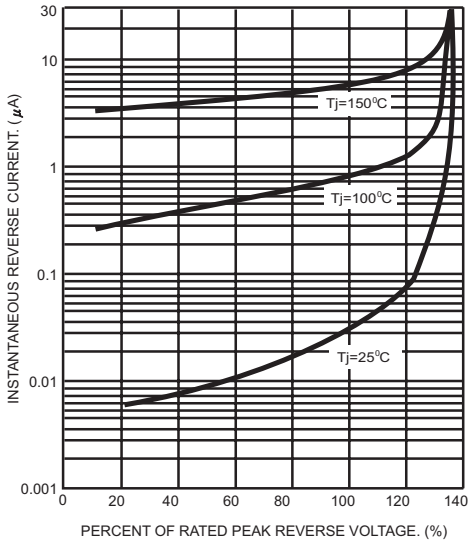


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

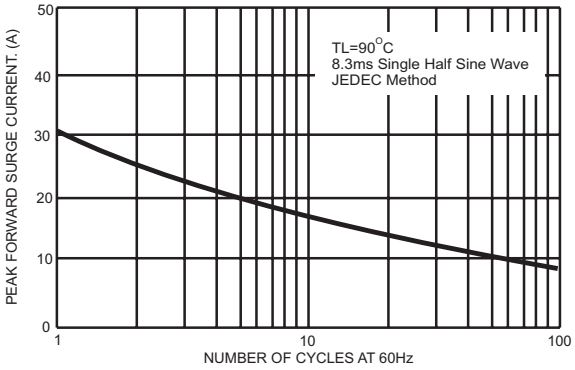


FIG.4- TYPICAL JUNCTION CAPACITANCE

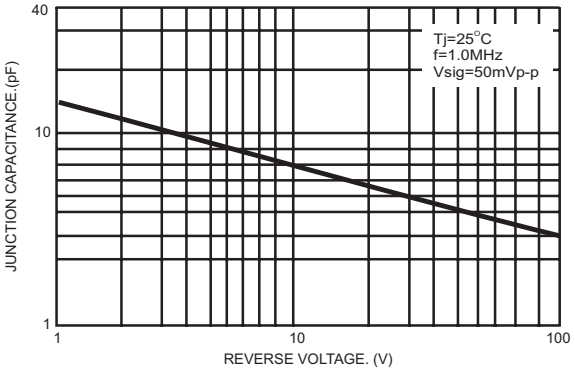


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

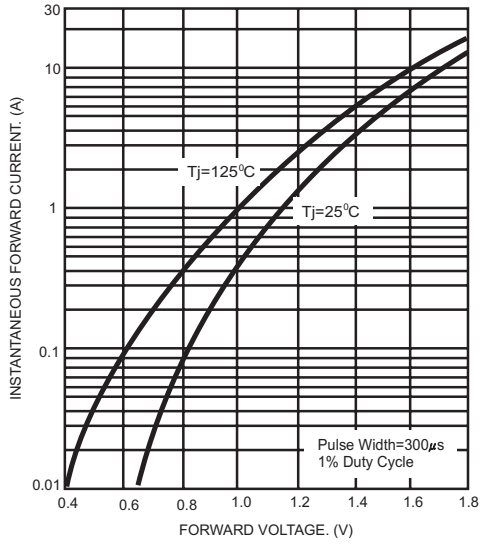
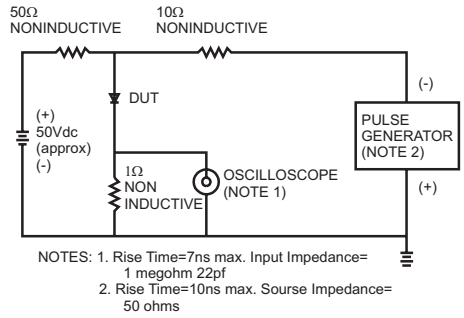
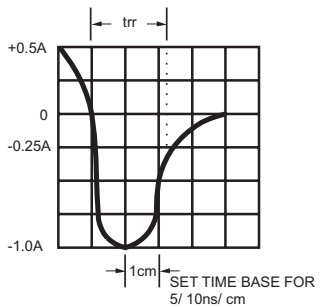


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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



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