

# RS1AL - RS1ML

## 0.8 AMP. Surface Mount Fast Recovery Rectifiers Sub SMA

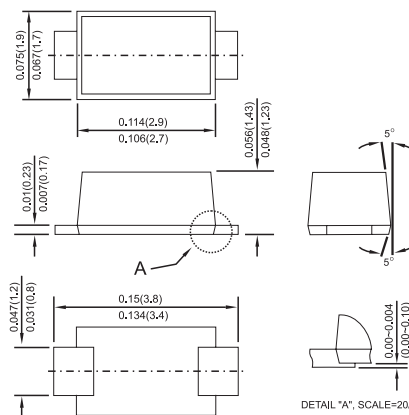


### Features

- ✦ 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



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                             | 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<br>See Fig. 1 @ $T_L=90^\circ\text{C}$                              | $I_{(AV)}$                         | 0.8         |        |        |        |        |        |        | A                              |
| Peak Forward Surge Current, 8.3 ms Single<br>Half Sine-wave Superimposed on Rated Load<br>(JEDEC method)      | $I_{FSM}$                          | 30          |        |        |        |        |        |        | A                              |
| Maximum Instantaneous Forward Voltage<br>@ 1.0A   | $V_F$                              | 1.3         |        |        |        |        |        |        | V                              |
| Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$<br>at Rated DC Blocking Voltage @ $T_A=125^\circ\text{C}$ | $I_R$                              | 5<br>50     |        |        |        |        |        |        | $\mu\text{A}$<br>$\mu\text{A}$ |
| Maximum Reverse Recovery Time ( Note 2 )  | $T_{RR}$                           | 150         |        |        | 250    | 500    |        |        | nS                             |
| Typical Junction Capacitance ( Note 3 )   | $C_j$                              | 10          |        |        |        |        |        |        | pF                             |
| Typical Thermal Resistance (Note 4)   | $R_{\theta JA}$<br>$R_{\theta JL}$ | 105<br>32   |        |        |        |        |        |        | $^\circ\text{C/W}$             |
| Operating Temperature Range   | $T_J$                              | -55 to +150 |        |        |        |        |        |        | $^\circ\text{C}$               |
| Storage Temperature Range   | $T_{STG}$                          | -55 to +150 |        |        |        |        |        |        | $^\circ\text{C}$               |

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

## RATINGS AND CHARACTERISTIC CURVES (RS1AL THRU RS1ML)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

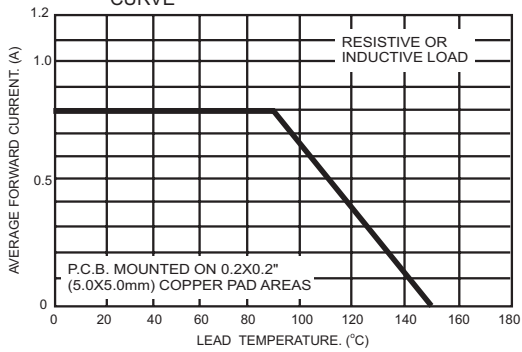


FIG.2- TYPICAL REVERSE CHARACTERISTICS

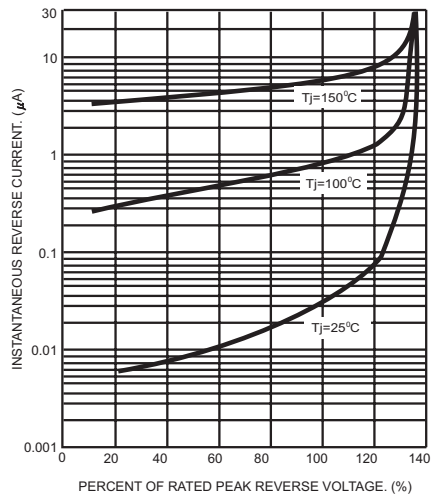


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

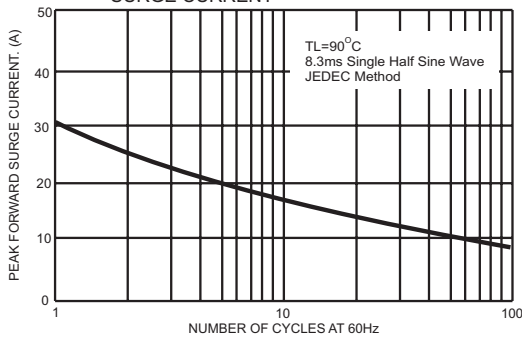


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

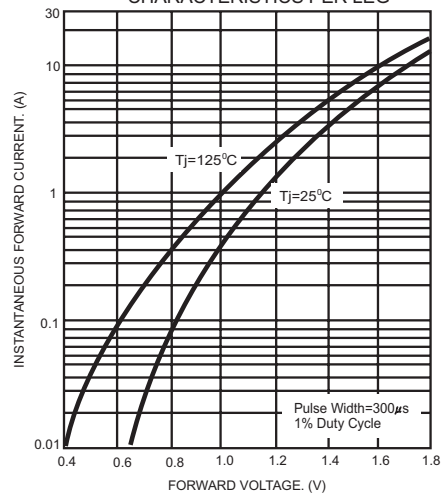


FIG.4- TYPICAL JUNCTION CAPACITANCE

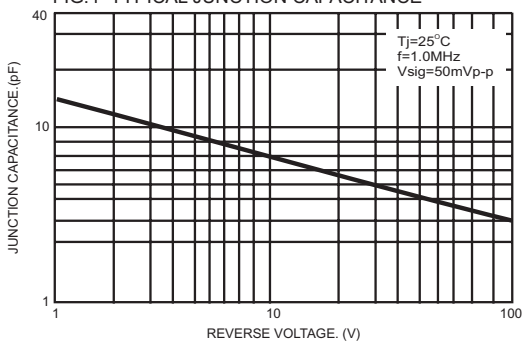


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

