

# RS1AW SERIES

## SURFACE MOUNT FAST RECOVERY RECTIFIER

**VOLTAGE** 50 to 1000 Volt **CURRENT** 1 Ampere

### FEATURES

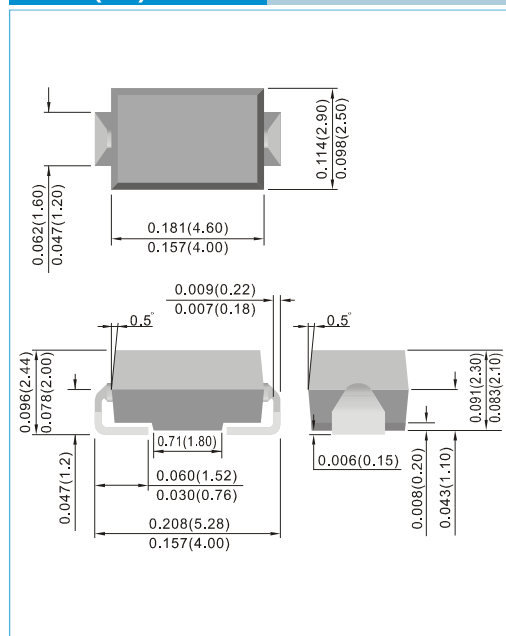
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Fast Recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### MECHANICAL DATA

- Case: SMA(W) molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Standard packaging: 12mm tape (EIA-481)
- Weight: 0.002 ounces, 0.068 grams

### SMA(W)

Unit : inch(mm)



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings 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%.

| PARAMETER                                                                                                     | SYMBOL                             | RS1AW       | RS1BW | RS1DW | RS1GW | RS1JW | RS1KW | RS1MW | 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   | 800   | V                             |
| Maximum DC Blocking Voltage                                                                                   | $V_{DC}$                           | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | V                             |
| Maximum Average Rectified Current $T_L=90^{\circ}\text{C}$                                                    | $I_{F(AV)}$                        | 1.0         |       |       |       |       |       |       | A                             |
| Peak Forward Surge Current :8.3ms single half sine-wave superimposed on rated load                            | $I_{FSM}$                          | 30          |       |       |       |       |       |       | A                             |
| Maximum Forward Voltage at 1.0A                                                                               | $V_F$                              | 1.3         |       |       |       |       |       |       | V                             |
| Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J=25^{\circ}\text{C}$<br>$T_J=125^{\circ}\text{C}$ | $I_R$                              | 5.0<br>150  |       |       |       |       |       |       | $\mu\text{A}$                 |
| Maximum Reverse Recovery Time (Note 1)                                                                        | $t_{rr}$                           | 150         |       |       |       | 250   | 500   |       | ns                            |
| Maximum Junction capacitance (Note 2)                                                                         | $C_J$                              | 12          |       |       |       |       |       |       | pF                            |
| Typical Junction Resistance(Note 3)                                                                           | $R_{\theta JA}$<br>$R_{\theta JL}$ | 100<br>32   |       |       |       |       |       |       | $^{\circ}\text{C} / \text{W}$ |
| Operating Junction and Storage Temperature Rating                                                             | $T_J, T_{STG}$                     | -55 to +150 |       |       |       |       |       |       | $^{\circ}\text{C}$            |

NOTES:1. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$   
2. Measured at 1 MHz and applied  $V_r = 4$  volts.  
3. 8 mm<sup>2</sup> ( 0.013mm thick ) land areas.

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### RATING AND CHARACTERISTIC CURVES

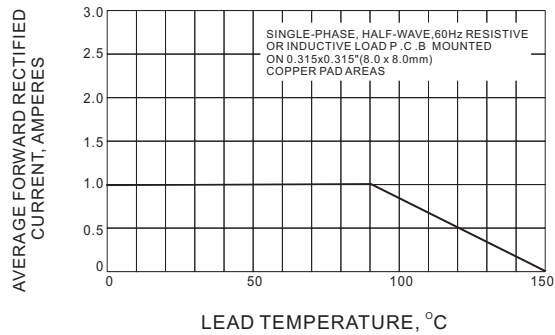


Fig.1 FORWARD CURRENT DERATING CURVE

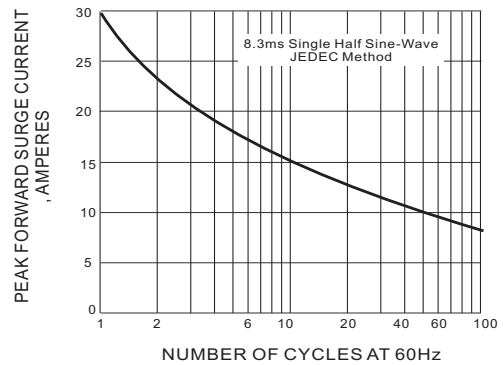


Fig.2-MAXIMUM NON-REPETITIVE PEAK  
FORWARD SURGE CURRENT

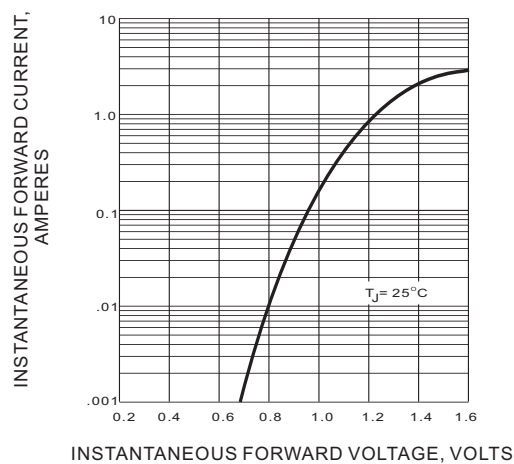


Fig.3-TYPICAL INSTANTANEOUS FORWARD  
CHARACTERISTICS

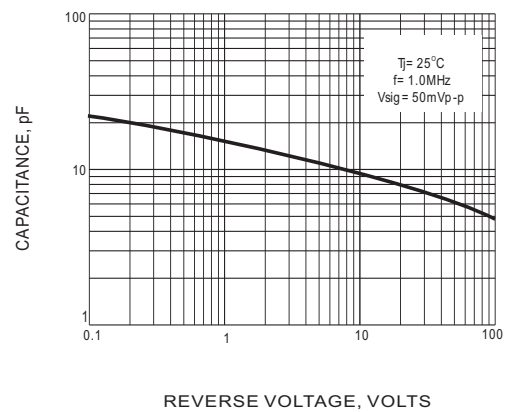


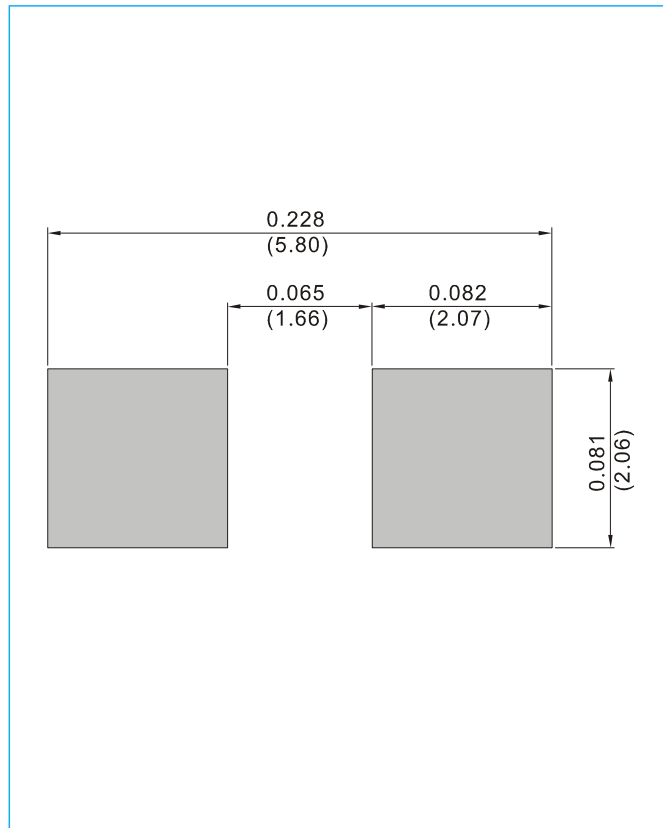
Fig.4 TYPICAL JUNCTION CAPACITANCE

## RS1AW SERIES

### MOUNTING PAD LAYOUT

**SMA(W)**

Unit : inch(mm)



### ORDER INFORMATION

- Packing information
  - T/R - 7.5K per 13" plastic Reel
  - T/R - 1.8K per 7" plastic Reel