



# RS1A - RS1M

## 1.0 AMP. Surface Mount Fast Recovery Rectifiers

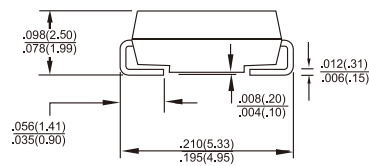
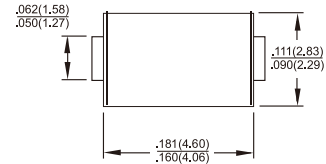
### SMA/DO-214AC

### Features

- ✧ UL Recognized File # E-326243
- ✧ 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
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode.

### Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Terminals: Pure tin plated, Lead free.
- ✧ Polarity: Indicated by cathode band
- ✧ Packing: 12mm tape per EIA STD RS-481
- ✧ Weight: 0.064 grams



Dimensions in inches and (millimeters)

Marking Diagram



RS1X = 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              | RS 1A       | RS 1B | RS 1D | RS 1G | RS 1J | RS 1K | RS 1M | Units    |
|------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-------|-------|-------|-------|-------|-------|----------|
| Maximum Recurrent Peak Reverse Voltage                                                                                 | V <sub>RRM</sub>    | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | V        |
| Maximum RMS Voltage                                                                                                    | V <sub>RMS</sub>    | 35          | 70    | 140   | 280   | 420   | 560   | 700   | V        |
| Maximum DC Blocking Voltage                                                                                            | V <sub>DC</sub>     | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | V        |
| Maximum Average Forward Rectified Current<br>See Fig. 1 @T <sub>L</sub> =90 °C                                         | I <sub>F</sub> (AV) | 1.0         |       |       |       |       |       |       | A        |
| Peak Forward Surge Current, 8.3 ms Single Half<br>Sine-wave Superimposed on Rated Load<br>(JEDEC method )              | I <sub>FSM</sub>    | 30          |       |       |       |       |       |       | A        |
| Maximum Instantaneous Forward Voltage<br>@ 1.0A                                                                        | V <sub>F</sub>      | 1.3         |       |       |       |       |       |       | V        |
| Maximum DC Reverse Current at @ T <sub>A</sub> =25 °C<br>Rated DC Blocking Voltage ( Note 1 ) @ T <sub>A</sub> =125 °C | I <sub>R</sub>      | 5<br>50     |       |       |       |       |       |       | uA<br>uA |
| Maximum Reverse Recovery Time ( Note 4 )                                                                               | T <sub>rr</sub>     | 150         |       |       |       | 250   | 500   |       | nS       |
| Typical Junction Capacitance ( Note 2 )                                                                                | C <sub>j</sub>      | 10          |       |       |       |       |       |       | pF       |
| Typical Thermal Resistance (Note 3)                                                                                    | R θJA<br>R θJL      | 105<br>32   |       |       |       |       |       |       | °C /W    |
| Operating Temperature Range                                                                                            | T <sub>J</sub>      | -55 to +150 |       |       |       |       |       |       | °C       |
| Storage Temperature Range                                                                                              | T <sub>STG</sub>    | -55 to +150 |       |       |       |       |       |       | °C       |

- Notes: 1. Pulse Test with PW=300 usec, 1% Duty Cycle  
2. Measured at 1 MHz and Applied V<sub>R</sub>=4.0 Volts  
3. Mounted on P.C.B. with 0.2"x0.2" ( 5.0 x 5.0 mm ) Copper Pad Areas.  
4. Reverse Recovery Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A

## RATINGS AND CHARACTERISTIC CURVES (RS1A THRU RS1M)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

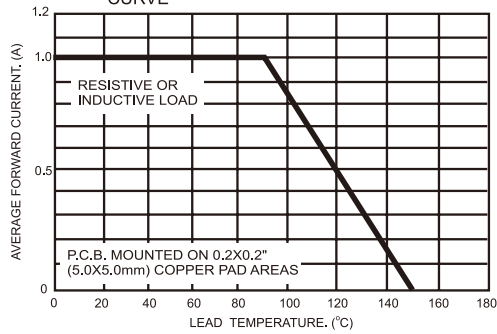


FIG.2- TYPICAL REVERSE CHARACTERISTICS

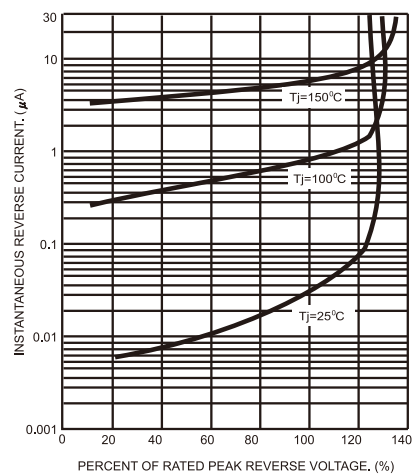


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

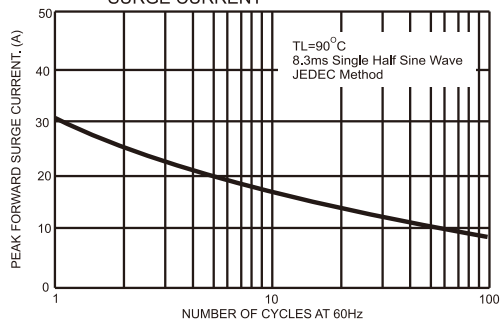


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

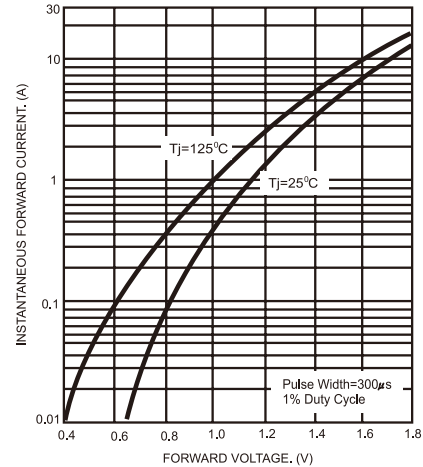


FIG.4- TYPICAL JUNCTION CAPACITANCE

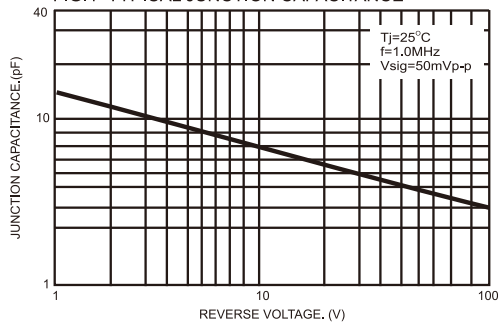


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

