



# RS1A~RS1M

## SURFACE MOUNT FAST RECOVERY RECTIFIER

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

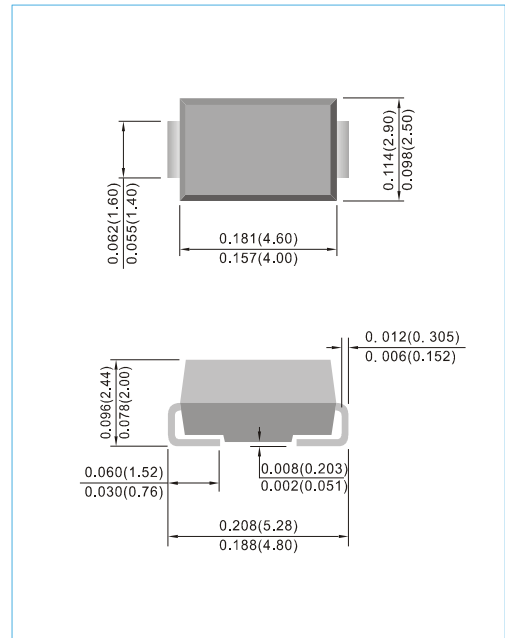
**SMA / DO-214AC** Unit : inch(mm)

### FEATURES

- For surface mounted applications in order to optimize board space
- Easy pick and place
- Fast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated junction
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### MECHANICAL DATA

- Case: JEDEC DO-214AC 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: 0.0023 ounces, 0.0679 grams



## 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                             | RS1A        | RS1B | RS1D | RS1G | RS1J | RS1K | RS1M | 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               |
| Maximum Average Rectified Current   | $I_{F(AV)}$                        | 1           |      |      |      |      |      |      | A               |
| Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load             | $I_{FSM}$                          | 30          |      |      |      |      |      |      | A               |
| Maximum Forward Voltage at 1A   | $V_F$                              | 1.3         |      |      |      |      |      |      | V               |
| Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J=25^{\circ}C$<br>$T_J=125^{\circ}C$ | $I_R$                              | 1<br>150    |      |      |      |      |      |      | $\mu A$         |
| 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   |      |      |      |      |      |      | $^{\circ}C / W$ |
| Operating Junction and Storage Temperature Range  | $T_J, T_{STG}$                     | -55 to +150 |      |      |      |      |      |      | $^{\circ}C$     |

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



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## RATING AND CHARACTERISTIC CURVES

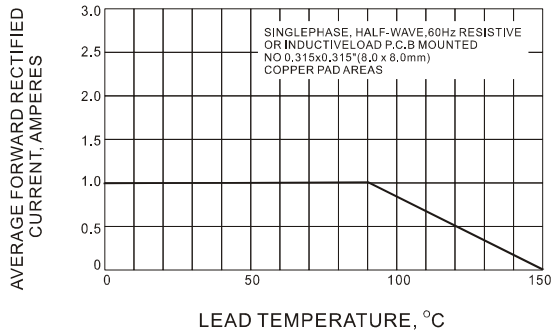


Fig.1 FORWARD CURRENT DERATING CURVE

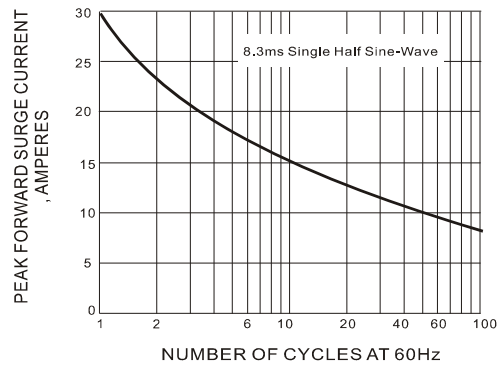


Fig.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

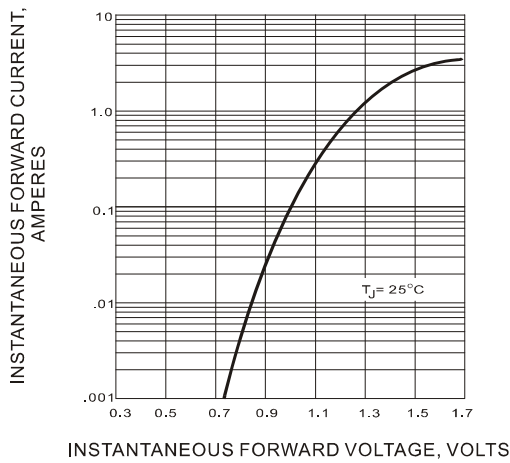


Fig.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

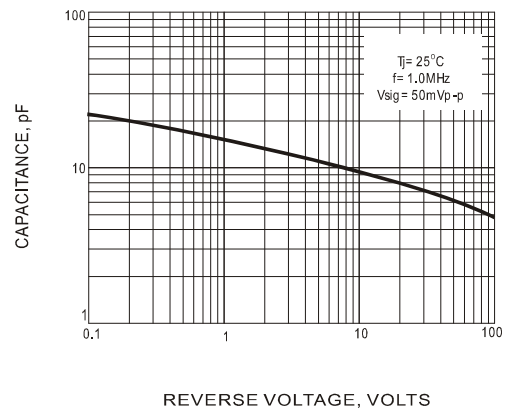


Fig.4 TYPICAL JUNCTION CAPACITANCE

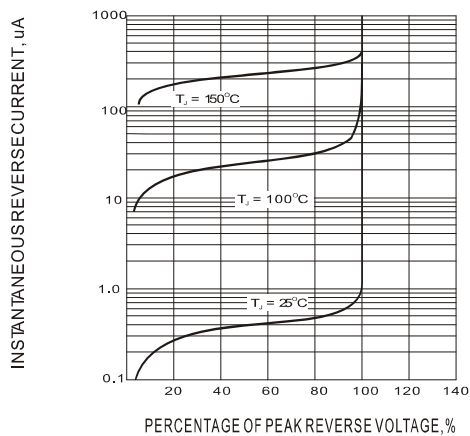


Fig.5-TYPICAL REVERSE CHARACTERISTIC

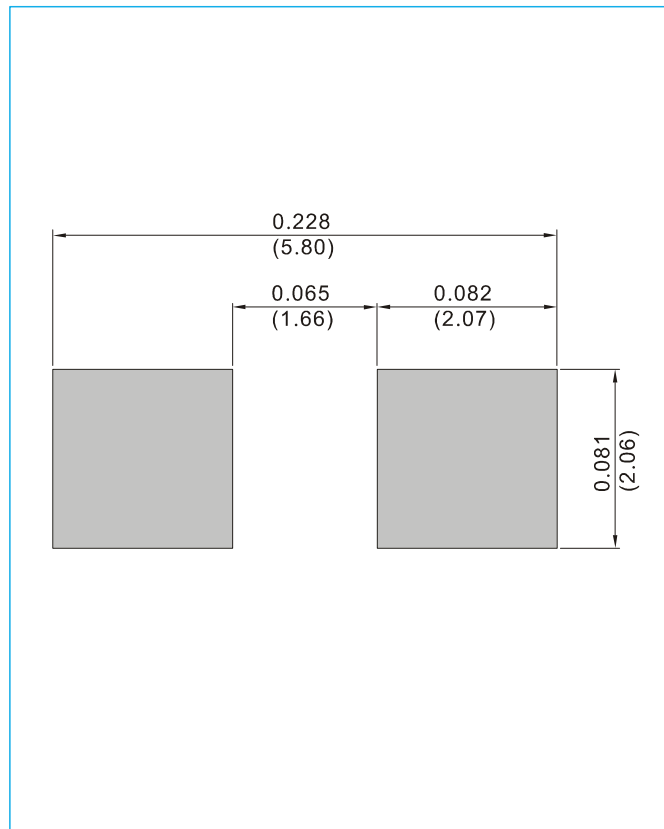


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## MOUNTING PAD LAYOUT

SMA / DO-214AC

Unit : inch(mm)



## ORDER INFORMATION

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



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## Part No\_packing code\_Version

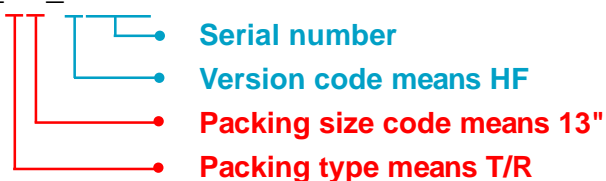
RS1A\_R1\_00001

RS1A\_R2\_00001

For example :

**RB500V-40\_R2\_00001**

Part No.



| Packing Code <b>XX</b>               |                      |                                  |                      | Version Code <b>XXXXX</b> |                      |                                       |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type                         | 1 <sup>st</sup> Code | Packing size code                | 2 <sup>nd</sup> Code | HF or RoHS                | 1 <sup>st</sup> Code | 2 <sup>nd</sup> ~5 <sup>th</sup> Code |
| Tape and Ammunition Box (T/B)        | <b>A</b>             | N/A                              | <b>0</b>             | <b>HF</b>                 | <b>0</b>             | serial number                         |
| Tape and Reel (T/R)                  | <b>R</b>             | 7"                               | <b>1</b>             | <b>RoHS</b>               | <b>1</b>             | serial number                         |
| Bulk Packing (B/P)                   | <b>B</b>             | 13"                              | <b>2</b>             |                           |                      |                                       |
| Tube Packing (T/P)                   | <b>T</b>             | 26mm                             | <b>X</b>             |                           |                      |                                       |
| Tape and Reel (Right Oriented) (TRR) | <b>S</b>             | 52mm                             | <b>Y</b>             |                           |                      |                                       |
| Tape and Reel (Left Oriented) (TRL)  | <b>L</b>             | PANASERT T/B CATHODE UP (PBCU)   | <b>U</b>             |                           |                      |                                       |
| FORMING                              | <b>F</b>             | PANASERT T/B CATHODE DOWN (PBCD) | <b>D</b>             |                           |                      |                                       |



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