



# RS1AF SERIES

## SURFACE MOUNT FAST RECOVERY RECTIFIER

**VOLTAGE** 50-600 Volts **CURRENT** 1 Ampere

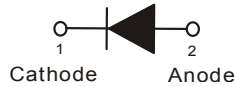
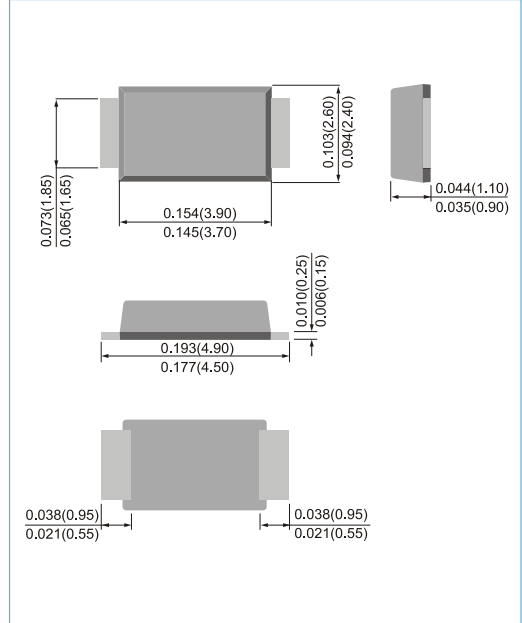
**SMAF** Unit : inch(mm)

### 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-0
- Glass Passivated Junction
- Lead free in comply with EU RoHS 2011/65/EU directives.
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### MECHANICAL DATA

- Case: SMAF molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Color band denotes cathode end
- Approx. Weight: 0.0011 ounces, 0.0328 grams



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

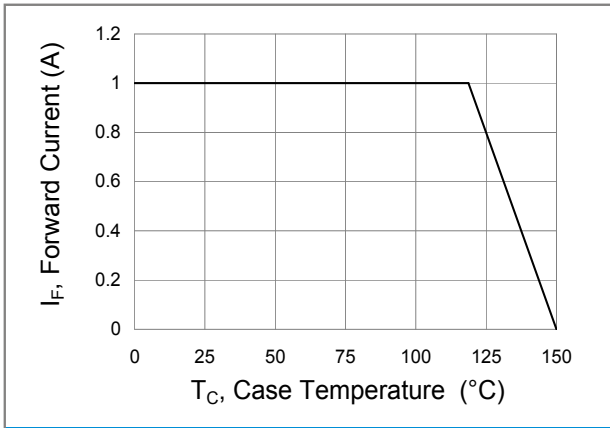
| PARAMETER   | SYMBOL                               | RS1AF       | RS1BF | RS1DF | RS1GF | RS1JF | UNITS |        |
|---|--------------------------------------|-------------|-------|-------|-------|-------|-------|--------|
| Recurrent Peak Reverse Voltage  | V <sub>RRM</sub>                     | 50          | 100   | 200   | 400   | 600   | V     |        |
| RMS Voltage   | V <sub>RMS</sub>                     | 35          | 70    | 140   | 280   | 420   | V     |        |
| DC Blocking Voltage   | V <sub>R</sub>                       | 50          | 100   | 200   | 400   | 600   | V     |        |
| Average Forward Current   | I <sub>F(AV)</sub>                   | 1           |       |       |       |       |       | A      |
| Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load(JEDEC method) | I <sub>FSM</sub>                     | 30          |       |       |       |       |       | A      |
| Forward Voltage at 1.0A   | V <sub>F</sub>                       | 1.3         |       |       |       |       |       | V      |
| DC Reverse Current at Rated DC Blocking Voltage<br>T <sub>J</sub> =25°C                           | I <sub>R</sub>                       | 1           |       |       |       |       |       | μA     |
| Typical Junction capacitance<br>V <sub>R</sub> =4V, f=1MHz  | C <sub>J</sub>                       | 15          |       |       |       | 7     |       | pF     |
| Typical Thermal Resistance ,Junction to Lead (Note 1)<br>Junction to Ambient (Note 2)             | R <sub>θJL</sub><br>R <sub>θJA</sub> | 31<br>150   |       |       |       |       |       | °C / W |
| Reverse Recovery Time (I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>rr</sub> =0.25A)        | T <sub>rr</sub>                      | 150         |       |       |       | 250   |       | ns     |
| Operating Junction Temperature and Storage Temperature Range                                      | T <sub>J</sub> , T <sub>STG</sub>    | -55 to +150 |       |       |       |       |       | °C     |

NOTES : 1. Mounted on an FR4 PCB, single-sided copper, with 48cm<sup>2</sup> copper pad area  
2. Mounted on an FR4 PCB, single-sided copper, mini pad.

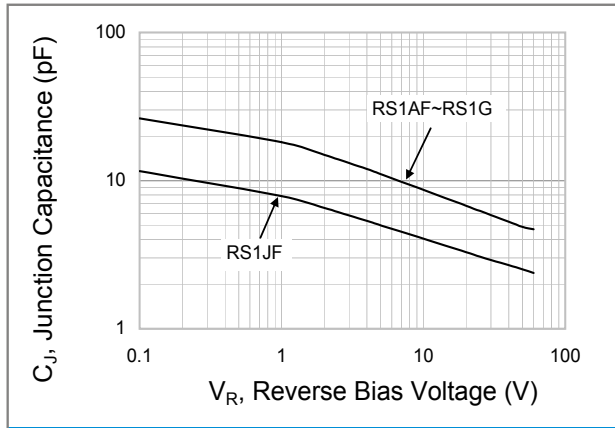


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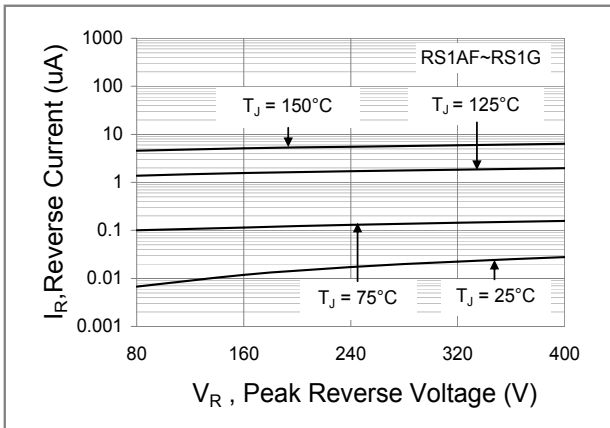
## RATING AND CHARACTERISTIC CURVES



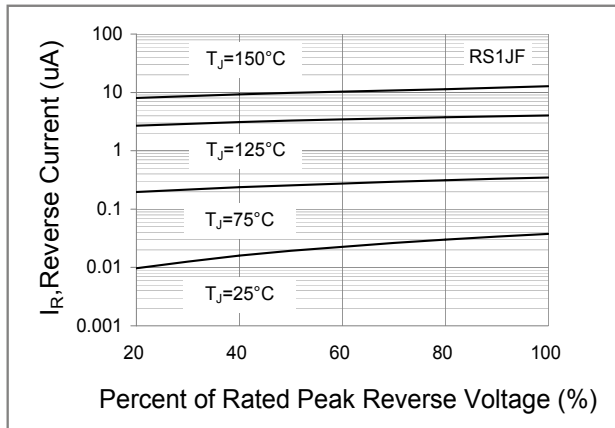
**Fig.1 Forward Current Derating Curve**



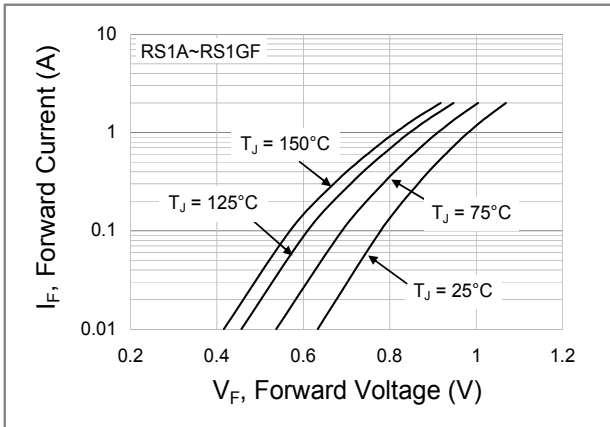
**Fig.2 Typical Junction Capacitance**



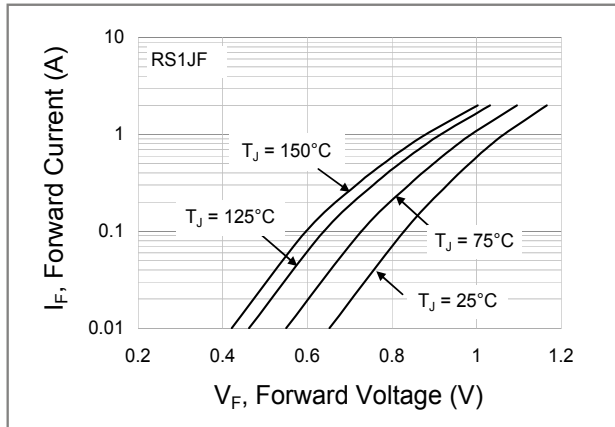
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Reverse Characteristics**



**Fig.5 Typical Forward Characteristics**

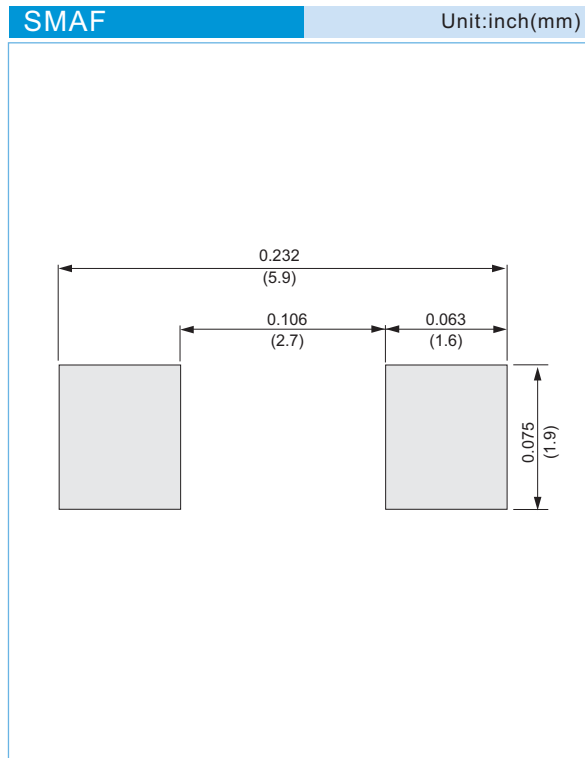


**Fig.6 Typical Forward Characteristics**



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## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information
  - T/R - 10K per 13" plastic Reel
  - T/R - 3K per 7" plastic Reel



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Part No\_packing code\_Version

RS1AF\_R1\_00001

RS1AF\_R2\_00001

For example :

**RB500V-40\_R2\_00001**



| 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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