



# RS3AF THRU RS3MF

## Surface Mount Fast Recovery Rectifiers

Reverse Voltage - 50 to 1000 V

Forward Current - 3 A

### FEATURES

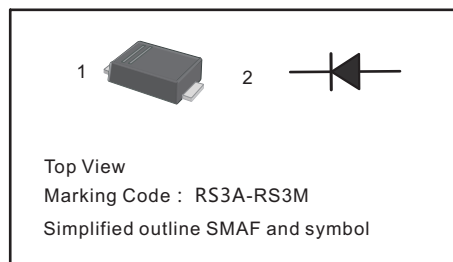
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Fast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

### MECHANICAL DATA

- Case: SMAF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 27mg 0.00086oz

### PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Cathode     |
| 2   | Anode       |



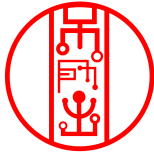
### Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase half-wave 60 Hz, resistive or inductive load for capacitive load current derate by 20 %.

| Parameter                                                                                         | Symbols                           | RS3AF      | RS3BF | RS3DF | RS3GF | RS3JF | RS3KF | RS3MF | Units |
|---------------------------------------------------------------------------------------------------|-----------------------------------|------------|-------|-------|-------|-------|-------|-------|-------|
| Maximum Repetitive 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 at Ta = 65 °C                                           | I <sub>F(AV)</sub>                | 3          |       |       |       |       |       |       | A     |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) | I <sub>FSM</sub>                  | 100        |       |       |       |       |       |       | A     |
| Maximum Instantaneous Forward Voltage at 3 A                                                      | V <sub>F</sub>                    | 1.3        |       |       |       |       |       |       | V     |
| Maximum DC Reverse Current Ta = 25 °C<br>at Rated DC Blocking Voltage Ta =125 °C                  | I <sub>R</sub>                    | 5<br>200   |       |       |       |       |       |       | μA    |
| Maximum Reverse Recovery Time <sup>1)</sup>                                                       | t <sub>rr</sub>                   | 150        |       |       |       | 250   |       |       | ns    |
| Typical Junction Capacitance <sup>2)</sup>                                                        | C <sub>j</sub>                    | 60         |       |       |       |       |       |       | pF    |
| Operating and Storage Temperature Range                                                           | T <sub>j</sub> , T <sub>stg</sub> | -55 ~ +150 |       |       |       |       |       |       | °C    |

1 ) Measured with  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$

2 ) Measured at 1MHz and applied reverse voltage of 4V D.C



# RS3AF THRU RS3MF

Fig.1 Forward Current Derating Curve

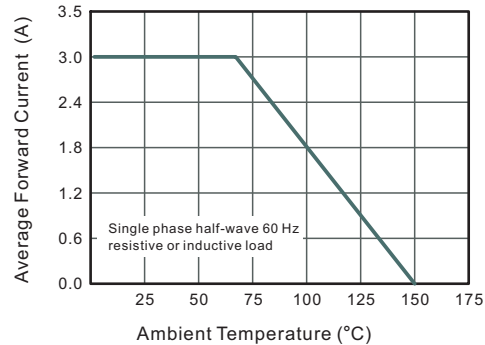


Fig.2 Typical Reverse Characteristics

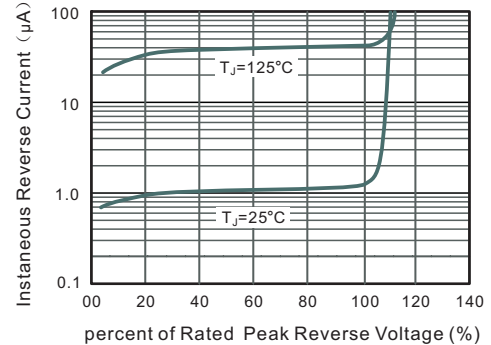


Fig.3 Typical Instantaneous Forward Characteristics

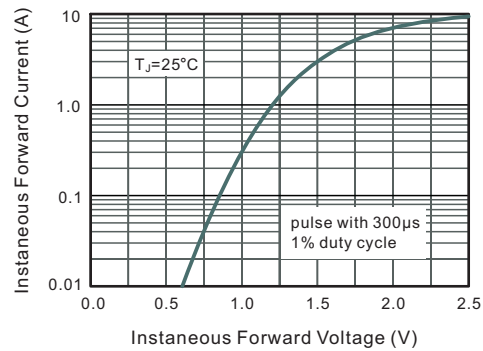


Fig.4 Typical Junction Capacitance

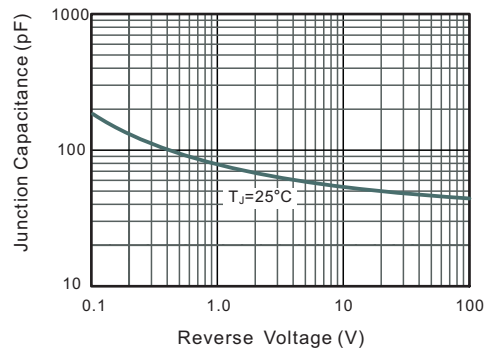
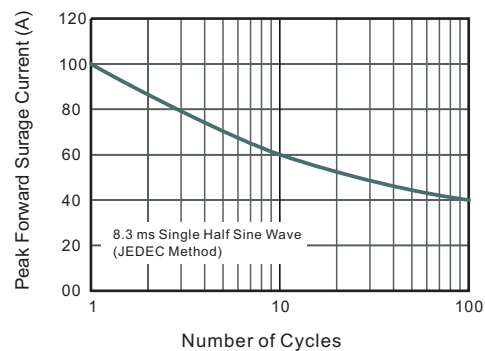


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



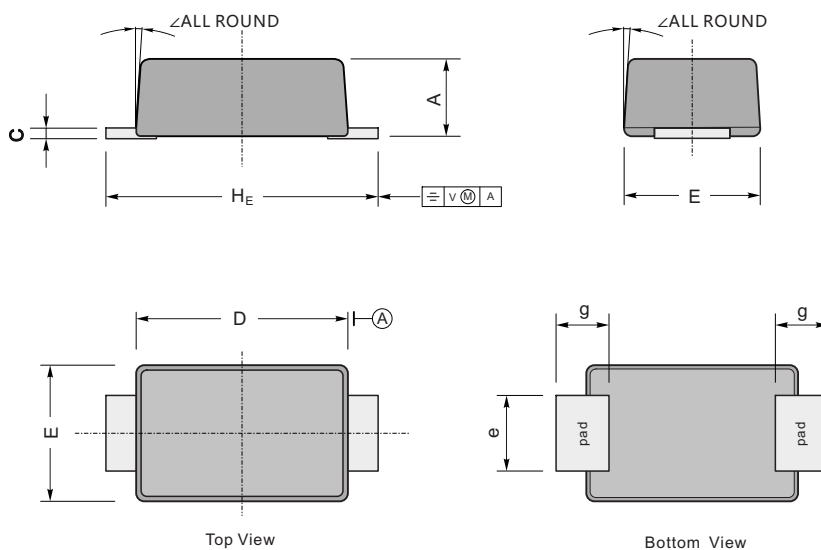


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## PACKAGE OUTLINE

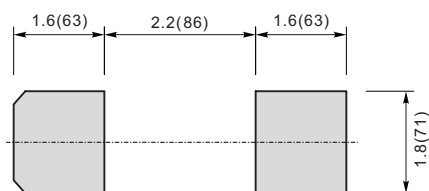
Plastic surface mounted package; 2 leads

SMAF



| UNIT |     | A   | C    | D   | E   | e   | g   | H <sub>E</sub> | ∠  |
|------|-----|-----|------|-----|-----|-----|-----|----------------|----|
| mm   | max | 1.1 | 0.20 | 3.7 | 2.7 | 1.6 | 1.2 | 4.9            | 7° |
|      | min | 0.9 | 0.12 | 3.3 | 2.4 | 1.3 | 0.8 | 4.4            |    |
| mil  | max | 43  | 7.9  | 146 | 106 | 63  | 47  | 193            |    |
|      | min | 35  | 4.7  | 130 | 94  | 51  | 31  | 173            |    |

## The recommended mounting pad size



Unit: mm(mil)