



# RS5ABF THRU RS5MBF

## Surface Mount Fast Recovery Rectifiers

Reverse Voltage - 50 to 1000 V

Forward Current - 5 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

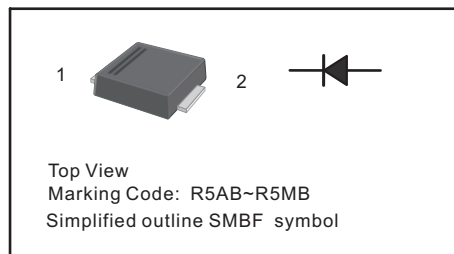
- Case: SMBF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 57mg / 0.002oz

#### Absolute Maximum Ratings and 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%.

### PINNING

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



Top View  
Marking Code: R5AB~R5MB  
Simplified outline SMBF symbol

| Parameter                                                                                                       | Symbols                              | RS5ABF     | RS5BBF | RS5DBF | RS5GBF | RS5JBF | RS5KBF | RS5MBF | 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 T <sub>c</sub> = 100 °C                                            | I <sub>F(AV)</sub>                   | 5          |        |        |        |        |        |        | A     |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load                              | I <sub>FSM</sub>                     | 125        |        |        |        |        |        |        | A     |
| Maximum Forward Voltage at 5 A                                                                                  | V <sub>F</sub>                       | 1.3        |        |        |        |        |        |        | V     |
| Maximum DC Reverse Current<br>T <sub>a</sub> = 25 °C<br>at Rated DC Blocking Voltage<br>T <sub>a</sub> = 125 °C | I <sub>R</sub>                       | 10<br>150  |        |        |        |        |        |        | μA    |
| Typical Junction Capacitance at V <sub>R</sub> =4V, f=1MHz                                                      | C <sub>j</sub>                       | 45         |        |        |        |        |        |        | pF    |
| Maximum Reverse Recovery Time <sup>(1)</sup>                                                                    | t <sub>rr</sub>                      | 150        |        |        |        | 250    | 500    |        | ns    |
| Typical Thermal Resistance <sup>(2)</sup>                                                                       | R <sub>θJA</sub><br>R <sub>θJC</sub> | 40<br>12   |        |        |        |        |        |        | °C/W  |
| 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 ) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.



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**Fig.1 Maximum Average Forward Current Rating**

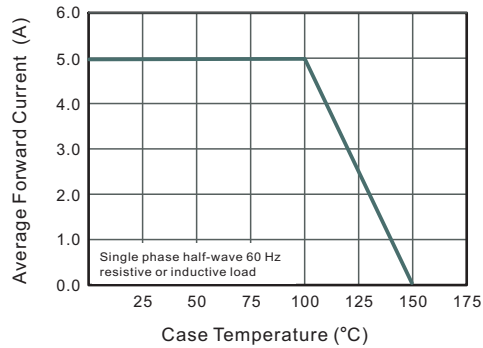


**Fig.2 Typical Reverse Characteristics**

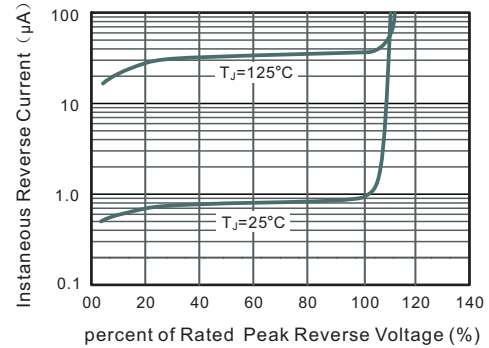


**Fig.3 Typical Instantaneous Forward Characteristics**

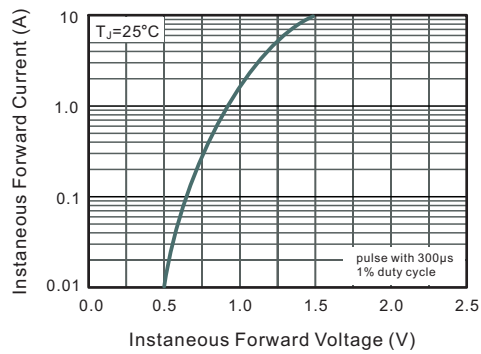


**Fig.4 Typical Junction Capacitance**

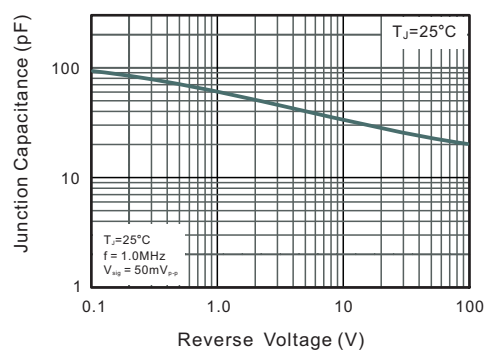
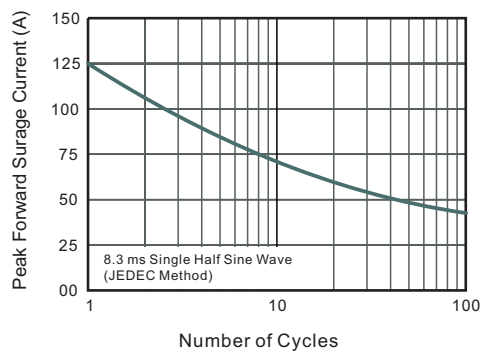


**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



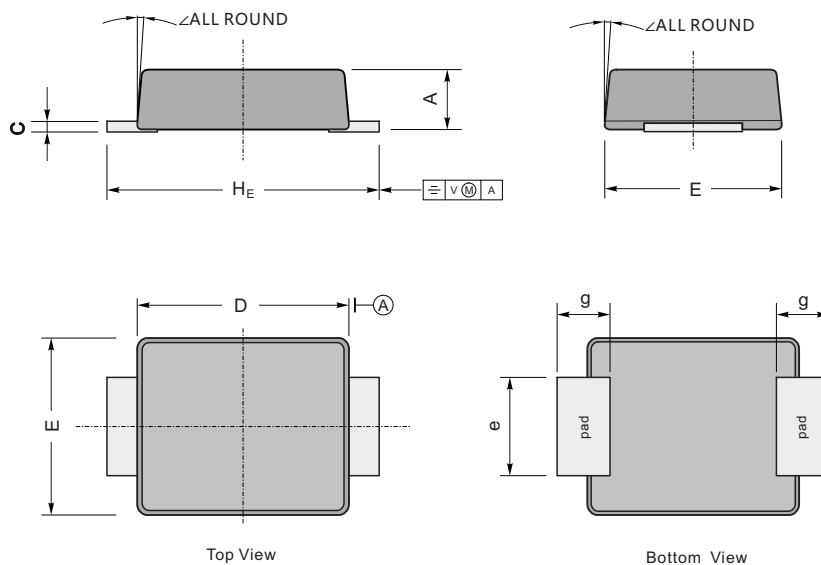


# RS5ABF THRU RS5MBF

## PACKAGE OUTLINE

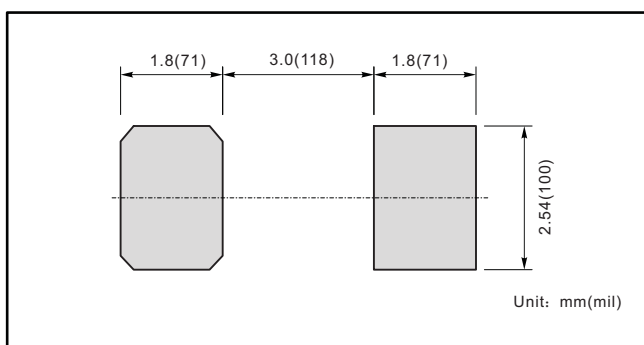
Plastic surface mounted package; 2 leads

SMBF



| UNIT |     | A   | C    | D   | E   | H <sub>E</sub> | e   | g   | ∠  |
|------|-----|-----|------|-----|-----|----------------|-----|-----|----|
| mm   | max | 1.3 | 0.26 | 4.4 | 3.7 | 5.5            | 2.2 | 1.0 | 9° |
|      | min | 1.1 | 0.18 | 4.2 | 3.5 | 5.1            | 1.9 |     |    |
| mil  | max | 51  | 10   | 173 | 146 | 216            | 86  | 40  |    |
|      | min | 43  | 7    | 165 | 138 | 200            | 75  |     |    |

## The recommended mounting pad size



## Marking

| Type number | Marking code |
|-------------|--------------|
| RS5ABF      | R5AB         |
| RS5BBF      | R5BB         |
| RS5DBF      | R5DB         |
| RS5GBF      | R5GB         |
| RS5JBF      | R5JB         |
| RS5KBF      | R5KB         |
| RS5MBF      | R5MB         |