

Surface Mount Fast Recovery Rectifiers

Reverse Voltage - 50 to 1000 V Forward Current - 2 A

FEATURES

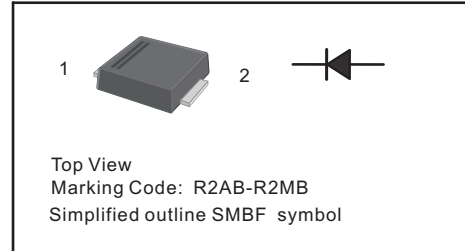
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Fast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

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

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 | RS2ABF | RS2BBF | RS2DBF | RS2GBF | RS2JBF | RS2KBF | RS2MBF | Units |
|--|-----------------|------------|--------|--------|--------|--------|--------|--------|----------------------|
| Maximum Repetitive 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 Forward Rectified Current at $T_a = 65\text{ °C}$ | $I_{F(AV)}$ | 2 | | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) | I_{FSM} | 50 | | | | | | | A |
| Maximum Instantaneous Forward Voltage at 2 A | V_F | 1.3 | | | | | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage $T_a = 25\text{ °C}$ $T_a = 125\text{ °C}$ | I_R | 5 100 | | | | | | | μA |
| Maximum Reverse Recovery Time ¹⁾ | t_{rr} | 150 | | | | 250 | 500 | | ns |
| Typical Junction Capacitance ²⁾ | C_j | 40 | | | | | | | pF |
| Typical Thermal Resistance ³⁾ | $R_{\theta JA}$ | 65 | | | | | | | $^{\circ}\text{C/W}$ |
| Operating and Storage Temperature Range | T_j, T_{stg} | -55 ~ +150 | | | | | | | $^{\circ}\text{C}$ |

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

3) P.C.B. mounted with 0.5 X 0.5" (12.7 X 12.7 mm) copper pad areas.

Fig.1 Forward Current Derating Curve

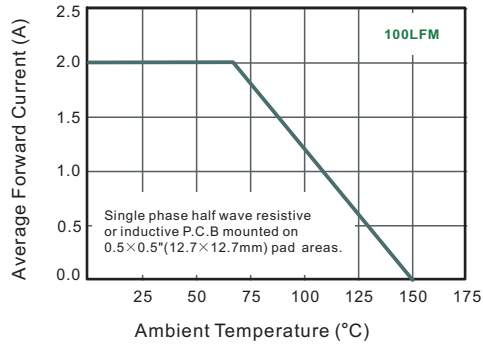


Fig.2 Typical Reverse Characteristics

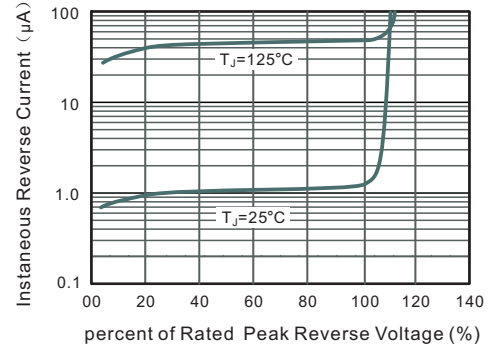


Fig.3 Typical Instantaneous Forward Characteristics

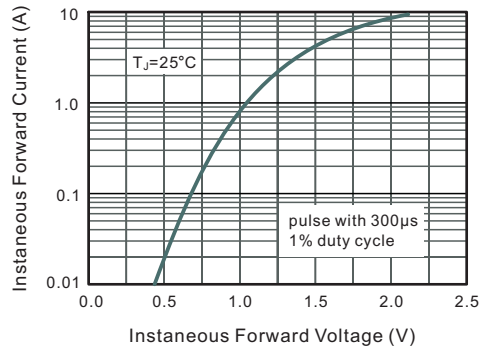


Fig.4 Typical Junction Capacitance

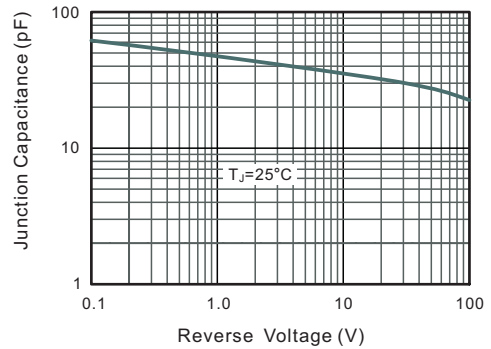
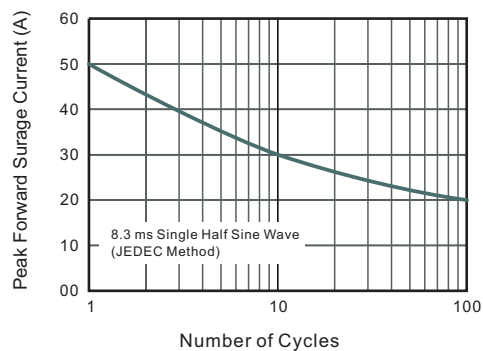


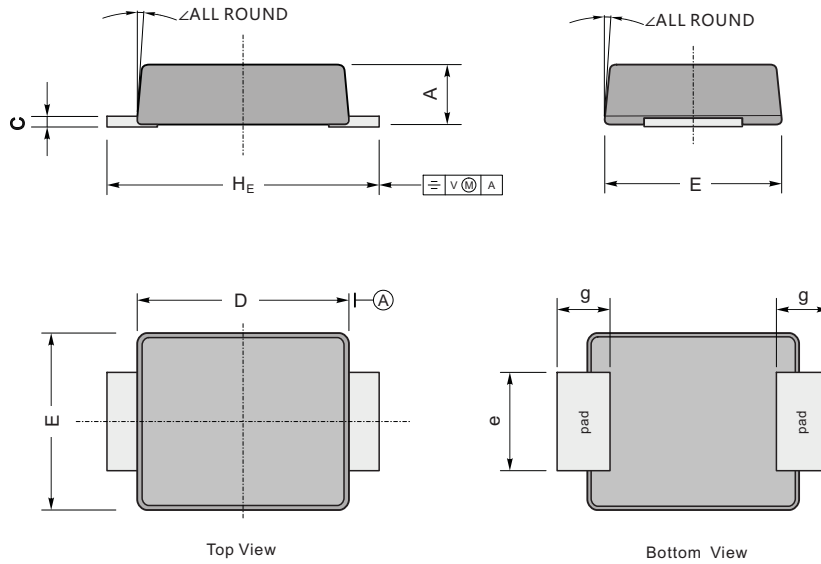
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



PACKAGE OUTLINE

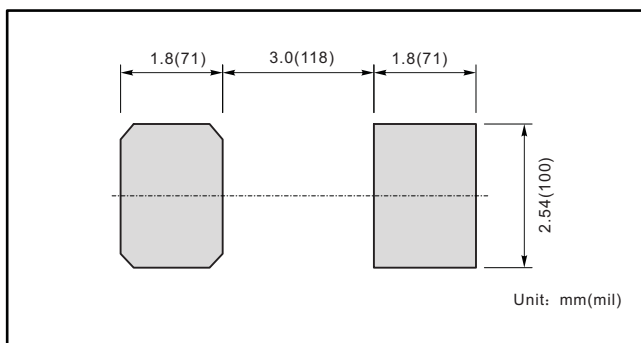
Plastic surface mounted package; 2 leads

SMBF



| UNIT | | A | C | D | E | H _E | e | g | \angle |
|------|-----|-----|------|-----|-----|----------------|-----|-----|----------|
| 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 | | |
| | min | 43 | 7 | 165 | 138 | 200 | 75 | | |

The recommended mounting pad size



Marking

| Type number | Marking code |
|-------------|--------------|
| RS2ABF | R2AB |
| RS2BBF | R2BB |
| RS2DBF | R2DB |
| RS2GBF | R2GB |
| RS2JBF | R2JB |
| RS2KBF | R2KB |
| RS2MBF | R2MB |

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