



Surface Mount General Purpose Silicon Rectifiers

Reverse Voltage - 50 to 1000 V

Forward Current - 3 A

FEATURES

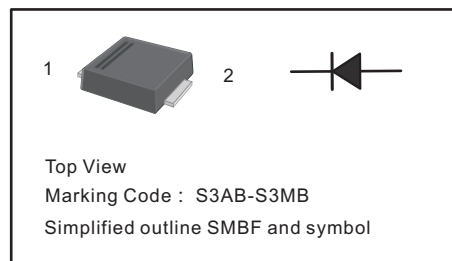
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Lead free in comply with EU RoHS 2011/65/EU directives

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 | S3ABF | S3BBF | S3DBF | S3GBF | S3JBF | S3KBF | S3MBF | 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 $T_c = 115\text{ }^\circ\text{C}$ | $I_{F(AV)}$ | 3 | | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load | I_{FSM} | 80 | | | | | | | A |
| Maximum Instantaneous Forward Voltage at 3 A | V_F | 1.1 | | | | | | | V |
| Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125\text{ }^\circ\text{C}$ | I_R | 5 150 | | | | | | | μA |
| Typical Junction Capacitance ⁽¹⁾ | C_j | 35 | | | | | | | pF |
| Typical Thermal Resistance ⁽²⁾ | $R_{\theta JA}$ $R_{\theta JC}$ | 45 15 | | | | | | | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range | T_j, T_{stg} | -55 ~ +150 | | | | | | | $^\circ\text{C}$ |

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

(2) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.



Fig.1 Forward Current Derating Curve

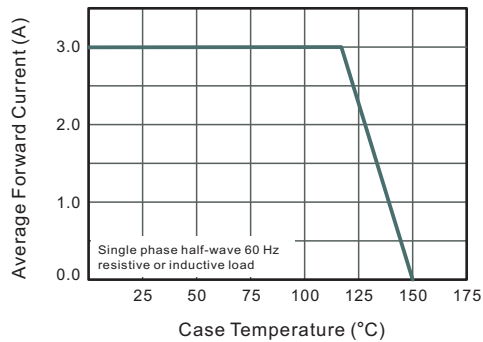


Fig.2 Typical Reverse Characteristics

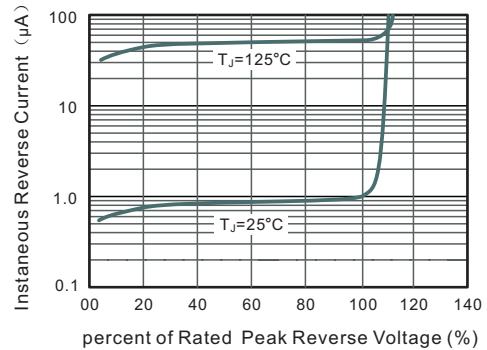


Fig.3 Typical Forward Characteristic

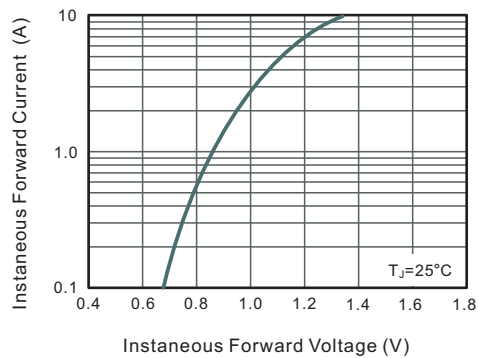


Fig.4 Typical Junction Capacitance

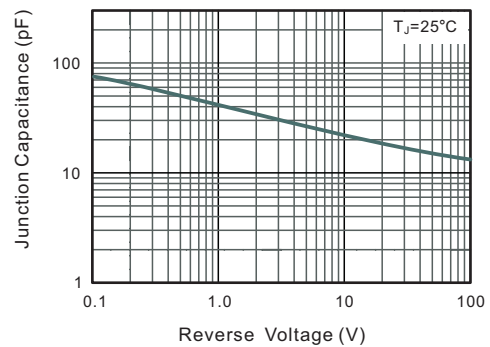
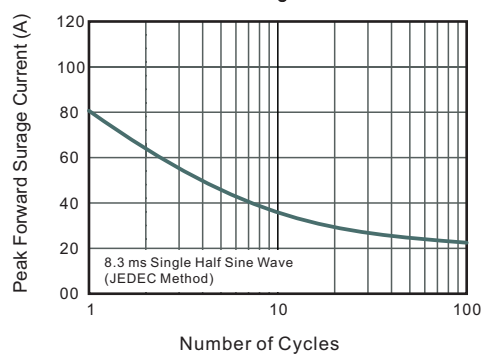


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current

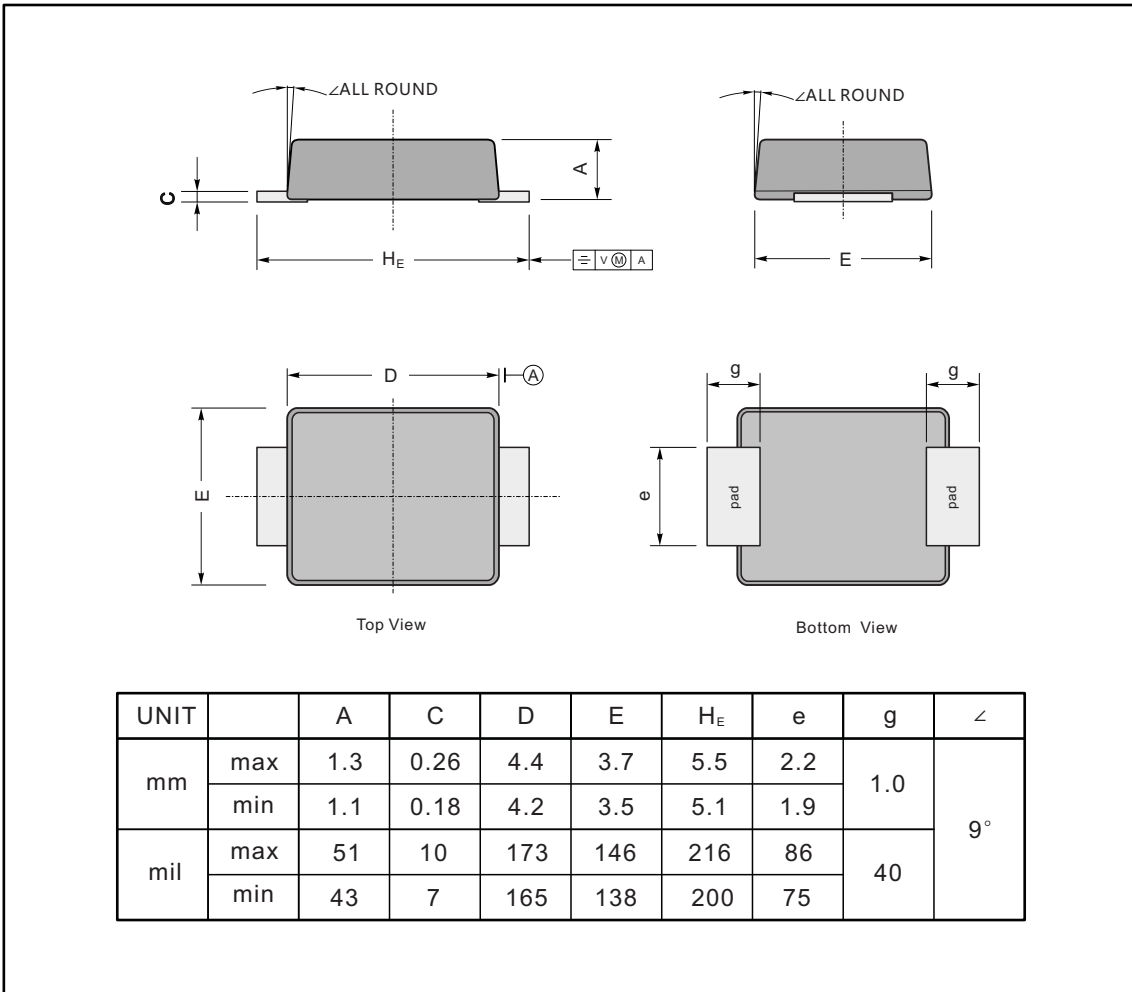




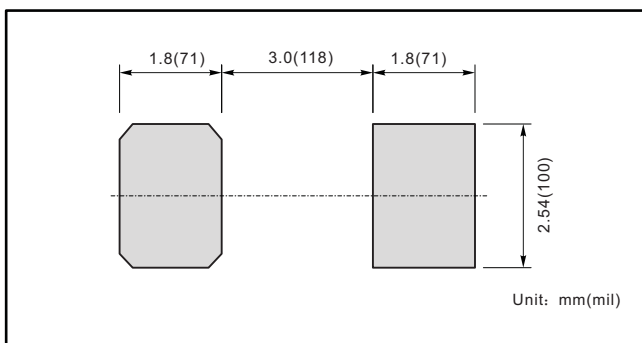
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SMBF



The recommended mounting pad size



Marking

| Type number | Marking code |
|-------------|--------------|
| S3ABF | S3AB |
| S3BBF | S3BB |
| S3DBF | S3DB |
| S3GBF | S3GB |
| S3JBF | S3JB |
| S3KBF | S3KB |
| S3MBF | S3MB |

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