

**Surface Mount General Purpose Silicon Rectifiers**

**Reverse Voltage - 50 to 1000 V**

**Forward Current - 2 A**

**FEATURES**

- ◆ For surface mounted applications
- ◆ Low profile package
- ◆ Glass Passivated Chip Junction
- ◆ Ideal for automated placement
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives



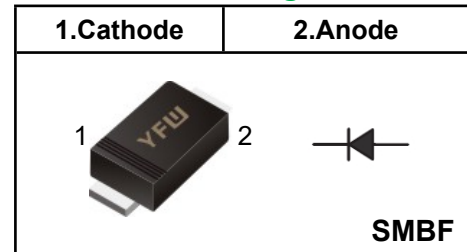
**MECHANICAL DATA**

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

**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 %.

**Pinning**



**Marking Code**

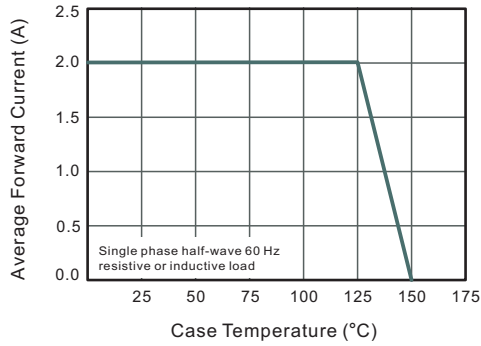
|              |             |
|--------------|-------------|
| <b>S2ABF</b> | <b>S2AB</b> |
| <b>S2BBF</b> | <b>S2BB</b> |
| <b>S2DBF</b> | <b>S2DB</b> |
| <b>S2GBF</b> | <b>S2GB</b> |
| <b>S2JBF</b> | <b>S2JB</b> |
| <b>S2KBF</b> | <b>S2KB</b> |
| <b>S2MBF</b> | <b>S2MB</b> |

| Parameter  | Symbols                        | S2ABF      | S2BBF | S2DBF | S2GBF | S2JBF | S2KBF | S2MBF | 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 $T_c = 125\text{ }^\circ\text{C}$   | $I_{F(AV)}$                    | 2          |       |       |       |       |       |       | A                  |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load   | $I_{FSM}$                      | 70         |       |       |       |       |       |       | A                  |
| Maximum Instantaneous Forward Voltage at 2 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<br>100   |       |       |       |       |       |       | $\mu\text{A}$      |
| Typical Junction Capacitance <sup>(1)</sup>  | $C_j$                          | 25         |       |       |       |       |       |       | pF                 |
| Typical Thermal Resistance <sup>(2)</sup>  | $R_{\theta JA}, R_{\theta JC}$ | 60/18      |       |       |       |       |       |       | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range  | $T_j, T_{stg}$                 | -55 ~ +150 |       |       |       |       |       |       | $^\circ\text{C}$   |

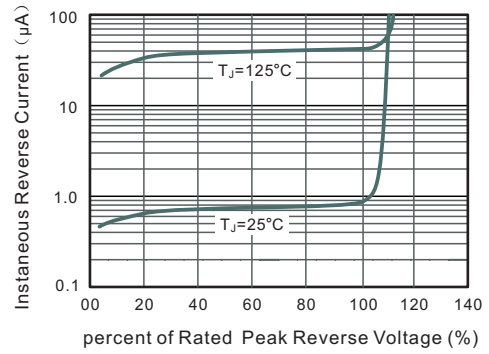
(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

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

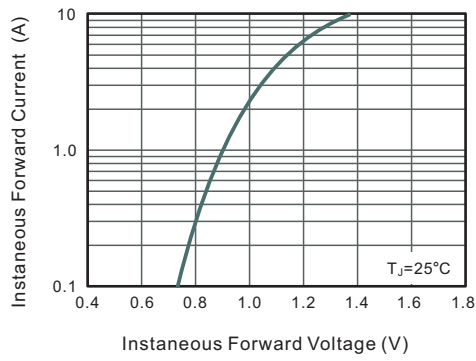
**Fig.1 Forward Current Derating Curve**



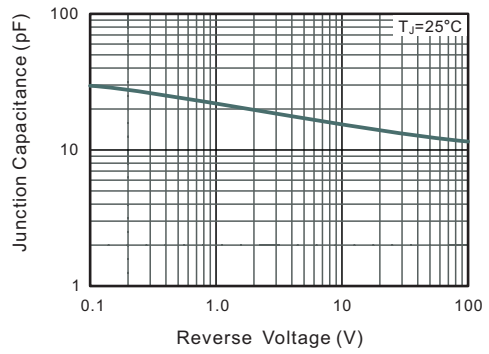
**Fig.2 Typical Reverse Characteristics**



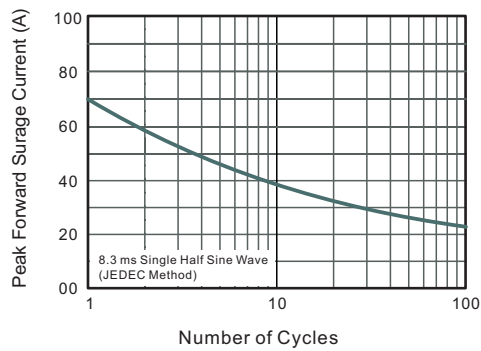
**Fig.3 Typical Forward Characteristic**



**Fig.4 Typical Junction Capacitance**



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



**Package Outline**

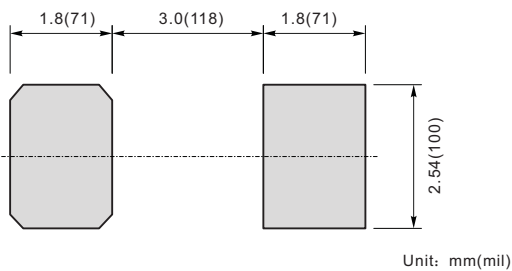
**SMBF**

Plastic surface mounted package; 2 leads



| 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  | 40  |          |
|      | min | 43  | 7    | 165 | 138 | 200   | 75  |     |          |

**The recommended mounting pad size**



**Summary of Packing Options**

| Package | Packing Description | Packing Quantity | Industry Standard |
|---------|---------------------|------------------|-------------------|
| SMBF    | Tape/Reel, 13" reel | 5000             | EIA-481-1         |

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