

Surface Mount Schottky Barrier Rectifier

Reverse Voltage - 100 V

Forward Current - 5 A

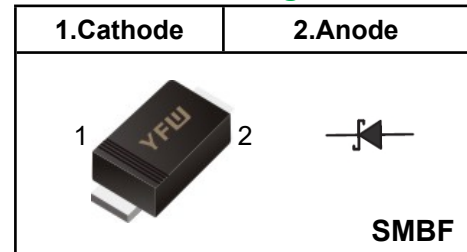
FEATURES

- ◆Metal silicon junction, majority carrier conduction
- ◆For surface mounted applications
- ◆Low power loss, high efficiency
- ◆High forward surge current capability
- ◆For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◆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



Marking Code

| | |
|-----------------|---------------|
| SSL510BF | SL510B |
|-----------------|---------------|

Absolute Maximum Ratings and Electrical characteristics

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

| Parameter | Symbols | SSL510BF | Units |
|---|-----------------|------------|---|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 100 | V |
| Maximum RMS voltage | V_{RMS} | 70 | V |
| Maximum DC Blocking Voltage | V_{DC} | 100 | V |
| Maximum Average Forward Rectified Current | $I_{F(AV)}$ | 5.0 | A |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed On Rated Load (JEDEC method) | I_{FSM} | 150 | A |
| Maximum Instantaneous Forward Voltage at 5 A | V_F | 0.6 | V |
| Maximum Instantaneous Reverse Current at Rated DC Reverse Voltage | I_R | 0.1 | mA |
| | | | $T_A = 25^{\circ}C$ $T_A = 100^{\circ}C$ |
| Typical Junction Capacitance ⁽¹⁾ | C_j | 180 | pF |
| Typical Thermal Resistance ⁽²⁾ | $R_{\theta JA}$ | 60 | °C/W |
| Operating Junction Temperature Range | T_j | -55 ~ +150 | °C |
| Storage Temperature Range | T_{stg} | -55 ~ +150 | °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

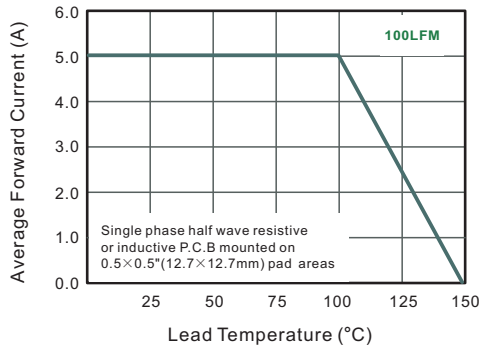


Fig.2 Typical Reverse Characteristics

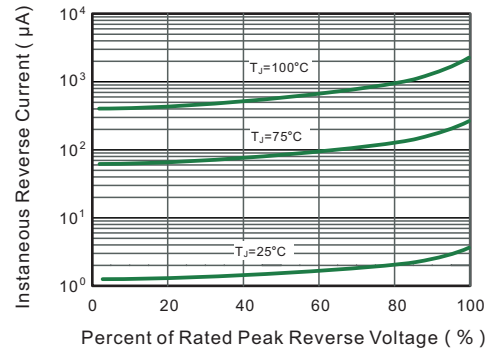


Fig.3 Typical Forward Characteristic

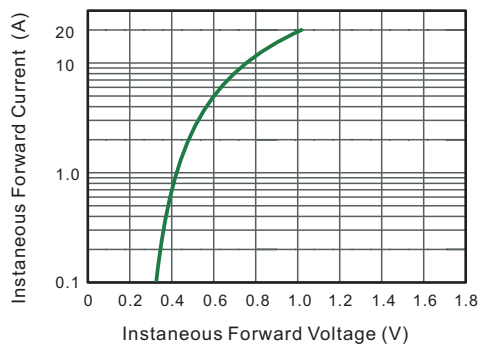


Fig.4 Typical Junction Capacitance

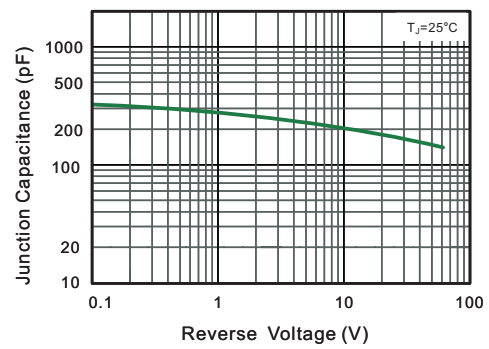


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

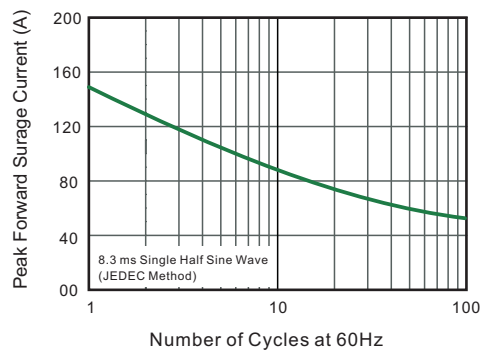
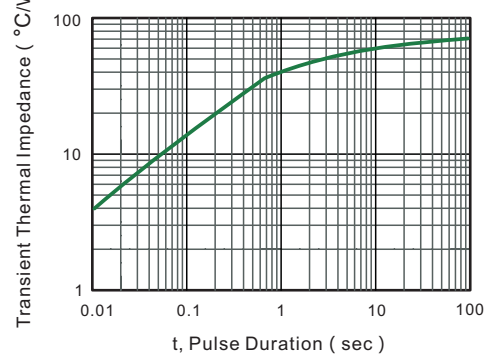


Fig.5- Typical Transient Thermal Impedance



Package Outline

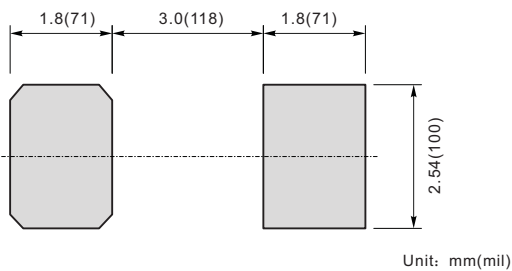
SMBF

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 |