

# SS510LBG

**Surface Mount Schottky Barrier Rectifier**  
**Reverse Voltage - 100 V Forward Current - 5.0A**

## Features

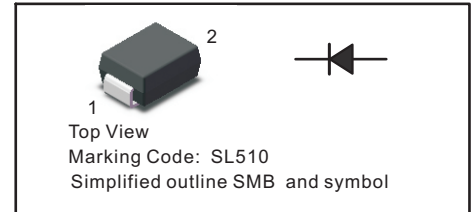
- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

## MECHANICAL DATA

- Case: SMB
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.055g / 0.002oz

## PINNING

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



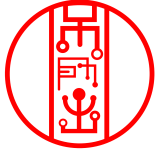
## Absolute Maximum Ratings and Electrical characteristics

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

| Parameter                                                                                          | Symbols         | SS510LBG   | 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             |
| Max Instantaneous Forward Voltage at 5 A                                                           | $V_F$           | 0.6        | V             |
| Maximum DC Reverse Current $T_a = 25^{\circ}C$<br>at Rated DC Reverse Voltage $T_a = 100^{\circ}C$ | $I_R$           | 1.0<br>50  | mA            |
| Typical Junction Capacitance <sup>(1)</sup>                                                        | $C_j$           | 600        | pF            |
| Typical Thermal Resistance <sup>(2)</sup>                                                          | $R_{\theta JA}$ | 45         | $^{\circ}C/W$ |
| Operating Junction Temperature Range                                                               | $T_j$           | -55 ~ +150 | $^{\circ}C$   |
| Storage Temperature Range                                                                          | $T_{stg}$       | -55 ~ +150 | $^{\circ}C$   |

( 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.



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Fig.1 Forward Current Derating Curve

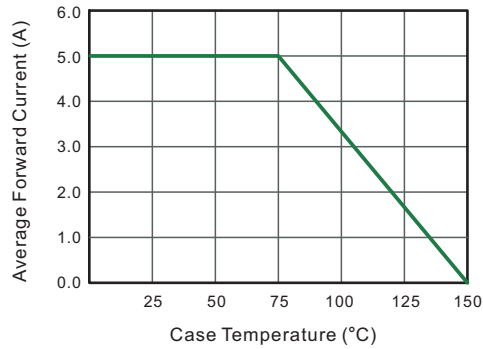


Fig.2 Typical Reverse Characteristics

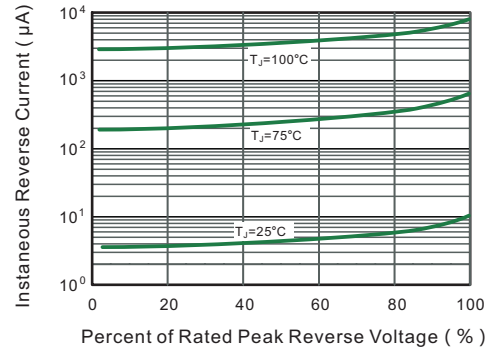


Fig.3 Typical Forward Characteristic

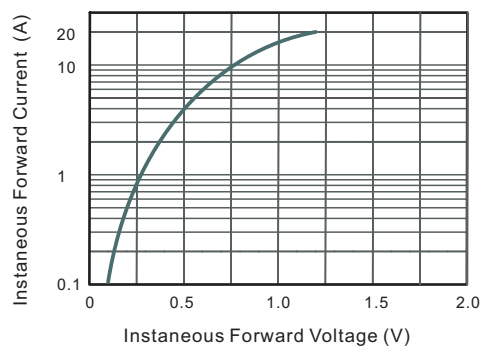


Fig.4 Typical Junction Capacitance

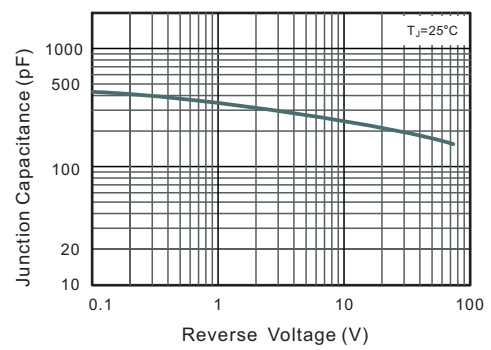


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

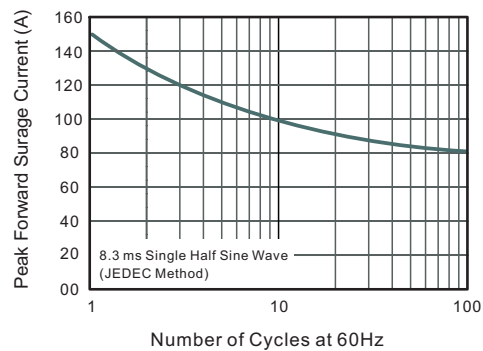
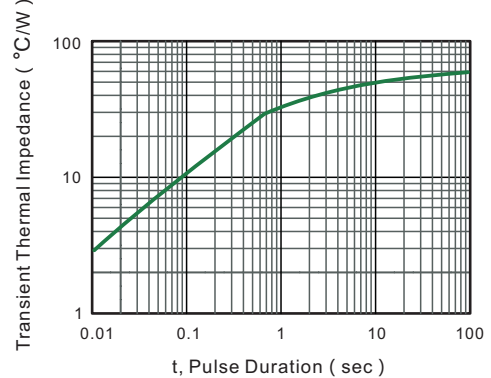
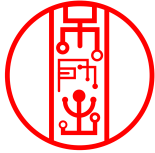


Fig.6- Typical Transient Thermal Impedance



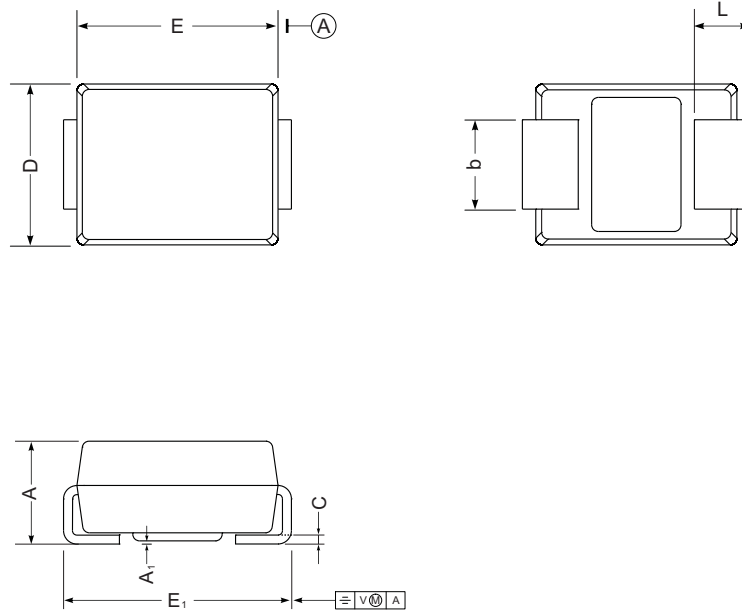


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## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

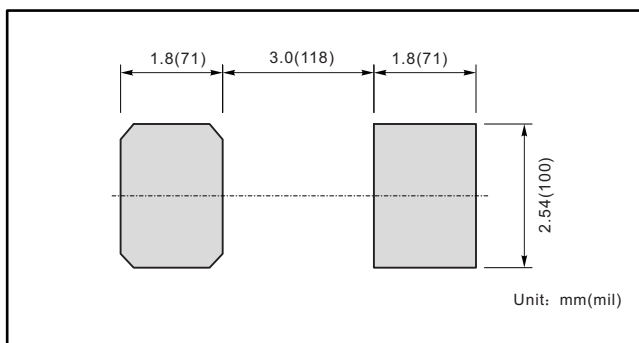
SMB



SMB mechanical data

| UNIT |     | A    | E    | D    | E <sub>1</sub> | A <sub>1</sub> | L   | C     | b   |
|------|-----|------|------|------|----------------|----------------|-----|-------|-----|
| mm   | max | 2.44 | 4.70 | 3.94 | 5.59           | 0.20           | 1.5 | 0.305 | 2.2 |
|      | min | 2.13 | 4.06 | 3.3  | 5.08           | 0.05           | 0.8 | 0.152 | 1.9 |
| mil  | max | 96   | 185  | 155  | 220            | 7.9            | 59  | 12    | 87  |
|      | min | 84   | 160  | 130  | 200            | 2.0            | 32  | 6     | 75  |

## The recommended mounting pad size



## Marking

| Type number | Marking code |
|-------------|--------------|
| SS 510LBG   | SL510        |