

**Surface Mount Schottky Barrier Rectifier**  
Reverse Voltage-20 to 200V Forward Current-5.0A

**FEATURES**

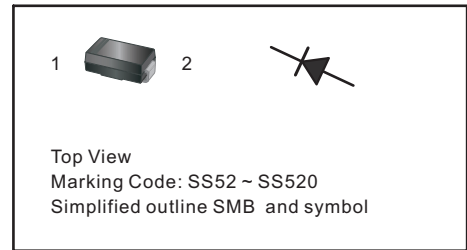
- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

**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**

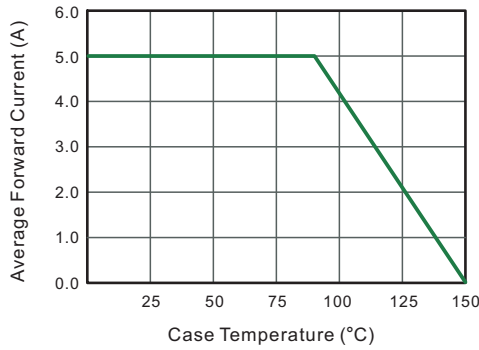
Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz resistive or inductive load, for capacitive load, derate by 20 %

| Parameter   | Symbols         | SS52BG     | SS54BG    | SS56BG | SS58BG | SS510BG | SS512BG | SS515BG | SS520BG | Units |
|---|-----------------|------------|-----------|--------|--------|---------|---------|---------|---------|-------|
| Maximum Repetitive Peak Reverse Voltage   | $V_{RRM}$       | 20         | 40        | 60     | 80     | 100     | 120     | 150     | 200     | V     |
| Maximum RMS voltage   | $V_{RMS}$       | 14         | 28        | 42     | 56     | 70      | 84      | 105     | 140     | V     |
| Maximum DC Blocking Voltage   | $V_{DC}$        | 20         | 40        | 60     | 80     | 100     | 120     | 150     | 200     | 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  | $V_F$           | 0.55       | 0.70      |        | 0.85   |         |         |         | V       |       |
| Maximum DC Reverse Current $T_a = 25^\circ\text{C}$ at Rated DC Reverse Voltage $T_a = 100^\circ\text{C}$ | $I_R$           | 1.0<br>50  | 0.3<br>25 |        |        |         |         | mA      |         |       |
| Typical Junction Capacitance <sup>(1)</sup>   | $C_j$           | 500        | 300       |        |        |         |         |         | pF      |       |
| Typical Thermal Resistance <sup>(2)</sup>   | $R_{\theta JA}$ | 50         |           |        |        |         |         |         |         | °C/W  |
| Operating Junction Temperature Range  | $T_j$           | -55 ~ +150 |           |        |        |         |         |         |         | °C    |
| Storage Temperature Range   | $T_{stg}$       | -55 ~ +150 |           |        |        |         |         |         |         | °C    |

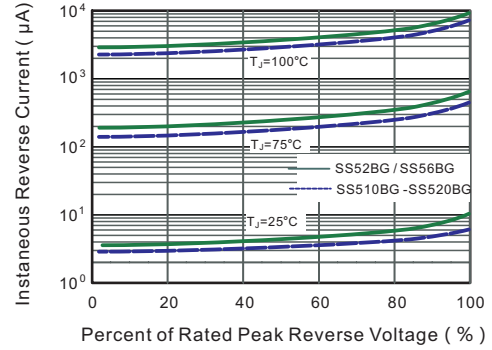
(1) Measured at 1MHz and applied reverse voltage of 4 V D.C.

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

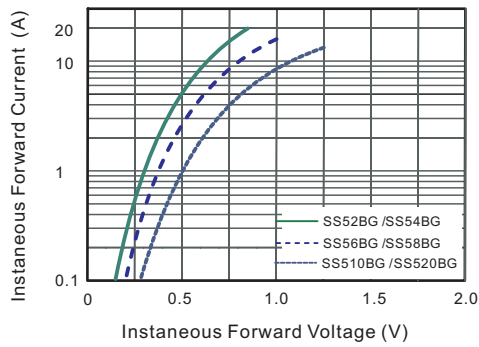
**Fig.1 Forward Current Derating Curve**



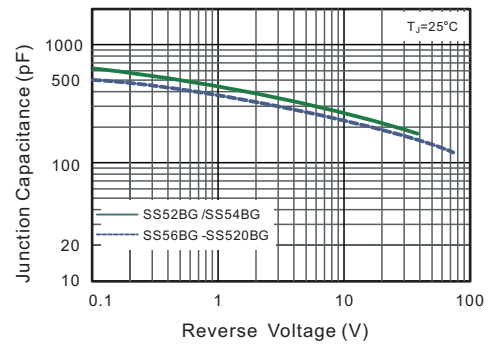
**Fig.2 Typical Reverse Characteristics**



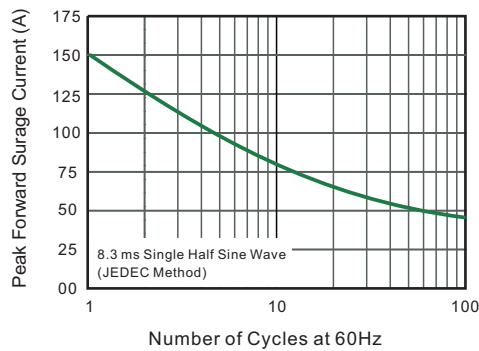
**Fig.3 Typical Forward Characteristic**



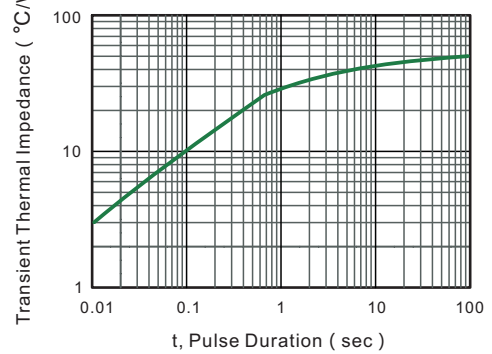
**Fig.4 Typical Junction Capacitance**



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



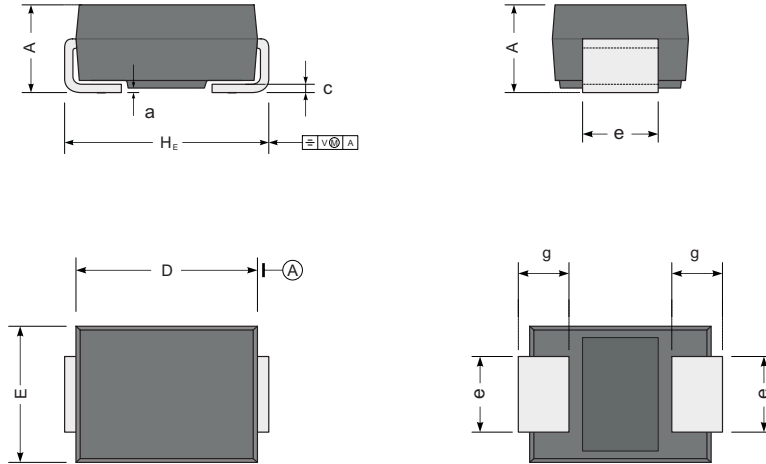
**Fig.6- Typical Transient Thermal Impedance**



## PACKAGE OUTLINE

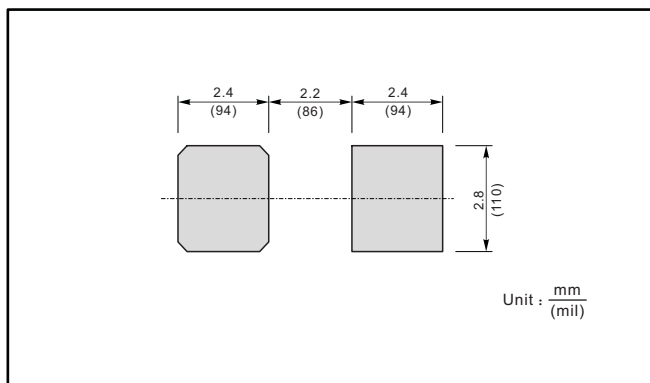
Plastic surface mounted package; 2 leads

SMB



| UNIT |     | A    | D    | E    | H <sub>E</sub> | a    | c     | e   | g   |
|------|-----|------|------|------|----------------|------|-------|-----|-----|
| mm   | max | 2.44 | 4.83 | 3.94 | 5.59           | 0.21 | 0.305 | 2.2 | 1.5 |
|      | min | 2.13 | 4.32 | 3.3  | 5.08           | 0.05 | 0.152 | 1.8 | 0.9 |
| mil  | max | 96   | 190  | 155  | 220            | 8.3  | 12    | 87  | 59  |
|      | min | 83   | 170  | 130  | 200            | 2.0  | 6     | 71  | 35  |

### The recommended mounting pad size



### Marking

| Type number | Marking code |
|-------------|--------------|
| SS52BG      | SS52         |
| SS54BG      | SS54         |
| SS56BG      | SS56         |
| SS58BG      | SS58         |
| SS510BG     | SS510        |
| SS512BG     | SS512        |
| SS515BG     | SS515        |
| SS520BG     | SS520        |

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