



## Surface Mount Schottky Barrier Rectifier

Reverse Voltage - 20 to 200 V

Forward Current - 3 A

### FEATURES

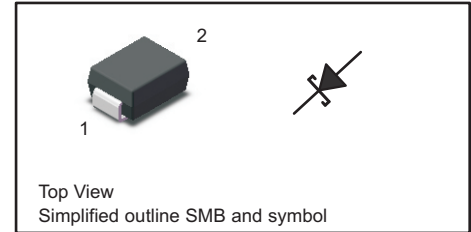
- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

### MECHANICAL DATA

- Case: SMB
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.095g / 0.003oz

### 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                                               | SS32B         | SS34B | SS36B | SS38B    | SS310B | SS312B | SS315B | SS320B | 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 @ Fig.1                                                      | $I_{F(AV)}$                                           | 3.0           |       |       |          |        |        |        |        | A                |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)      | $I_{FSM}$                                             | 80            |       |       |          |        |        |        |        | A                |
| Peak Forward Surge Current, 1.0ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)      | $I_{FSM}$                                             | 160           |       |       |          |        |        |        |        | A                |
| $I^2t$ Rating for fusing ( $3ms \leq t \leq 8.3ms$ )                                                   | $I^2t$                                                | 26.5          |       |       |          |        |        |        |        | A <sup>2</sup> S |
| Max Instantaneous Forward Voltage at 3 A                                                               | $V_F$                                                 | 0.55          |       | 0.70  |          | 0.85   |        | 0.95   |        | V                |
| Maximum DC Reverse Current<br>at Rated DC Reverse Voltage<br>$T_a = 25^\circ C$<br>$T_a = 100^\circ C$ | $I_R$                                                 | 0.5<br>5      |       |       | 0.3<br>3 |        |        |        |        | mA               |
| Typical Junction Capacitance <sup>(1)</sup>                                                            | $C_j$                                                 | 135           |       | 107   |          | 83     |        | 68     | 50     | pF               |
| Typical Thermal Resistance <sup>(2)</sup>                                                              | $R_{\theta JA}$<br>$R_{\theta JC}$<br>$R_{\theta JL}$ | 43<br>9<br>18 |       |       |          |        |        |        |        | °C/W             |
| Operating Junction Temperature Range                                                                   | $T_j$                                                 | -55 ~ +125    |       |       |          |        |        |        |        | °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 1.5" X 1.5" (3.81 X 3.81 cm) copper pad areas.



Fig.1 Forward Current Derating Curve

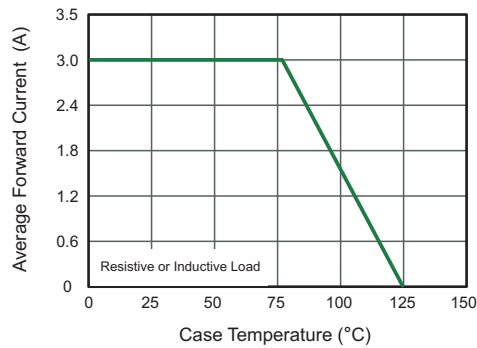


Fig.2 Typical Reverse Characteristics

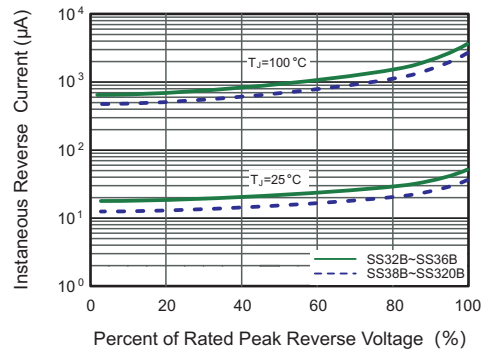


Fig.3 Typical Forward Characteristic

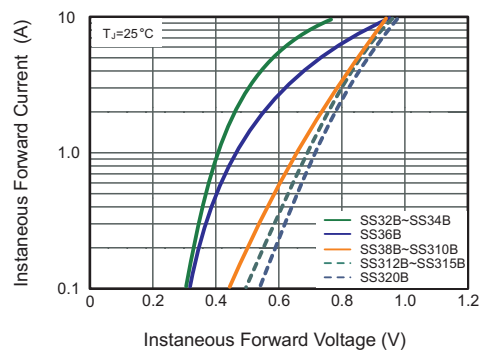


Fig.4 Typical Junction Capacitance

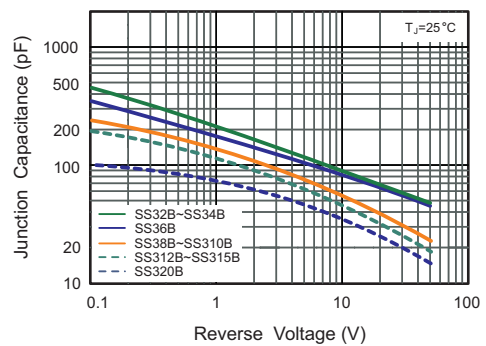
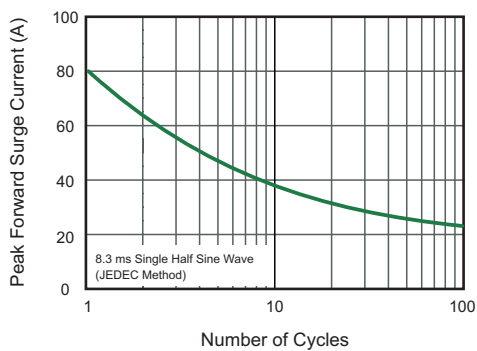


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

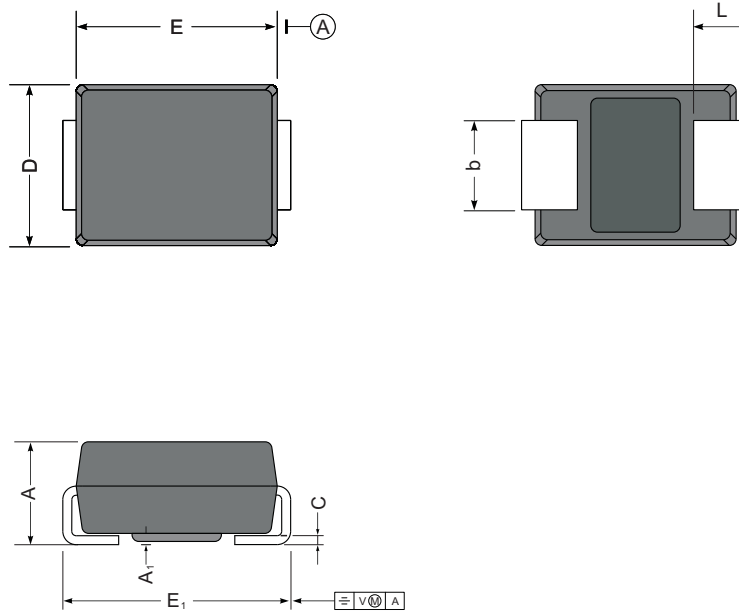




## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

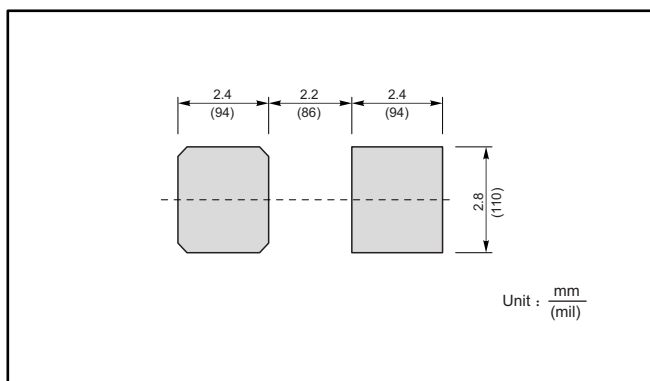
SMB



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 |
|-------------|--------------|
| SS32B       | SS32         |
| SS34B       | SS34         |
| SS36B       | SS36         |
| SS38B       | SS38         |
| SS310B      | SS310        |
| SS312B      | SS312        |
| SS315B      | SS315        |
| SS320B      | SS320        |



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