

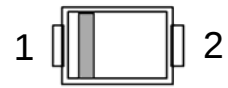
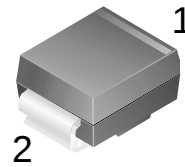
## 5 Ampere Surface Mount Schottky Barrier Rectifier



## SS52B-SS520B

## Features:

- ☐ Metal silicon junction, majority carrier conduction
- ☐ For surface mounted applications
- ☐ Low power loss, high efficiency
- ☐ Fast switching for high efficiency
- ☐ High forward surge current capability
- ☐ For use in low voltage, high frequency inverters

DO-214AA  
(SMB)

1.Cathode 2. Anode

## Absolute Maximum Ratings\* (TA=25°C Unless otherwise noted)

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            | SS52B      | SS54B | SS56B | SS58B    | SS510B     | SS512B | SS515B   | SS520B | Units |
|-----------------------------------------------------------------------------------------------------------|--------------------|------------|-------|-------|----------|------------|--------|----------|--------|-------|
| Maximum Repetitive Peak Reverse Voltage                                                                   | V <sub>RRM</sub>   | 20         | 40    | 60    | 80       | 100        | 120    | 150      | 200    | V     |
| Maximum RMS voltage                                                                                       | V <sub>RMS</sub>   | 14         | 28    | 42    | 56       | 70         | 84     | 105      | 140    | V     |
| Maximum DC Blocking Voltage                                                                               | V <sub>DC</sub>    | 20         | 40    | 60    | 80       | 100        | 120    | 150      | 200    | V     |
| Maximum Average Forward Rectified Current                                                                 | I <sub>F(AV)</sub> | 5.0        |       |       |          |            |        |          |        | A     |
| Peak Forward Surge Current,8.3ms<br>Single Half Sine-wave Superimposed<br>on Rated Load (JEDEC method)    | I <sub>FSM</sub>   | 150        |       |       |          |            |        |          |        | A     |
| Max Instantaneous Forward Voltage at 5A                                                                   | V <sub>F</sub>     | 0.55       | 0.70  | 0.85  |          |            |        | 0.95     |        | V     |
| Maximum DC Reverse Current   T <sub>a</sub> = 25°C<br>at Rated DC Reverse Voltage   T <sub>a</sub> =100°C | I <sub>R</sub>     | 0.3<br>10  |       |       | 0.2<br>5 |            |        | 0.1<br>2 |        | mA    |
| Typical Junction Capacitance <sup>(1)</sup>                                                               | C <sub>j</sub>     | 500        | 300   |       |          |            |        |          | pF     |       |
| Typical Thermal Resistance <sup>(2)</sup>                                                                 | R <sub>θJA</sub>   | 45         |       |       |          |            |        |          |        | °C/W  |
| Operating Junction Temperature Range                                                                      | T <sub>j</sub>     | -55 ~ +125 |       |       |          | -55 ~ +150 |        |          |        | °C    |
| Storage Temperature Range                                                                                 | T <sub>stg</sub>   | -55 ~ +150 |       |       |          |            |        |          |        | °C    |

(1) Measured at 1 MHz and applied reverse voltage of 4 VDC

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

## Typical Characteristics

FIG. 1- FORWARD CURRENT DERATING CURVE

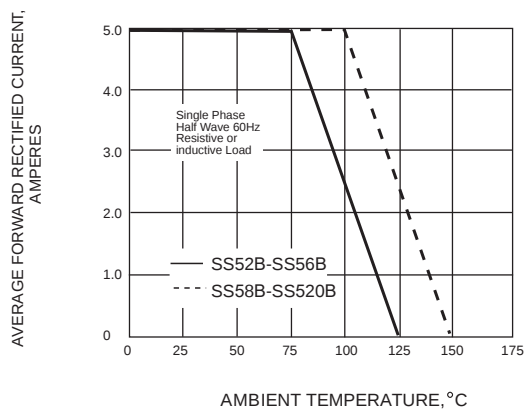


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

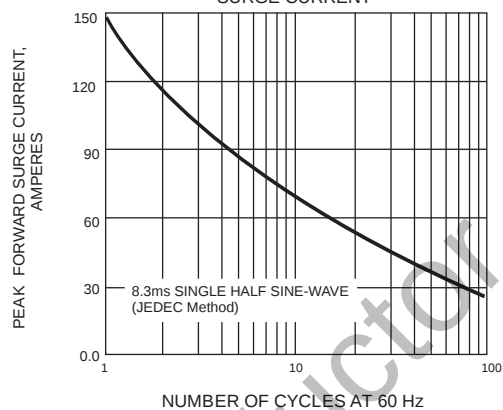


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

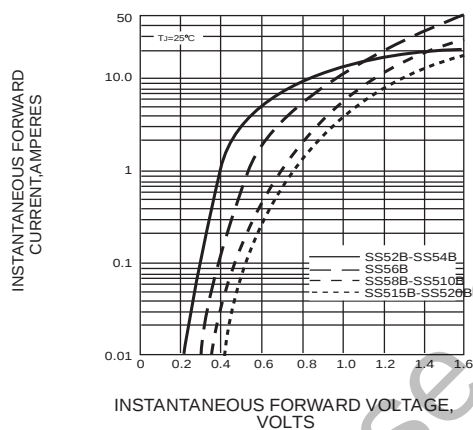


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

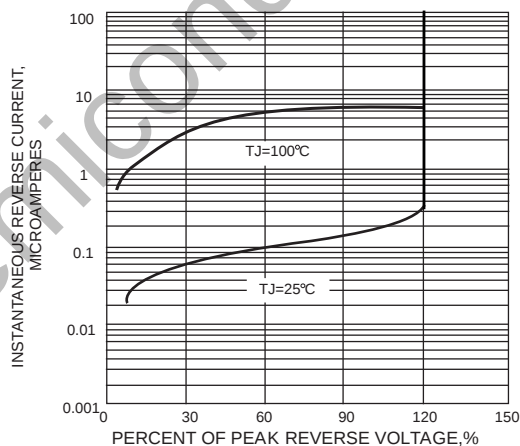
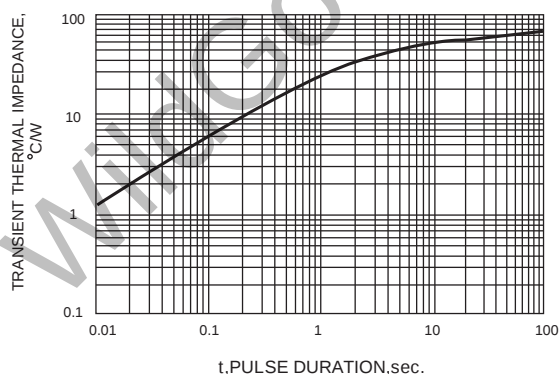
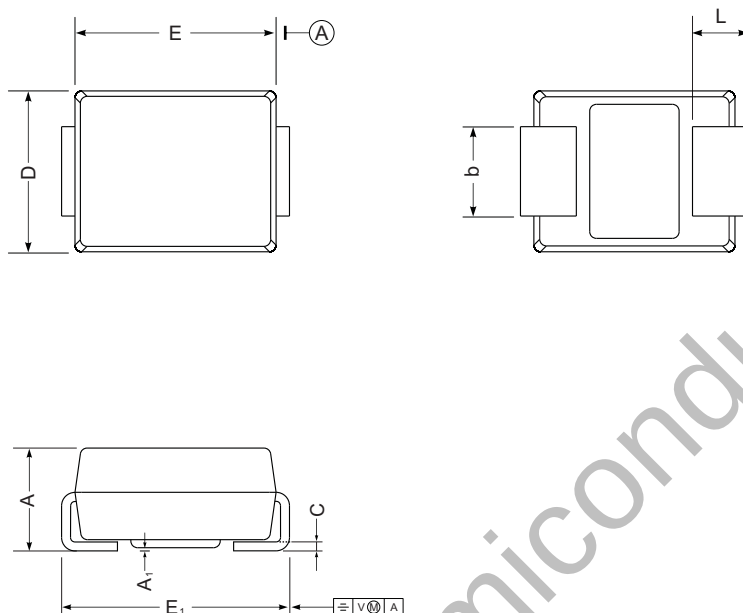


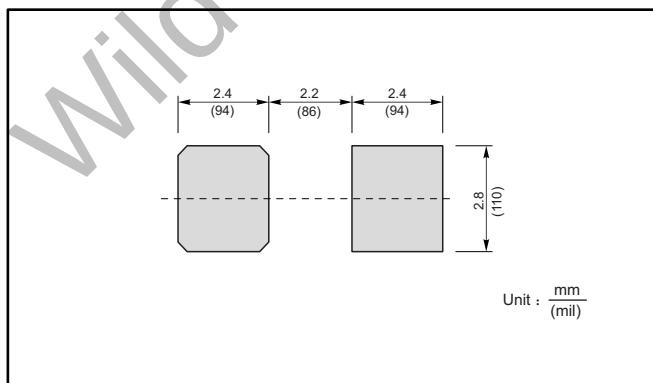
FIG. 5-TYPICAL TRANSIENT THERMAL IMPEDANCE



**Package Dimension****DO-214AA(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 |
|-------------|--------------|
| SS52B       | SS52         |
| SS54B       | SS54         |
| SS56B       | SS56         |
| SS58B       | SS58         |
| SS510B      | SS510        |
| SS512B      | SS512        |
| SS515B      | SS515        |
| SS520B      | SS520        |