



# SS52BF THRU SS520BF

## Surface Mount Schottky Barrier Rectifier

Reverse Voltage -20V to 200V

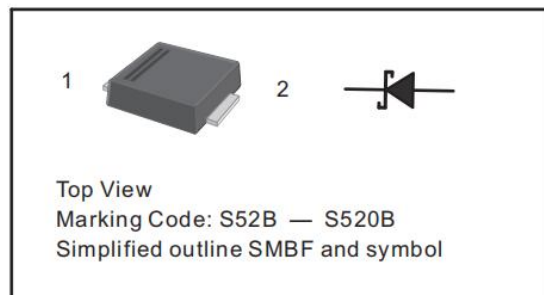
Forward Current -5.0A

### 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

### PINNING

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



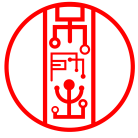
### Absolute Maximum Ratings and Electrical characteristics

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                                                                                                    | Symbol             | SS52<br>BF | SS54<br>BF | SS56<br>BF | SS58<br>BF | SS510<br>BF | SS512<br>BF | SS515<br>BF | SS520<br>BF | Unit             |
|--------------------------------------------------------------------------------------------------------------|--------------------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|------------------|
| 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>   | 120        |            |            |            |             |             |             |             | A                |
| Peak Forward Surge Current,1.0ms<br>Single Half Sine-wave Superimposed<br>On Rated Load(JEDEC method)        | I <sub>FSM</sub>   | 240        |            |            |            |             |             |             |             | A                |
| I <sup>2</sup> t Rating for fusing (3ms≤8.3ms)                                                               | I <sup>2</sup> t   | 59.7       |            |            |            |             |             |             |             | A <sup>2</sup> S |
| Max Instantaneous Forward Voltage<br>at 5A                                                                   | V <sub>F</sub>     | 0.55       |            | 0.70       | 0.85       |             | 0.95        |             |             | V                |
| Maximum DC Reverse Current<br>T <sub>a</sub> = 25°C<br>at Rated DC Reverse Voltage<br>T <sub>a</sub> = 100°C | I <sub>R</sub>     | 1.0        |            |            |            |             |             |             |             | mA               |
|                                                                                                              |                    | 50         |            |            |            |             |             |             |             |                  |
| Typical Junction Capacitance <sup>(1)</sup>                                                                  | C <sub>j</sub>     | 270        |            | 220        | 160        |             | 100         |             | 80          | pF               |
| Typical Thermal Resistance <sup>(2)</sup>                                                                    | R <sub>θJA</sub>   | 42         |            |            |            |             |             |             |             | °C/W             |
|                                                                                                              | R <sub>θJC</sub>   | 10         |            |            |            |             |             |             |             |                  |
|                                                                                                              | R <sub>θJL</sub>   | 15         |            |            |            |             |             |             |             |                  |
| Operating Junction Temperature<br>Range                                                                      | T <sub>j</sub>     | -55~+125   |            |            |            |             |             |             |             | °C               |
| Storage Temperature Range                                                                                    | T <sub>stg</sub>   | -55~+150   |            |            |            |             |             |             |             | °C               |

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

(2) P.C.B. mounted with 1.5"x1.5" (3.81x3.81cm) copper pad areas



# SS52BF THRU SS520BF

## Typical Characteristics

Fig.1 Forward Current Derating Curve

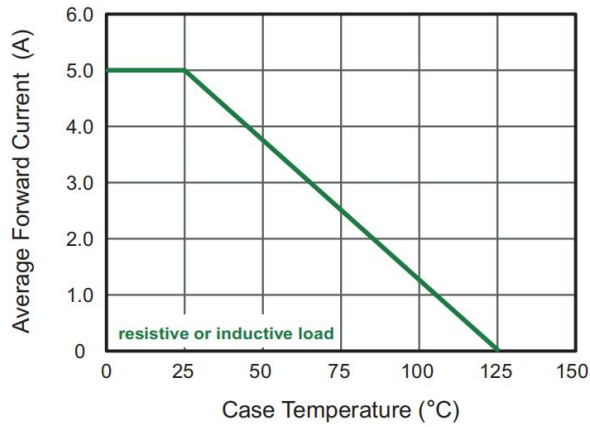


Fig.2 Typical Reverse Characteristics

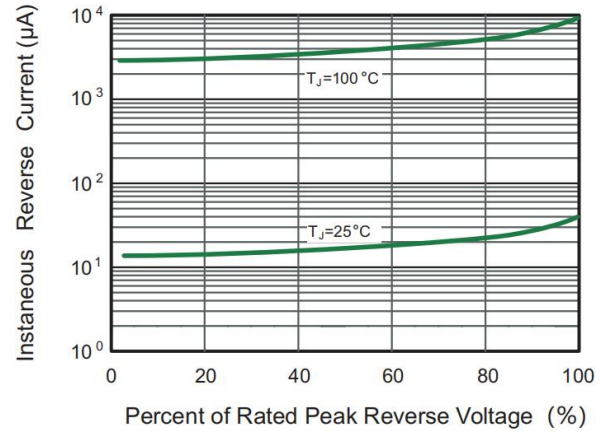


Fig.3 Typical Forward Characteristic

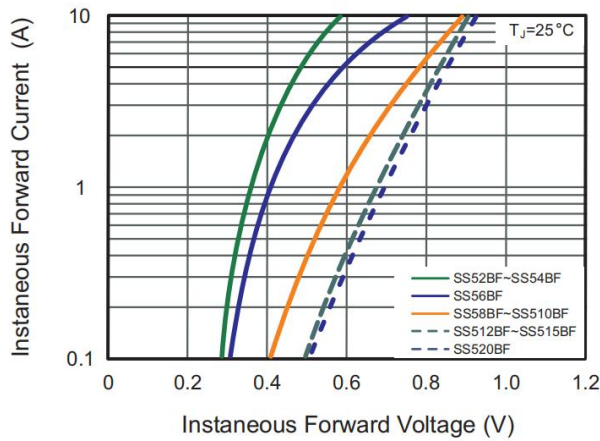


Fig.4 Typical Junction Capacitance

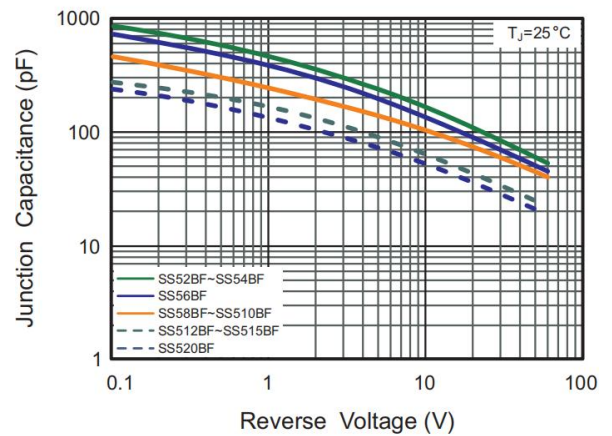
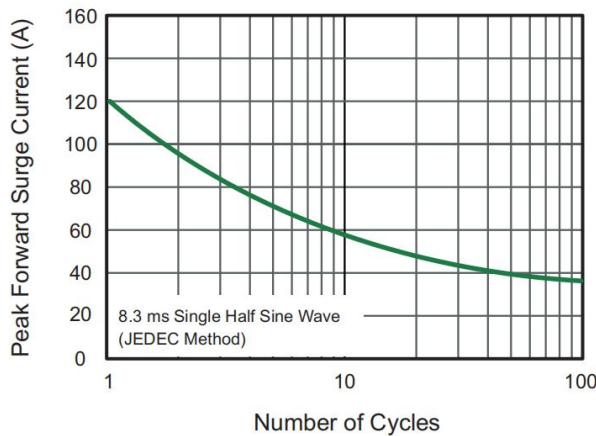


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



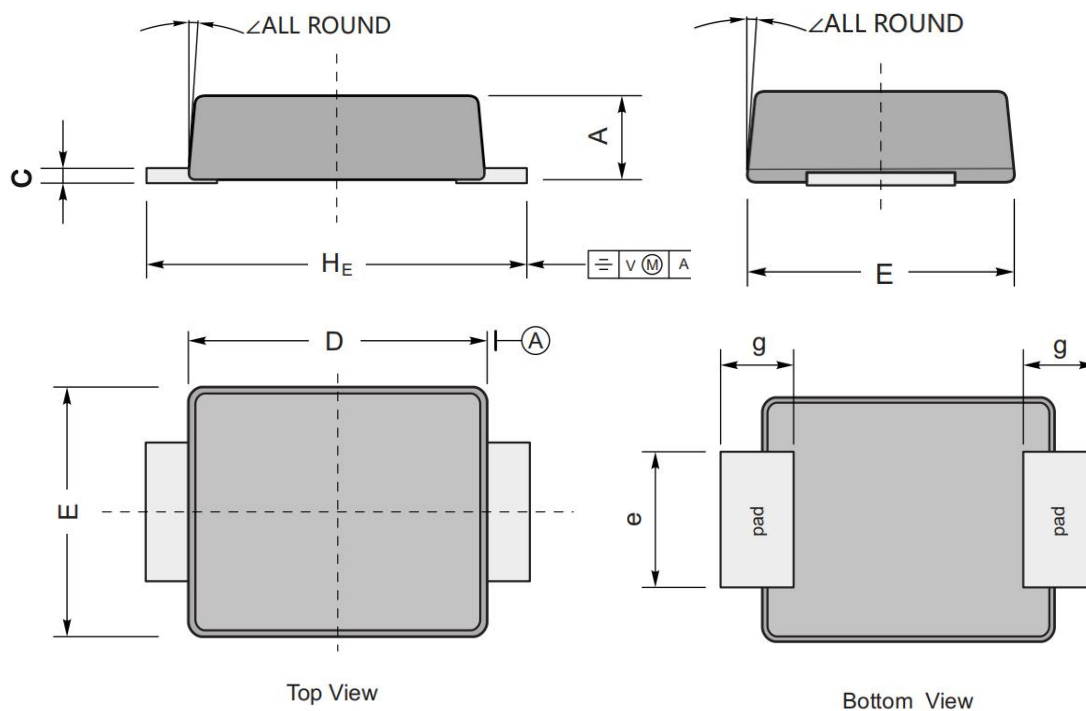


# SS52BF THRU SS520BF

## Package Information

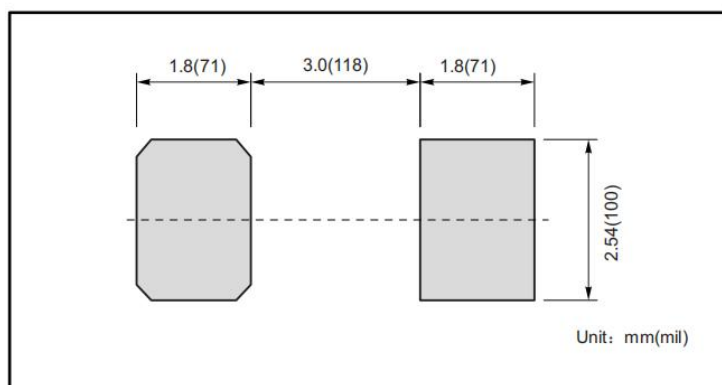
### SMBF

### Dimensions in mm



| UNIT |     | A   | C    | D   | E   | H <sub>E</sub> | e   | g   | ∠  |
|------|-----|-----|------|-----|-----|----------------|-----|-----|----|
| 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



### Marking

| Type number | Marking code |
|-------------|--------------|
| SS52BF      | S52B         |
| SS54BF      | S54B         |
| SS56BF      | S56B         |
| SS58BF      | S58B         |
| SS510BF     | S510B        |
| SS512BF     | S512B        |
| SS515BF     | S515B        |
| SS520BF     | S520B        |



# SS52BF THRU SS520BF

---

## Shikues Disclaimer

### 1.Accuracy of Information and Right to Modify

The information provided in this document is for reference only. Shikues reserves the right to make changes to this document and to the specifications of the products described herein at any time, without prior notice, for the purpose of improving reliability, function, design, or for any other reason. It is the customer's responsibility to obtain and verify the latest product information and specifications before making any final design, procurement, or usage decisions.

### 2.No Warranty

Shikues makes no express or implied warranties, representations, or guarantees regarding the suitability of its products for any particular purpose.

Shikues assumes no liability for any assistance provided or for the design of customer products. All products are supplied "as is."

### 3.Intended Use and Limitation of Liability

The products described in this document are intended for use in general-purpose electronic devices. They are neither designed nor tested nor authorized for use in transportation equipment or applications requiring high reliability. Unless expressly authorized in writing by Shikues, these products must not be used as critical components in life-support systems or any applications where failure could directly pose a risk to human life (including, but not limited to, medical devices, transportation systems, aerospace equipment, nuclear facilities, and safety-critical systems).

Shikues assumes no responsibility or liability for any consequences arising from the use of its products in unauthorized or unintended applications.

Neither Shikues nor its representatives shall be held liable for any resulting damages.

### 4.Intellectual Property

This document does not grant any express or implied license—whether by estoppel, implication, or otherwise—to use any intellectual property rights of Shikues.