

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

#### FEATURES

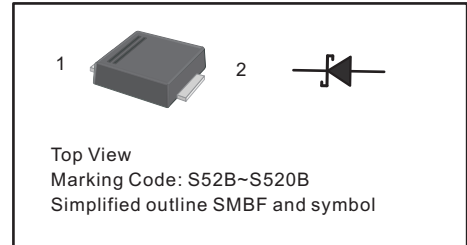
- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

#### MECHANICAL DATA

- Case: SMBF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 57mg / 0.002oz

#### PINNING

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



#### Absolute Maximum Ratings and Electrical characteristics

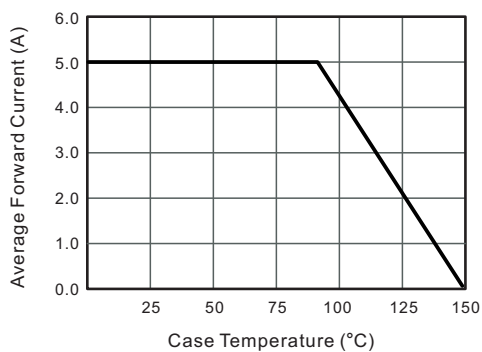
Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz resistive or inductive load, for capacitive load, derate by 20 %

| Parameter                                                                                                    | Symbols         | SS52BF     | SS54BF | SS56BF | SS58BF | SS510BF | SS512BF | SS515BF | SS520BF | 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<br>Single Half Sine-wave Superimposed<br>on Rated Load (JEDEC method)      | $I_{FSM}$       | 120        |        |        |        |         |         |         |         | A     |
| Max Instantaneous Forward Voltage at 5 A                                                                     | $V_F$           | 0.55       |        | 0.70   |        |         | 0.85    |         |         | V     |
| Maximum DC Reverse Current $T_a = 25^\circ\text{C}$<br>at Rated DC Reverse Voltage $T_a = 100^\circ\text{C}$ | $I_R$           | 1.0<br>50  |        |        |        |         |         |         |         | mA    |
| Typical Junction Capacitance <sup>(1)</sup>                                                                  | $C_j$           | 800        |        |        |        |         | 500     |         |         | pF    |
| Typical Thermal Resistance <sup>(2)</sup>                                                                    | $R_{\theta JA}$ | 45         |        |        |        |         |         |         |         | °C/W  |
| Operating Junction Temperature Range                                                                         | $T_j$           | -55 ~ +150 |        |        |        |         |         |         |         | °C    |
| Storage Temperature Range                                                                                    | $T_{stg}$       | -55 ~ +150 |        |        |        |         |         |         |         | °C    |

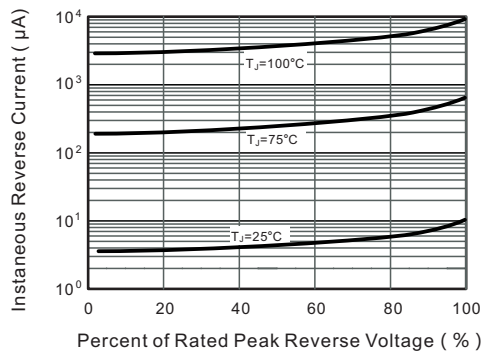
( 1 ) Measured at 1 MHz and applied reverse voltage of 4 V D.C

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

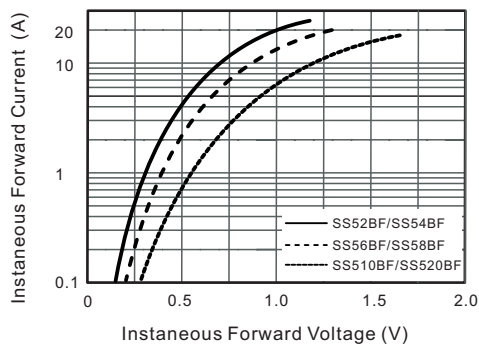
**Fig.1 Forward Current Derating Curve**



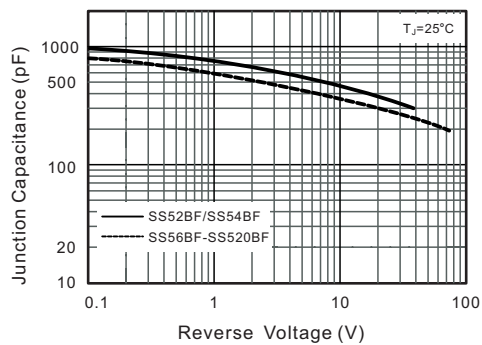
**Fig.2 Typical Reverse Characteristics**



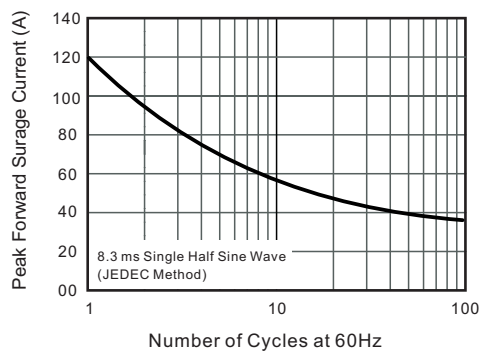
**Fig.3 Typical Forward Characteristic**



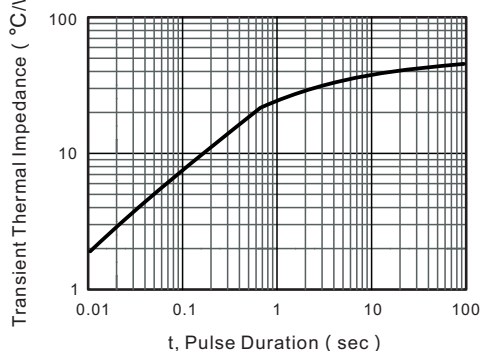
**Fig.4 Typical Junction Capacitance**



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

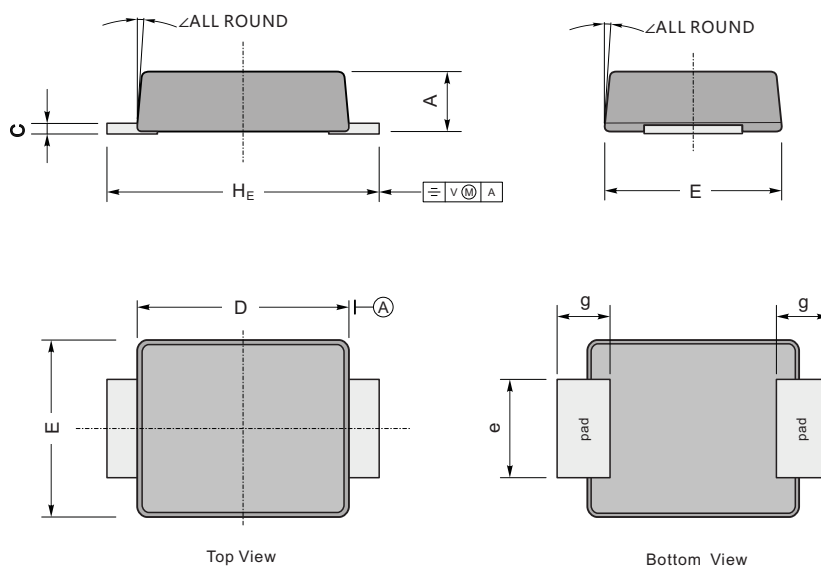


**Fig.6- Typical Transient Thermal Impedance**



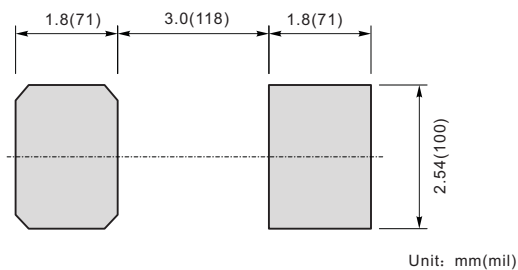
## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads



| 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        |