

Reverse Voltage - 50 to 1000 V

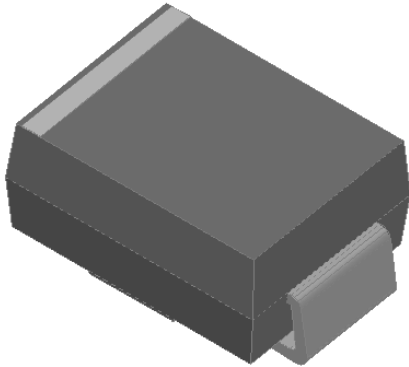
Forward Current - 5 A

### FEATURES

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Lead free in comply with EU RoHS 2011/65/EU directives

### MECHANICAL DATA

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



### Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

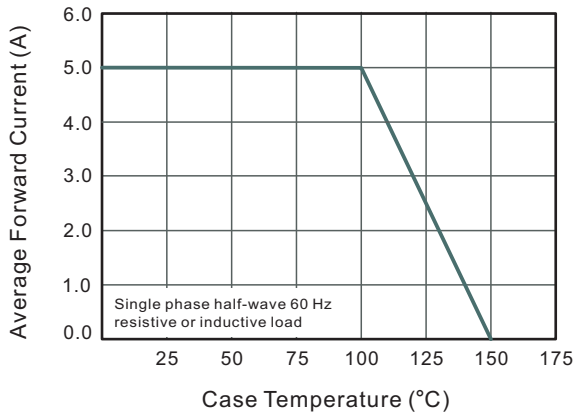
Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

| Parameter                                                                                                                         | Symbols                            | S5A        | S5B | S5D | S5G | S5J | S5K | S5M  | Units                |
|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------------|-----|-----|-----|-----|-----|------|----------------------|
| Maximum Repetitive Peak Reverse Voltage                                                                                           | $V_{RRM}$                          | 50         | 100 | 200 | 400 | 600 | 800 | 1000 | V                    |
| Maximum RMS voltage                                                                                                               | $V_{RMS}$                          | 35         | 70  | 140 | 280 | 420 | 560 | 700  | V                    |
| Maximum DC Blocking Voltage                                                                                                       | $V_{DC}$                           | 50         | 100 | 200 | 400 | 600 | 800 | 1000 | V                    |
| Maximum Average Forward Rectified Current                                                                                         | $I_{F(AV)}$                        | 5          |     |     |     |     |     |      | A                    |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load                                                | $I_{FSM}$                          | 150        |     |     |     |     |     |      | A                    |
| Maximum Instantaneous Forward Voltage at 5 A                                                                                      | $V_F$                              | 1.1        |     |     |     |     |     |      | V                    |
| Maximum DC Reverse Current $T_a = 25\text{ }^{\circ}\text{C}$<br>at Rated DC Blocking Voltage $T_a = 125\text{ }^{\circ}\text{C}$ | $I_R$                              | 10<br>100  |     |     |     |     |     |      | $\mu\text{A}$        |
| Typical Junction Capacitance <sup>(1)</sup>                                                                                       | $C_j$                              | 40         |     |     |     |     |     |      | pF                   |
| Typical Thermal Resistance <sup>(2)</sup>                                                                                         | $R_{\theta JA}$<br>$R_{\theta JC}$ | 48<br>16   |     |     |     |     |     |      | $^{\circ}\text{C/W}$ |
| Operating and Storage Temperature Range                                                                                           | $T_j, T_{stg}$                     | -55 ~ +150 |     |     |     |     |     |      | $^{\circ}\text{C}$   |

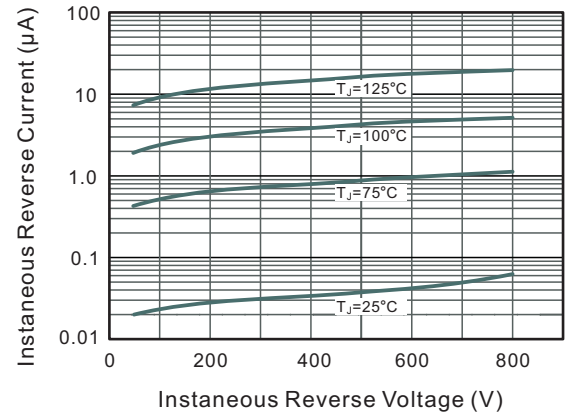
( 1 ) Measured at 1 MHz and applied reverse voltage of 4 V D.C

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

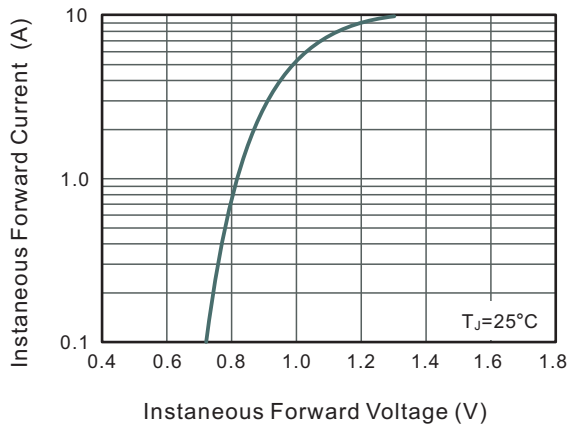
**Fig.1 Forward Current Derating Curve**



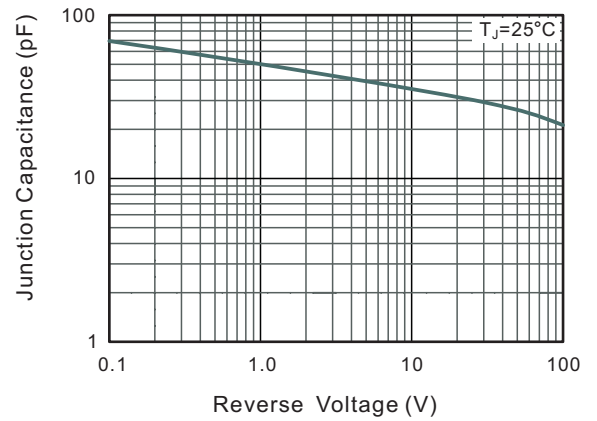
**Fig.2 Typical Instantaneous Reverse Characteristics**



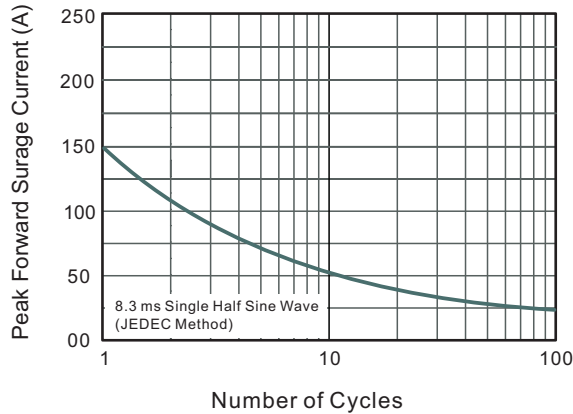
**Fig.3 Typical Forward Characteristic**



**Fig.4 Typical Junction Capacitance**

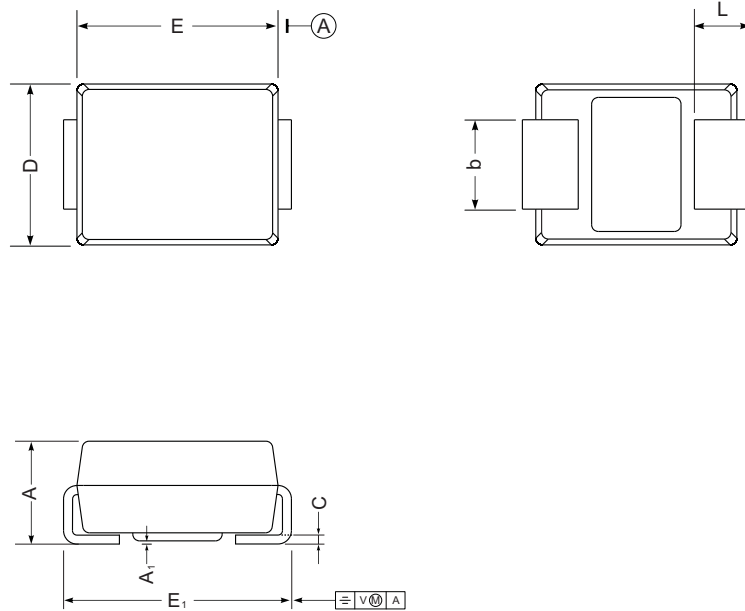


**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



## PACKAGE OUTLINE

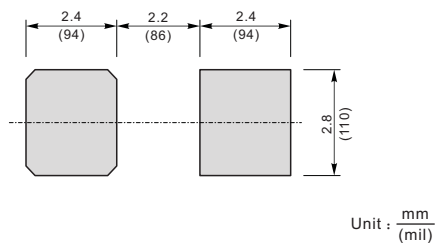
Plastic surface mounted package; 2 leads



SMB 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 |
|-------------|--------------|
| S5A         | S5A          |
| S5B         | S5B          |
| S5D         | S5D          |
| S5G         | S5G          |
| S5J         | S5J          |
| S5K         | S5K          |
| S5M         | S5M          |