

### Surface Mount Schottky Barrier Rectifier

Reverse Voltage - 20 to 200V

Forward Current - 8.0A

### FEATURES

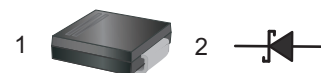
- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

### MECHANICAL DATA

- Case: SMC
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.22g / 0.0077oz

### PINNING

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



Top View  
Simplified outline SMC and symbol

### Absolute Maximum Ratings and Electrical characteristics

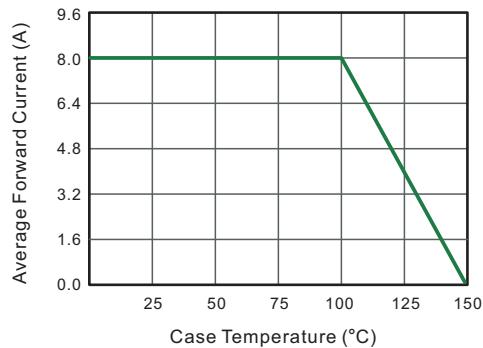
Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz resistive or inductive load, for capacitive load, derate by 20 %

| Parameter                                                                                                 | Symbols            | SS82       | SS84 | SS86 | SS88 | SS810 | SS812 | SS815 | SS820 | 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> | 8.0        |      |      |      |       |       |       |       | 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 8 A                                                                  | V <sub>F</sub>     | 0.45       | 0.55 | 0.70 |      | 0.85  |       |       | 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>     | 1.0<br>50  |      |      |      |       |       |       |       | mA    |
| Typical Junction Capacitance <sup>(1)</sup>                                                               | C <sub>j</sub>     | 600        |      | 400  |      |       |       |       |       | pF    |
| Typical Thermal Resistance <sup>(2)</sup>                                                                 | R <sub>θJA</sub>   | 35         |      |      |      |       |       |       |       | °C/W  |
| Operating Junction Temperature Range                                                                      | T <sub>j</sub>     | -55 ~ +150 |      |      |      |       |       |       |       | °C    |
| Storage Temperature Range                                                                                 | T <sub>stg</sub>   | -55 ~ +150 |      |      |      |       |       |       |       | °C    |

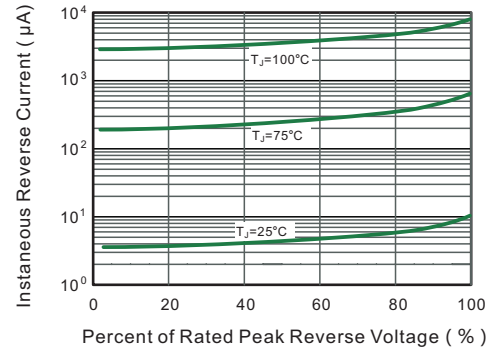
( 1 ) Measured at 1 MHz and applied reverse voltage of 4 V D.C

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

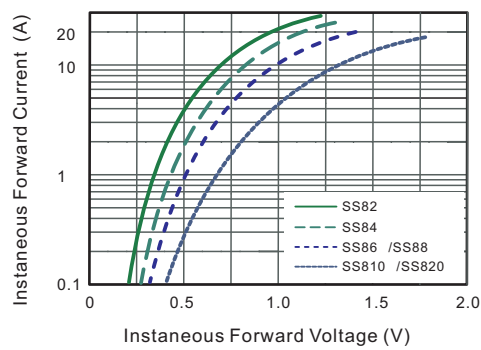
**Fig.1 Forward Current Derating Curve**



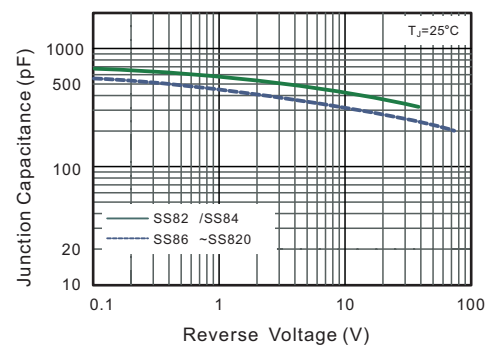
**Fig.2 Typical Reverse Characteristics**



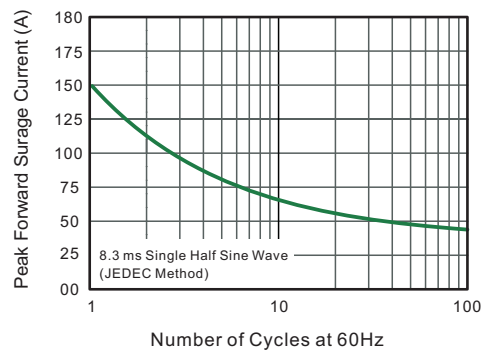
**Fig.3 Typical Forward Characteristic**



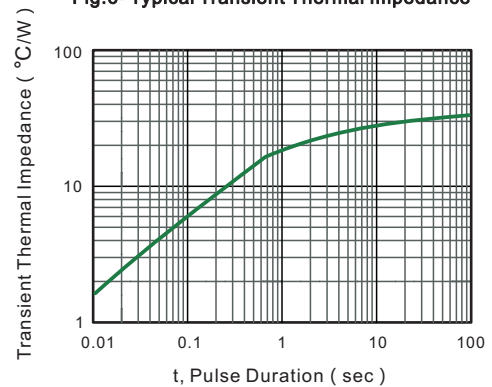
**Fig.4 Typical Junction Capacitance**



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



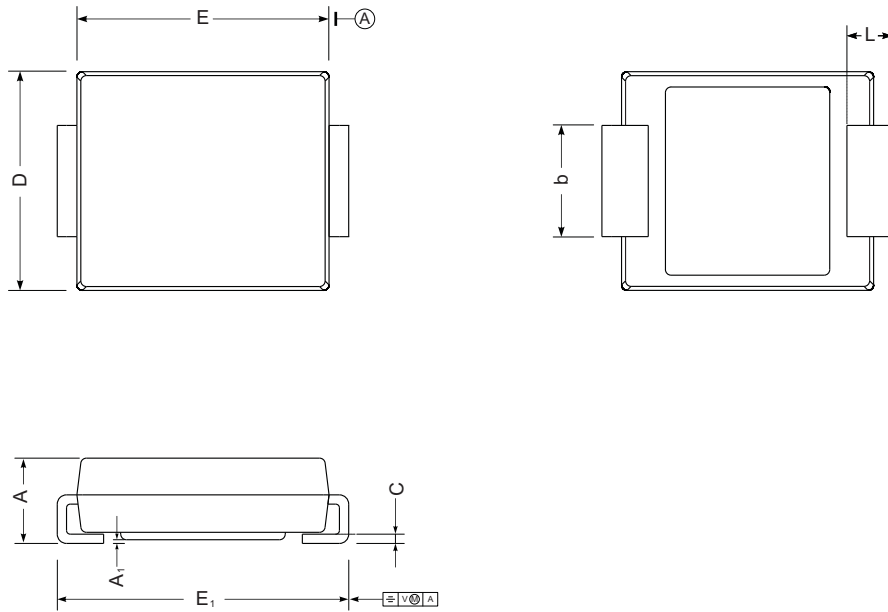
**Fig.6- Typical Transient Thermal Impedance**



## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

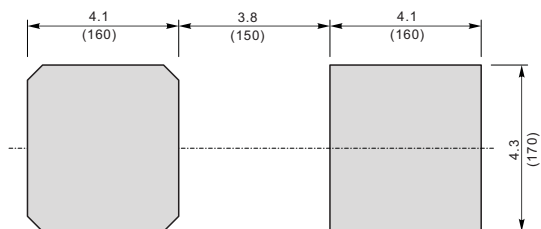
SMC



SMC mechanical data

| UNIT |     | A    | E   | D   | E <sub>1</sub> | A <sub>1</sub> | C    | L   | b    |
|------|-----|------|-----|-----|----------------|----------------|------|-----|------|
| mm   | max | 2.62 | 7.0 | 6.2 | 8.0            | 0.21           | 0.31 | 1.6 | 3.25 |
|      | min | 2.00 | 6.5 | 5.6 | 7.6            | 0.05           | 0.15 | 0.9 | 2.75 |
| mil  | max | 103  | 276 | 244 | 315            | 8.3            | 12   | 63  | 128  |
|      | min | 79   | 256 | 220 | 299            | 2.0            | 5.9  | 35  | 108  |

## The recommended mounting pad size



Unit :  $\frac{\text{mm}}{(\text{mil})}$