



## Surface Mount Fast Recovery Rectifiers

Reverse Voltage - 50 to 1000 V

Forward Current - 5 A

### FEATURES

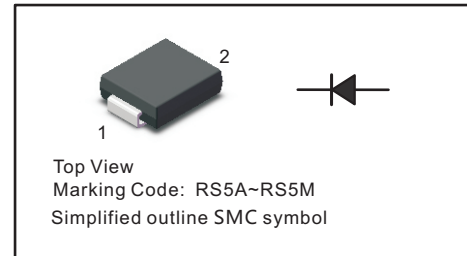
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Fast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

### 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       |



### Absolute Maximum Ratings and Characteristics

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

| Parameter                                                                                                      | Symbols                              | RS5AC      | RS5BC | RS5DC | RS5GC | RS5JC | RS5KC | RS5MC | Units |
|----------------------------------------------------------------------------------------------------------------|--------------------------------------|------------|-------|-------|-------|-------|-------|-------|-------|
| Maximum Repetitive Peak Reverse Voltage                                                                        | V <sub>RRM</sub>                     | 50         | 100   | 200   | 400   | 600   | 800   | 1000  | V     |
| Maximum RMS voltage                                                                                            | V <sub>RMS</sub>                     | 35         | 70    | 140   | 280   | 420   | 560   | 700   | V     |
| Maximum DC Blocking Voltage                                                                                    | V <sub>DC</sub>                      | 50         | 100   | 200   | 400   | 600   | 800   | 1000  | V     |
| Maximum Average Forward Rectified Current                                                                      | I <sub>F(AV)</sub>                   | 5          |       |       |       |       |       |       | A     |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load                             | I <sub>FSM</sub>                     | 120        |       |       |       |       |       |       | A     |
| Maximum Forward Voltage at 5 A                                                                                 | V <sub>F</sub>                       | 1.3        |       |       |       |       |       |       | V     |
| Maximum DC Reverse Current<br>T <sub>a</sub> = 25 °C<br>at Rated DC Blocking Voltage<br>T <sub>a</sub> =125 °C | I <sub>R</sub>                       | 5<br>100   |       |       |       |       |       |       | μA    |
| Typical Junction Capacitance<br>at V <sub>R</sub> =4V, f=1MHz                                                  | C <sub>j</sub>                       | 50         |       |       |       |       |       |       | pF    |
| Maximum Reverse Recovery Time <sup>(1)</sup>                                                                   | t <sub>rr</sub>                      | 150        |       |       |       | 250   | 500   |       | ns    |
| Typical Thermal Resistance <sup>(2)</sup>                                                                      | R <sub>θJA</sub><br>R <sub>θJC</sub> | 35<br>13   |       |       |       |       |       |       | °C/W  |
| Operating and Storage Temperature Range                                                                        | T <sub>j</sub> , T <sub>stg</sub>    | -55 ~ +150 |       |       |       |       |       |       | °C    |

(1) Measured with  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $t_{rr} = 0.25\text{ A}$ .

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



Fig.1 Forward Current Derating Curve

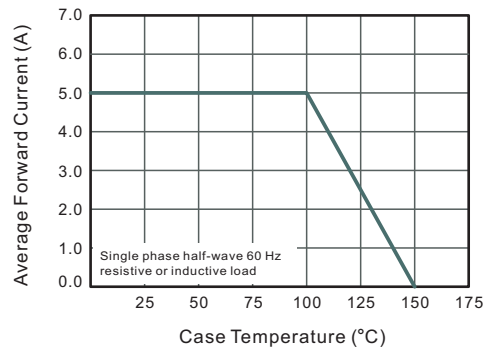


Fig.2 Typical Reverse Characteristics

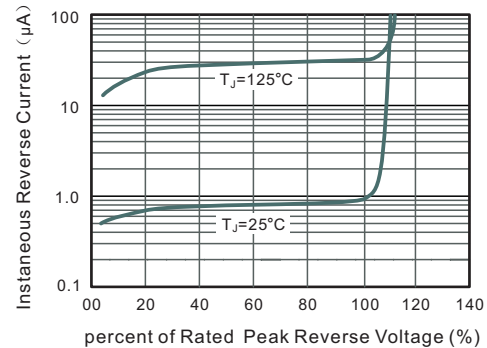


Fig.3 Typical Instantaneous Forward Characteristics

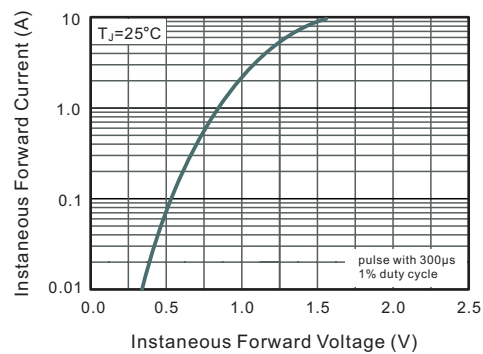


Fig.4 Typical Junction Capacitance

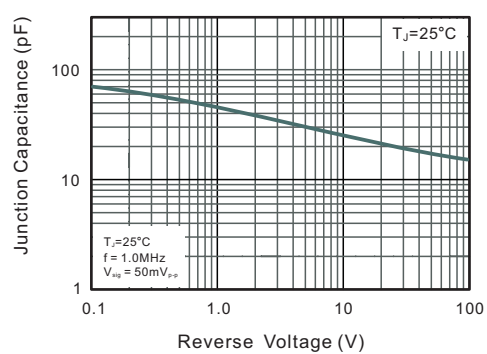
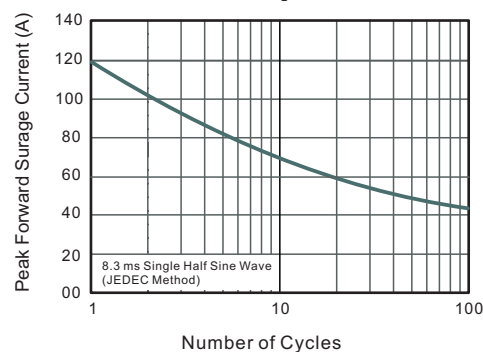


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

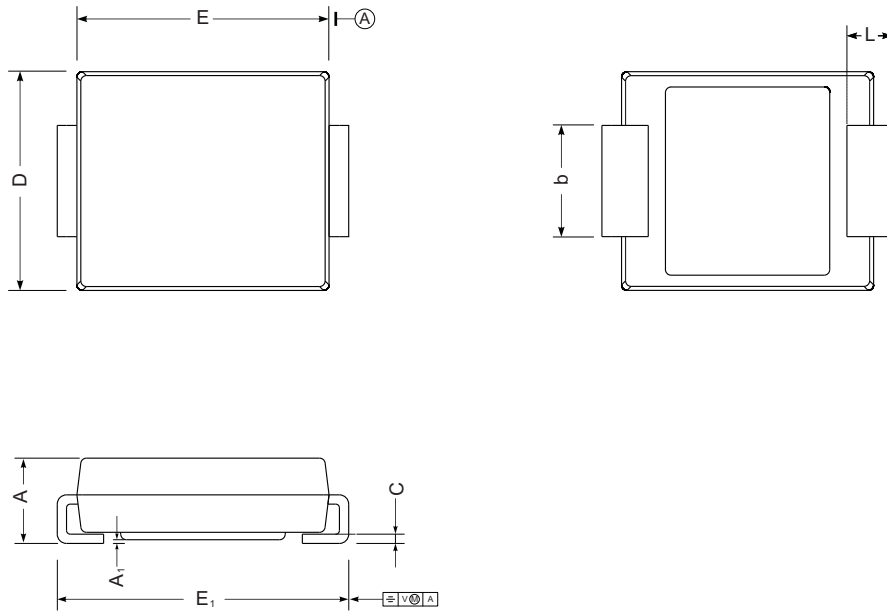




## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

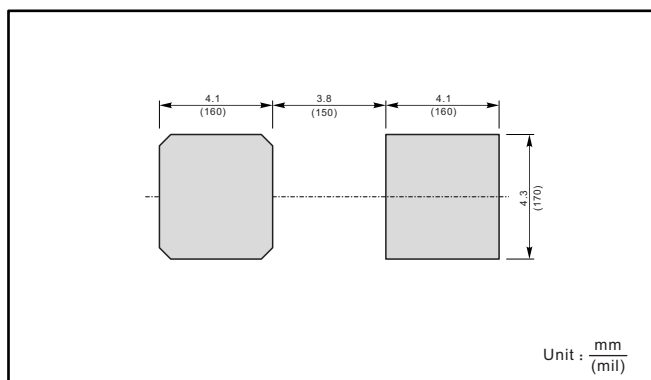
SMC



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



## Marking

| Type number | Marking code |
|-------------|--------------|
| RS5AC       | RS5A         |
| RS5BC       | RS5B         |
| RS5DC       | RS5D         |
| RS5GC       | RS5G         |
| RS5JC       | RS5J         |
| RS5KC       | RS5K         |
| RS5MC       | RS5M         |