

## Surface Mount Fast Recovery Rectifiers

Reverse Voltage - 50 to 1000 V Forward Current - 3 A

### FEATURES

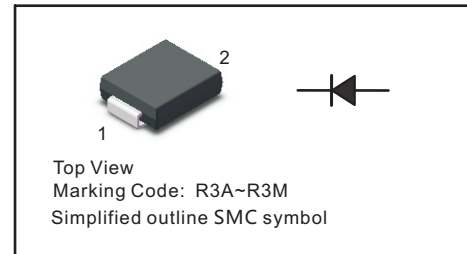
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Fast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

### 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

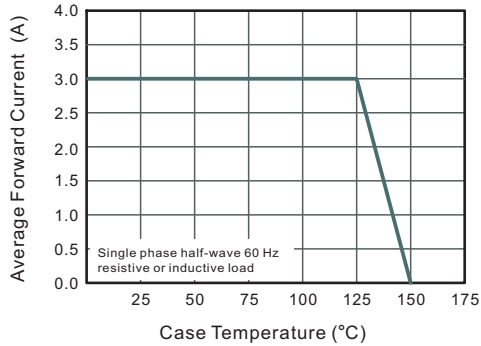
Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

| Parameter  | Symbols                            | RS3ACG     | RS3BCG | RS3DCG | RS3GCG | RS3JCG | RS3KCG | RS3MCG | 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  | $I_{F(AV)}$                        | 3          |        |        |        |        |        |        | A                  |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load   | $I_{FSM}$                          | 90         |        |        |        |        |        |        | A                  |
| Maximum Forward Voltage at 3 A   | $V_F$                              | 1.3        |        |        |        |        |        |        | V                  |
| Maximum DC Reverse Current at Rated DC Blocking Voltage<br>$T_a = 25\text{ }^\circ\text{C}$<br>$T_a = 125\text{ }^\circ\text{C}$ | $I_R$                              | 5<br>100   |        |        |        |        |        |        | $\mu\text{A}$      |
| Typical Junction Capacitance at $V_R=4\text{V}$ , $f=1\text{MHz}$  | $C_j$                              | 40         |        |        |        |        |        |        | pF                 |
| Maximum Reverse Recovery Time <sup>(1)</sup>   | $t_{rr}$                           | 150        |        |        |        | 250    | 500    |        | ns                 |
| Typical Thermal Resistance <sup>(2)</sup>  | $R_{\theta JA}$<br>$R_{\theta JC}$ | 45<br>15   |        |        |        |        |        |        | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range  | $T_j, T_{stg}$                     | -55 ~ +150 |        |        |        |        |        |        | $^\circ\text{C}$   |

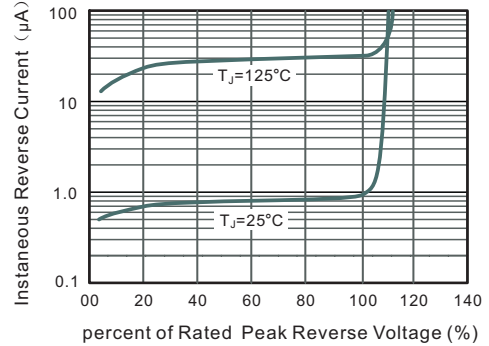
( 1 ) Measured with  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$ .

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

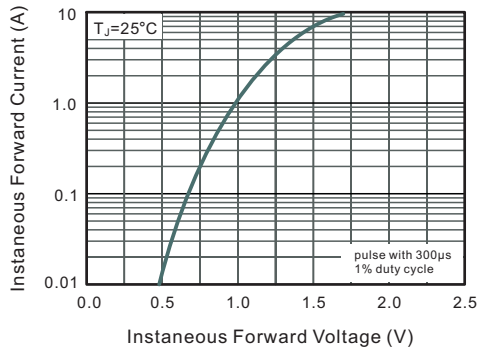
**Fig.1 Maximum Average Forward Current Rating**



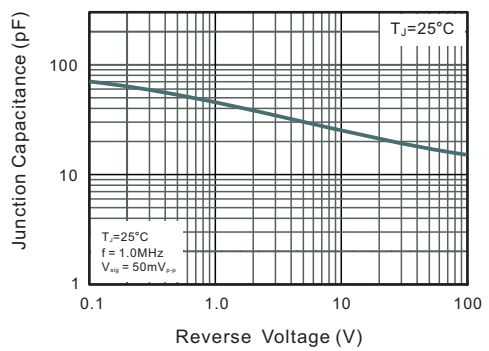
**Fig.2 Typical Reverse Characteristics**



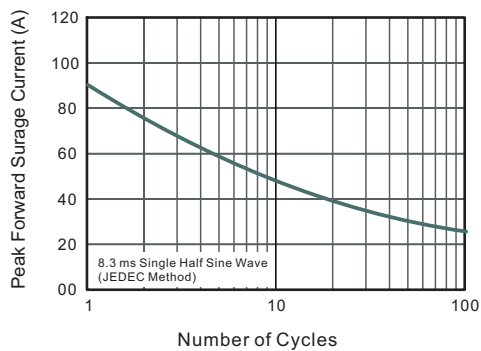
**Fig.3 Typical Instantaneous Forward Characteristics**



**Fig.4 Typical Junction Capacitance**



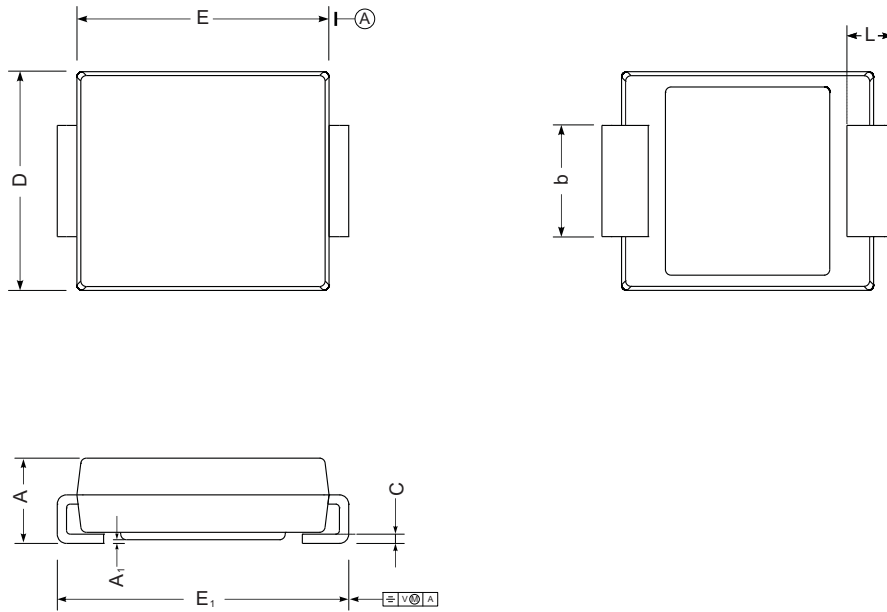
**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

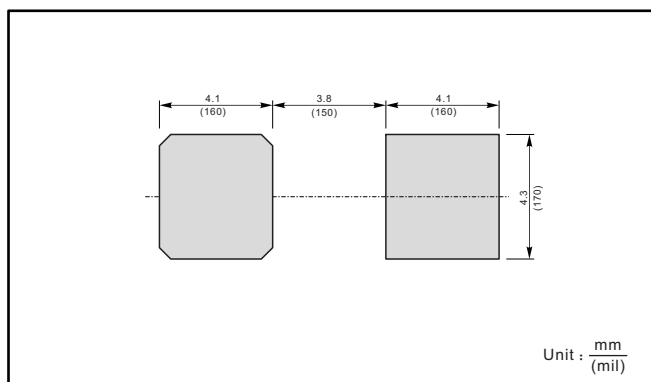
SMC



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 |
|-------------|--------------|
| RS3ACG      | RS3A         |
| RS3BCG      | RS3B         |
| RS3DCG      | RS3D         |
| RS3GCG      | RS3G         |
| RS3JCG      | RS3J         |
| RS3KCG      | RS3K         |
| RS3MCG      | RS3M         |