

# RS3AC-AT THRU RS3MC-AT

## Surface Mount Fast Recovery Rectifiers

Reverse Voltage - 50 to 1000 V

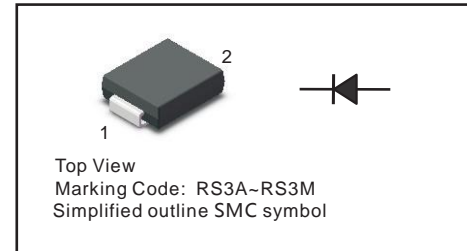
Forward Current - 3A

### 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

### PINNING

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



### MECHANICAL DATA

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

### 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                            | RS3AC<br>-AT | RS3BC<br>-AT | RS3DC<br>-AT | RS3GC<br>-AT | RS3JC<br>-AT | RS3KC<br>-AT | RS3MC<br>-AT | 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 3A  | $V_F$                              | 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  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$ .

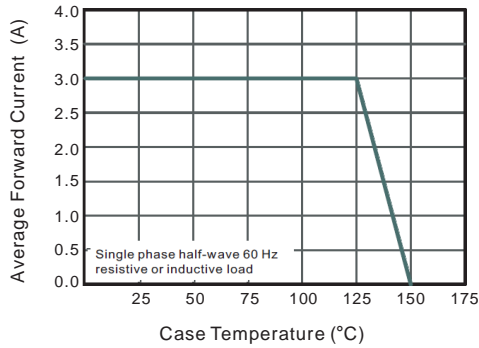
(2) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

Dated:01/2017  
Rev: 1.0

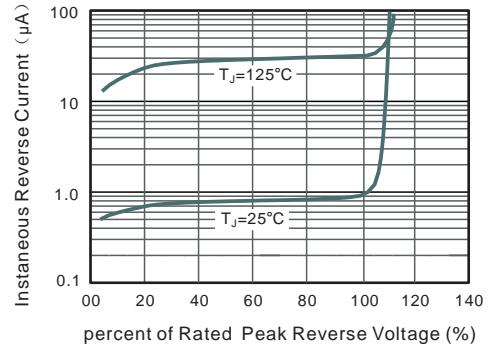
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## RATINGS AND CHARACTERISTIC CURVES

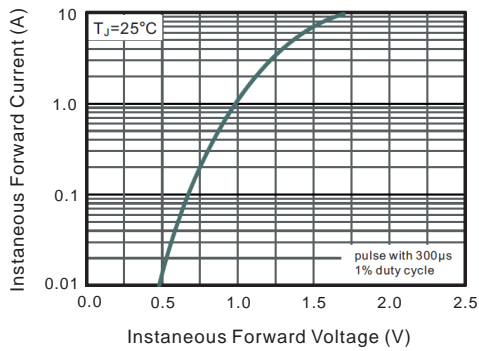
**Fig.1 Maximum Average Forward Current Rating**



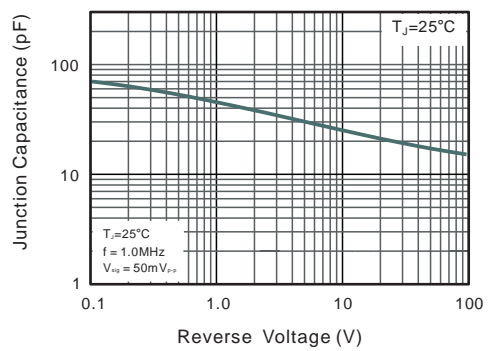
**Fig.2 Typical Reverse Characteristics**



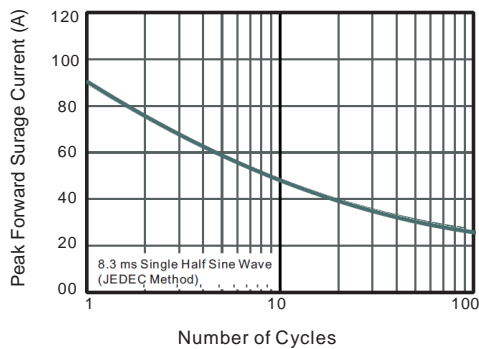
**Fig.3 Typical Instantaneous Forward Characteristics**



**Fig.4 Typical Junction Capacitance**



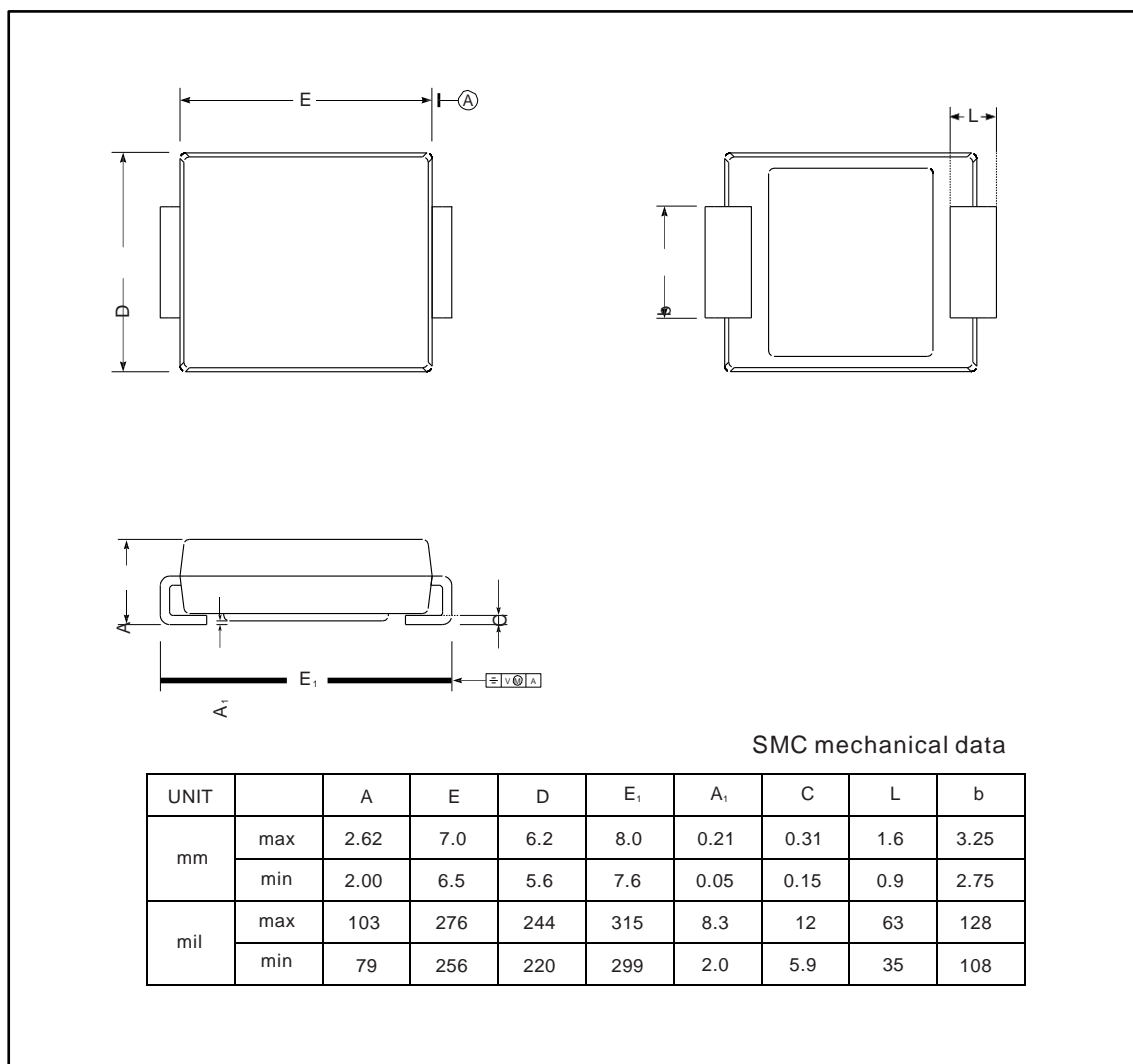
**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



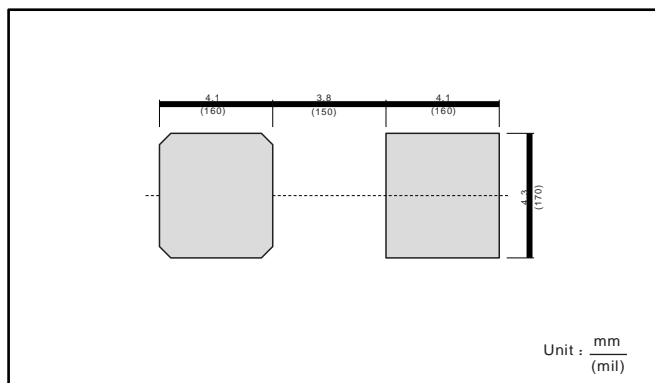
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## PACKAGE OUTLINE

SMC



### The recommended mounting pad size



### Marking

| Type number | Marking code |
|-------------|--------------|
| RS3AC-AT    | RS3A         |
| RS3BC-AT    | RS3B         |
| RS3DC-AT    | RS3D         |
| RS3GC-AT    | RS3G         |
| RS3JC-AT    | RS3J         |
| RS3KC-AT    | RS3K         |
| RS3MC-AT    | RS3M         |