

Surface Mount Fast Recovery Rectifiers

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

FEATURES

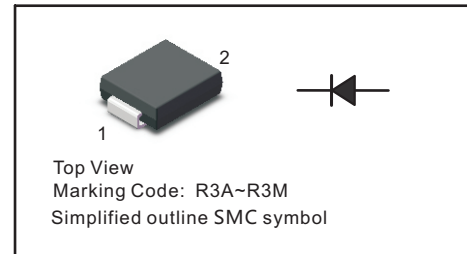
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Fast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

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 $T_a = 25\text{ }^\circ\text{C}$ $T_a = 125\text{ }^\circ\text{C}$ | I_R | 5 100 | | | | | | | μA |
| Typical Junction Capacitance at $V_R=4\text{V}$, $f=1\text{MHz}$ | C_j | 40 | | | | | | | pF |
| Maximum Reverse Recovery Time ⁽¹⁾ | t_{rr} | 150 | | | | 250 | 500 | | ns |
| Typical Thermal Resistance ⁽²⁾ | $R_{\theta JA}$ $R_{\theta JC}$ | 45 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

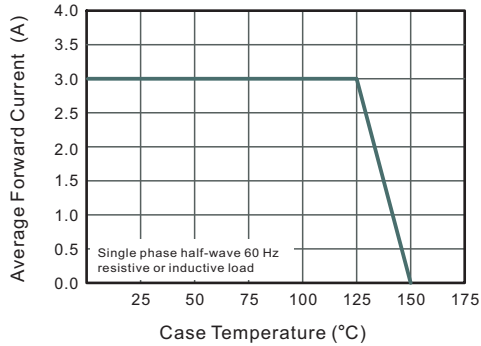


Fig.2 Typical Reverse Characteristics

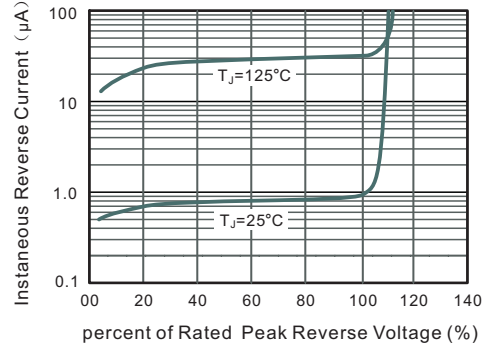


Fig.3 Typical Instantaneous Forward Characteristics

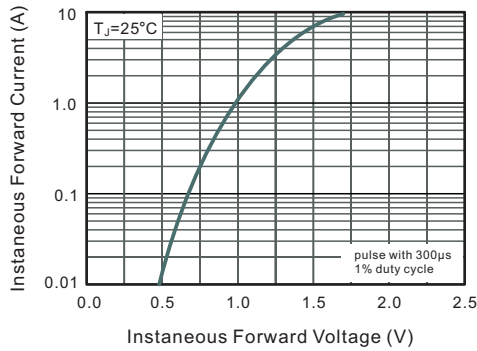


Fig.4 Typical Junction Capacitance

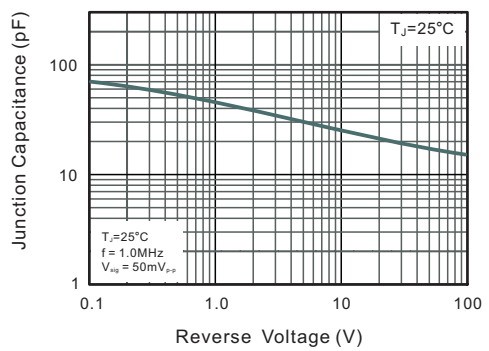
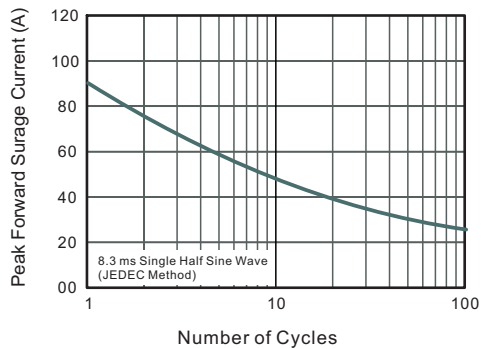


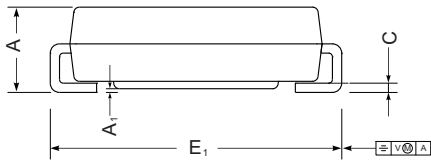
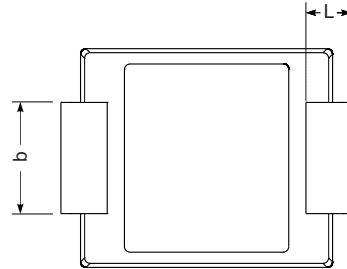
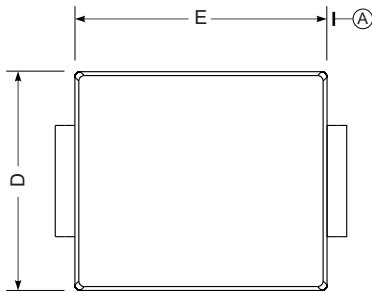
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

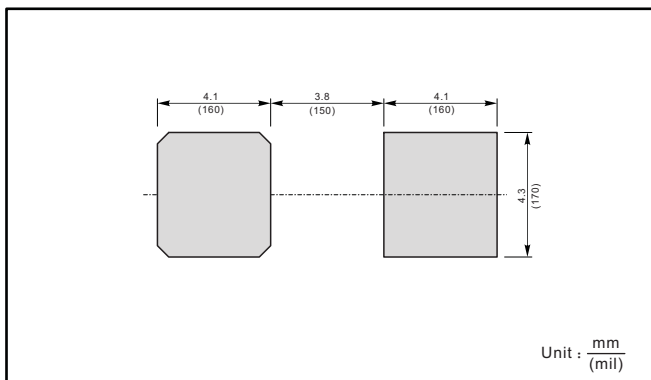
SMC



SMC mechanical data

| UNIT | | A | E | D | E ₁ | A ₁ | 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 |

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