



RS1A THRU RS1M

Surface Mount Fast Recovery Rectifiers

FEATURES

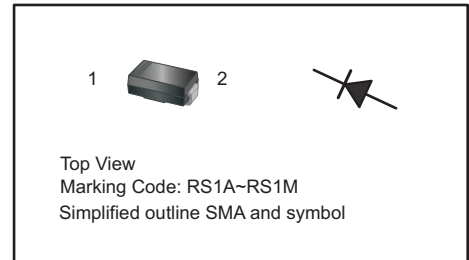
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Fast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- Case: SMA
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.055g / 0.002oz

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 | RS1A | RS1B | RS1D | RS1G | RS1J | RS1K | RS1M | 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 at T _F 125 °C | I _{F(AV)} | 1 | | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load | I _{FSM} | 30 | | | | | | | A |
| Maximum Forward Voltage at 1 A | V _F | 1.3 | | | | | | | V |
| Maximum DC Reverse Current T _a = 25 °C at Rated DC Blocking Voltage T _a =125 °C | I _R | 5 50 | | | | | | | μA |
| Typical Junction Capacitance at V _R =4V, f=1MHz | C _j | 15 | | | | | | | pF |
| Maximum Reverse Recovery Time ^(1) | t _{rr} | 150 | | | | 250 | 500 | | ns |
| Typical Thermal Resistance ^(2) | R _{θJA} | 75 | | | | | | | °C/W |
| Operating and Storage Temperature Range | T _j T _{stg} | -55 ~ +150 | | | | | | | °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 1.0 X 1.0" (2.54 X 2.54 cm) copper pad areas.



Fig.1 Forward Current Derating Curve

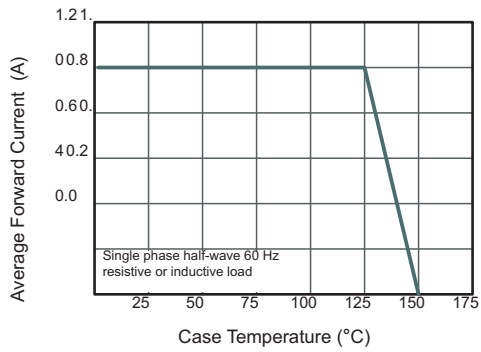


Fig.2 Typical Reverse Characteristics

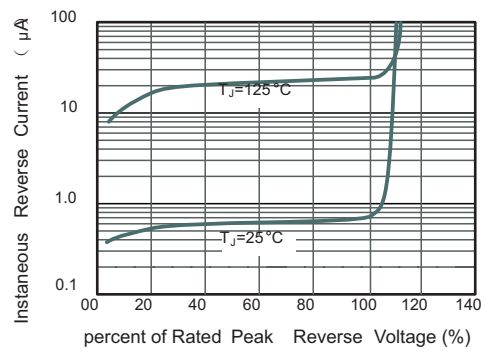


Fig.3 Typical Instantaneous Forward Characteristics

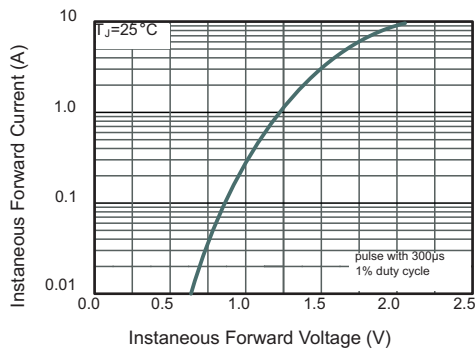


Fig.4 Typical Junction Capacitance

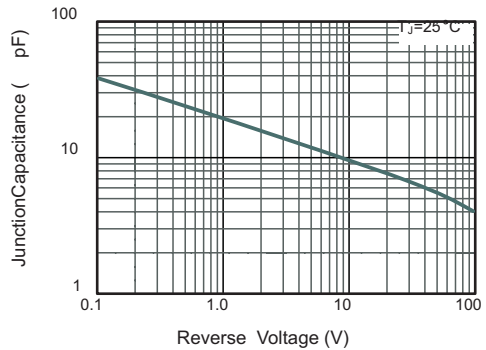
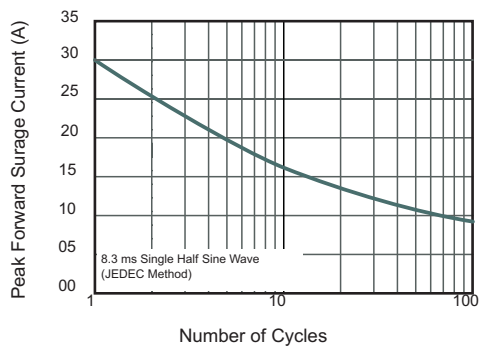


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current





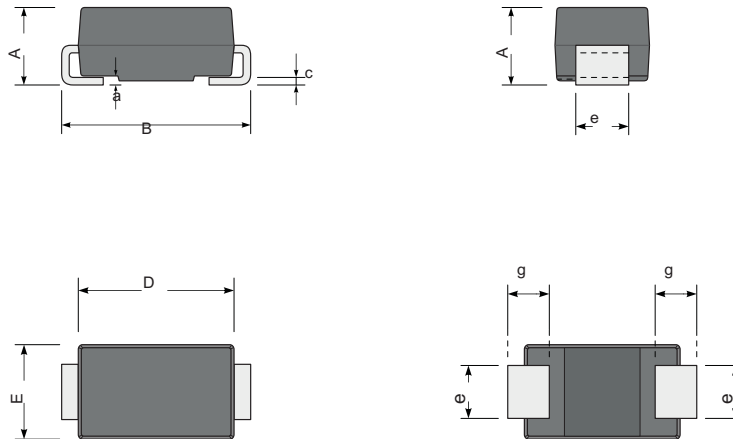
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PACKAGE OUTLINE

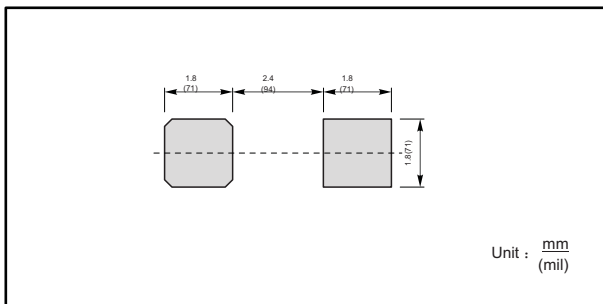
Plastic surface mounted package; 2 leads

SMA



| UNIT | | A | D | E | B | c | e | g | a |
|------|-----|-----|-----|-----|-----|------|-----|-----|-----|
| mm | max | 2.2 | 4.5 | 2.8 | 5.3 | 0.31 | 1.6 | 1.5 | 0.3 |
| | min | 1.9 | 4.0 | 2.4 | 4.8 | 0.15 | 1.3 | 0.9 | |
| mil | max | 87 | 181 | 110 | 209 | 12 | 63 | 59 | 12 |
| | min | 75 | 157 | 94 | 189 | 6 | 51 | 35 | |

The recommended mounting pad size



Marking

| Type number | Marking code |
|-------------|--------------|
| RS1A | RS1A |
| RS1B | RS1B |
| RS1D | RS1D |
| RS1G | RS1G |
| RS1J | RS1J |
| RS1K | RS1K |
| RS1M | RS1M |