



# RS1A THRU RS1M

## Surface Mount Fast Recovery Rectifiers

Reverse Voltage - 50 to 1000 V

Forward Current - 1 A

### FEATURES

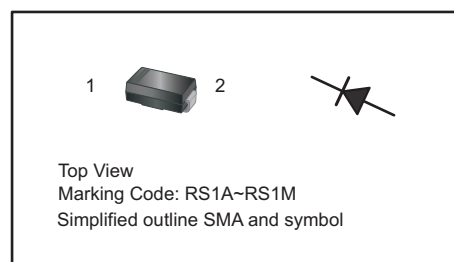
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Fast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

### MECHANICAL DATA

- Case: 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 <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 at T <sub>a</sub> 125 °C	I <sub>F(AV)</sub>	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I <sub>FSM</sub>	30							A
Maximum Forward Voltage at 1 A	V <sub>F</sub>	1.3							V
Maximum DC Reverse Current    T <sub>a</sub> = 25 °C at Rated DC Blocking Voltage    T <sub>a</sub> =125 °C	I <sub>R</sub>	5 50							μA
Typical Junction Capacitance at V <sub>R</sub> =4V, f=1MHz	C <sub>j</sub>	15							pF
Maximum Reverse Recovery Time    ( 1 )	t <sub>rr</sub>	150				250	500		ns
Typical Thermal Resistance    ( 2 )	R <sub>θJA</sub>	75							°C/W
Operating and Storage Temperature Range	T <sub>j</sub> T <sub>stg</sub>	-55 ~ +150							°C

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

(2) P.C.B. mounted with 1.0 X 1.0" (2.54 X 2.54 cm) copper pad areas.

## Rating and Characteristic Curves ( $T_A = 25^{\circ}\text{C}$ Unless otherwise noted )

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Fig.1 Forward Current Derating Curve

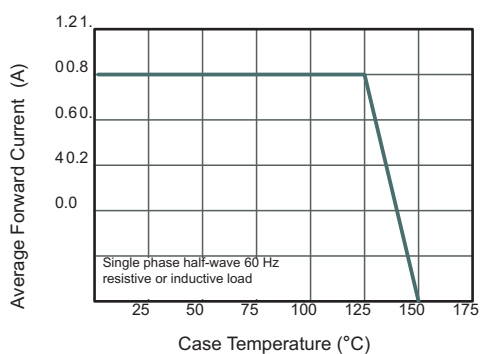


Fig.2 Typical Reverse Characteristics

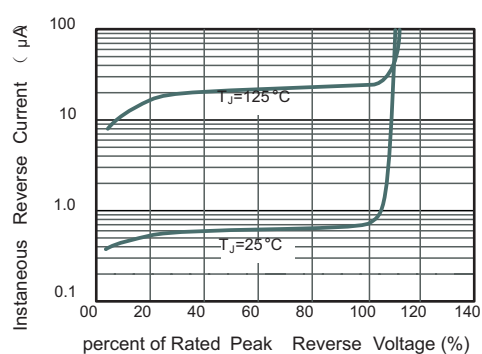


Fig.3 Typical Instantaneous Forward Characteristics

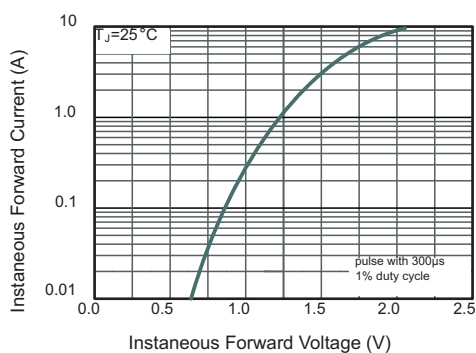


Fig.4 Typical Junction Capacitance

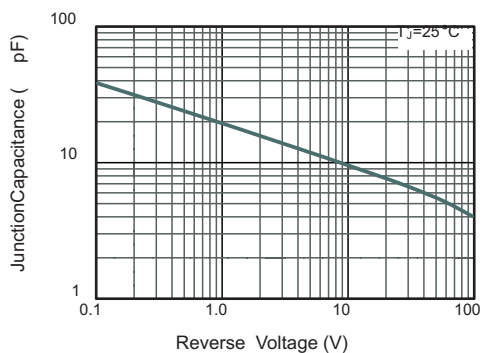
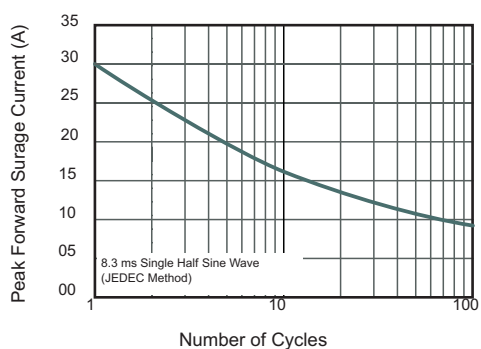


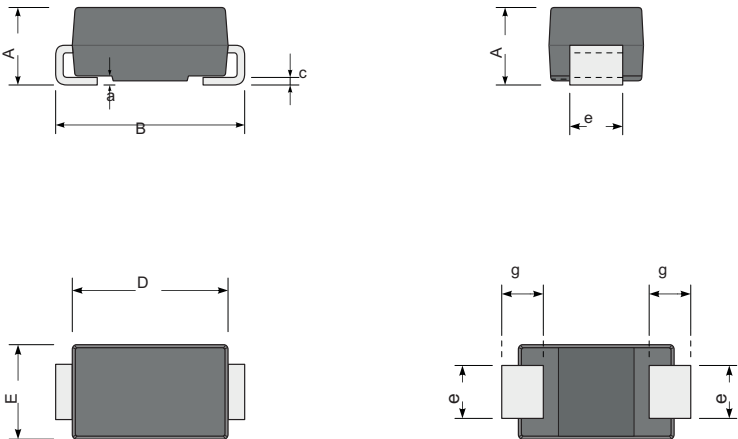
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



PACKAGE OUTLINE

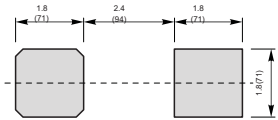
Plastic surface mounted package; 2 leads

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



Unit :  $\frac{\text{mm}}{\text{(mil)}}$

Marking

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