



Surface Mount Fast Recovery Rectifiers

Reverse Voltage - 50 to 1000 V

Forward Current - 1 A

FEATURES

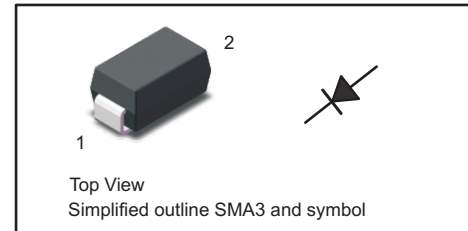
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Fast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- Case: SMA3
- 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 ASA	RS1B ASA	RS1D ASA	RS1G ASA	RS1J ASA	RS1K ASA	RS1M ASA	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 @ Fig.1	$I_{F(AV)}$	1							A	
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	25							A	
Peak Forward Surge Current,1.0ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	50							A	
I^2t Rating for fusing (3ms≤t≤8.3ms)	I^2t	2.6							A ² S	
Max Instantaneous Forward Voltage at 1 A	V_F	1.3							V	
Maximum DC Reverse Current at Rated DC Reverse Voltage $T_a = 25^\circ\text{C}$ $T_a = 125^\circ\text{C}$	I_R	5 100							μA	
Typical Junction Capacitance ⁽¹⁾	C_j	6							pF	
Maximum Reverse Recovery Time ⁽²⁾	t_{rr}	150				250		500		ns
Typical Thermal Resistance ⁽³⁾	$R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JL}$	100 20 25							°C/W	
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							°C	

(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

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

(3) P.C.B. mounted with 0.2" X 0.2" (5 X 5 mm) copper pad areas.



Fig.1 Forward Current Derating Curve

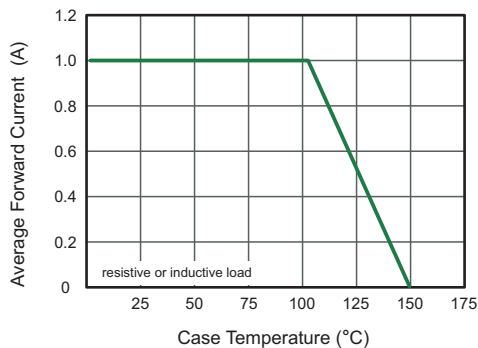


Fig.2 Typical Reverse Characteristics

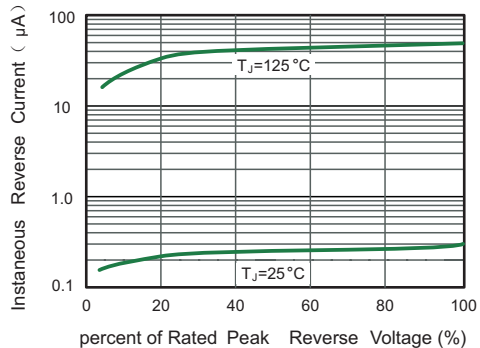


Fig.3 Typical Instantaneous Forward Characteristics

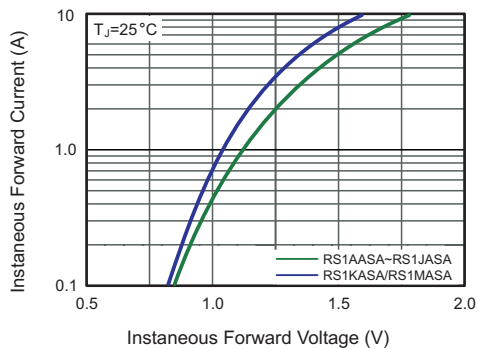


Fig.4 Typical Junction Capacitance

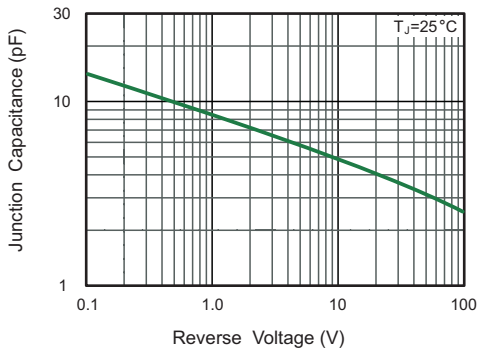
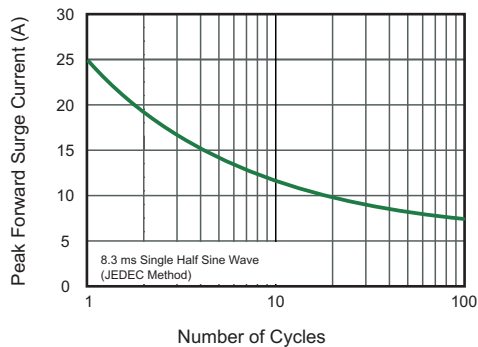


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

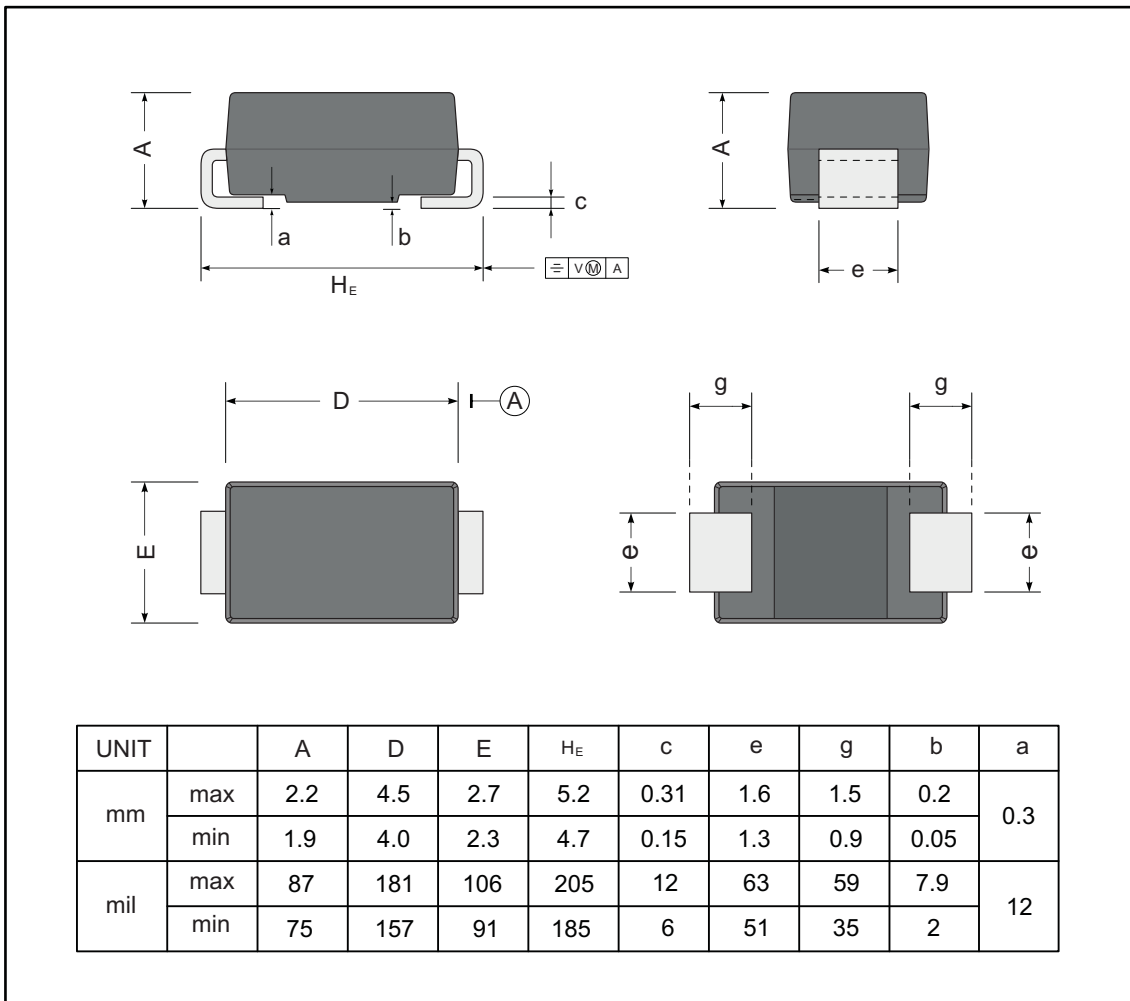




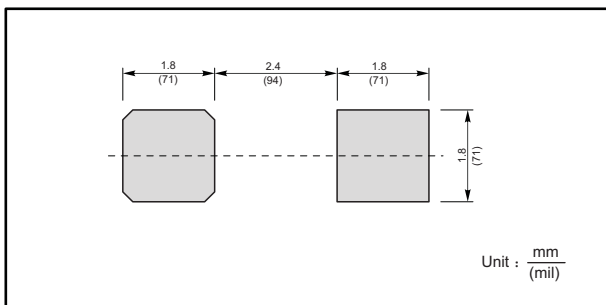
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SMA3



The recommended mounting pad size



Marking

Type number	Marking code
RS1AASA	RS1AA
RS1BASA	RS1BA
RS1DASA	RS1DA
RS1GASA	RS1GA
RS1JASA	RS1JA
RS1KASA	RS1KA
RS1MASA	RS1MA



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