



Surface Mount Glass Passivated Fast Recovery Rectifier

Reverse Voltage -50~1000 V

Forward Current - 1.0A

FEATURES

- Low forward voltage drop
- Low leakage current
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- Case: SOD-123
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight:16mg/0.00056oz

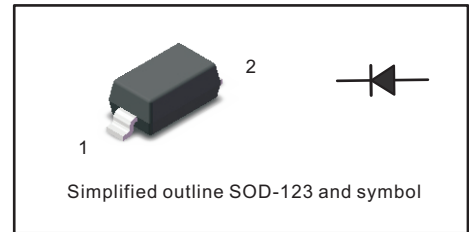
Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Parameter	Symbols	SGP1RW	SGP2RW	SGP3RW	SGP4RW	SGP5RW	SGP6RW	SGP7RW	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	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	15							A
Maximum Instantaneous Forward Voltage at 1 A	V_F	1.3							V
Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125\text{ }^\circ\text{C}$	I_R	5 50							μA
Typical Thermal Resistance ⁽¹⁾	$R_{\theta JA}$	60							$^\circ\text{C/W}$
Typical reverse recovery time ⁽²⁾	t_{rr}	150				250	500		ns
Typical junction capacitance ⁽³⁾	C_j	5							pF
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							$^\circ\text{C}$

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

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

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



Fig.1 Forward Current Derating Curve

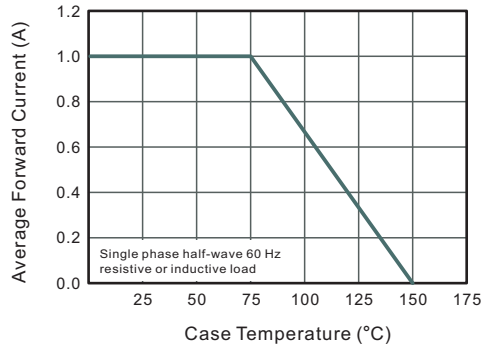


Fig.2 Typical Instantaneous Reverse Characteristics

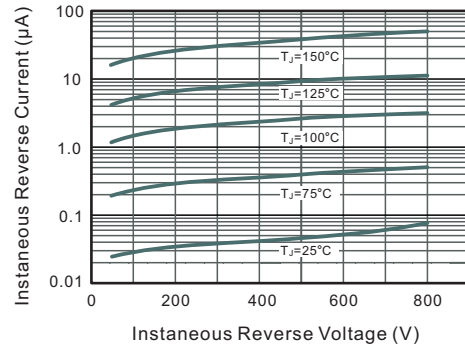


Fig.3 Typical Forward Characteristic

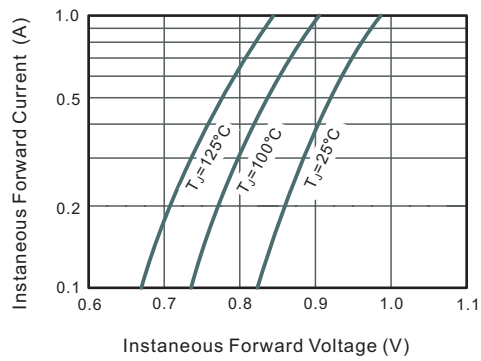


Fig.4 Typical Junction Capacitance

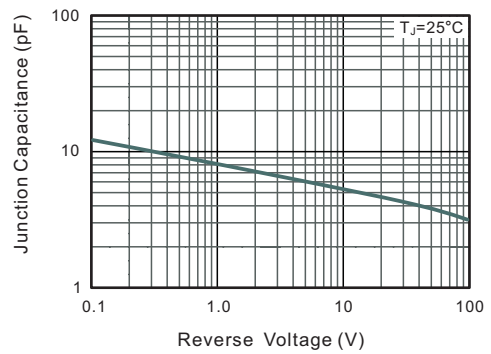
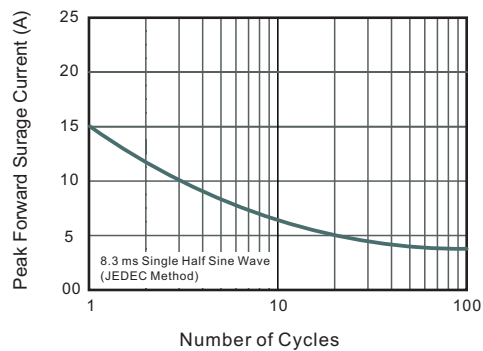


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

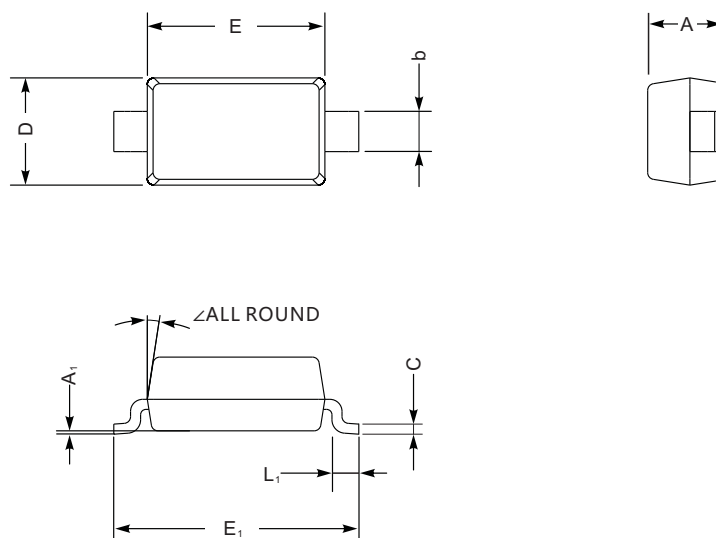




PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

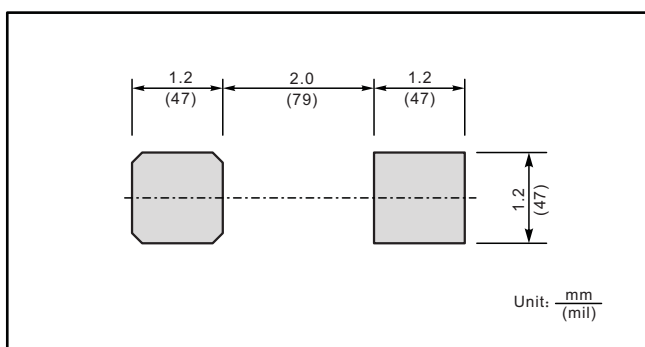
SOD-123



SOD-123 mechanical data

UNIT		A	C	D	E	E ₁	L ₁	b	A ₁	∠
mm	max	1.3	0.22	1.8	2.8	3.9	0.45	0.7	0.2	9°
	min	0.9	0.09	1.5	2.5	3.6	0.25	0.5	—	
mil	max	51	8.7	71	110	154	18	28	8	
	min	35	3.5	59	98	142	10	20	—	

The recommended mounting pad size



Marking

Type number	Marking code
SGP1RW	1R
SGP2RW	2R
SGP3RW	3R
SGP4RW	4R
SGP5RW	5R
SGP6RW	6R
SGP7RW	7R

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