

Surface Mount Fast Recovery Rectifiers

Parameter	Value	Unit
V_{RRM}	50~1000	V
$I_{F(AV)}$	1.0	A



SOD-123FL

Features

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Ideal for automated placement
- Fast reverse recovery time

Applications

- For use in fast-switching rectification in power supplies, inverters, converters, and as free-wheeling diodes in consumer and telecommunications applications.

Absolute Maximum Ratings and Characteristics (at $T_J = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	FR101L	FR102L	FR103L	FR104L	FR105L	FR106L	FR107L	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 $T_c = 125^\circ\text{C}$	$I_{F(AV)}$	1.0							A
Peak Forward Surge Current 8.3ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	30							A
Maximum Instantaneous Forward Voltage at 1A	V_F	1.3							V
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	5 100							μA
Maximum Reverse Recovery Time (1)	t_{rr}	150				250	500		ns
Typical Junction Capacitance	C_j	15							pF
Typical Thermal Resistance (2)	$R_{\theta JA}$	85							$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							$^\circ\text{C}$

Notes:

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 0.2 X 0.2" (5 X 5 mm) copper pad areas.

Typical characteristics

Fig.1 Forward Current Derating Curve

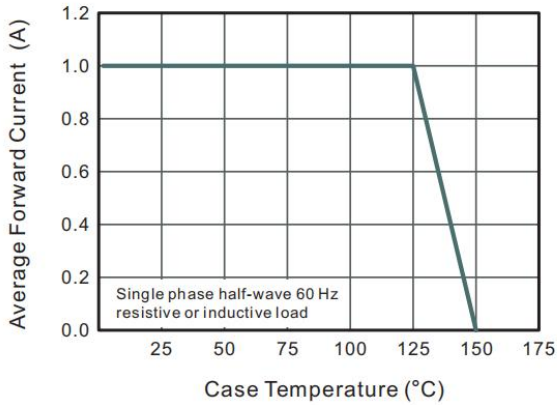


Fig.2 Typical Reverse Characteristics

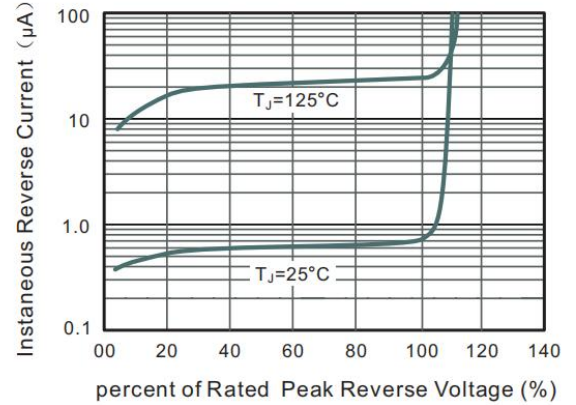


Fig.3 Typical Instantaneous Forward Characteristics

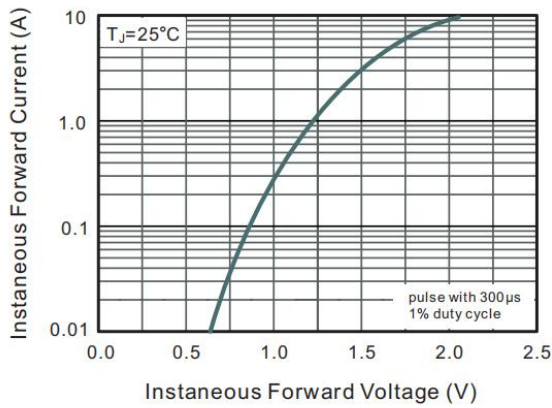


Fig.4 Typical Junction Capacitance

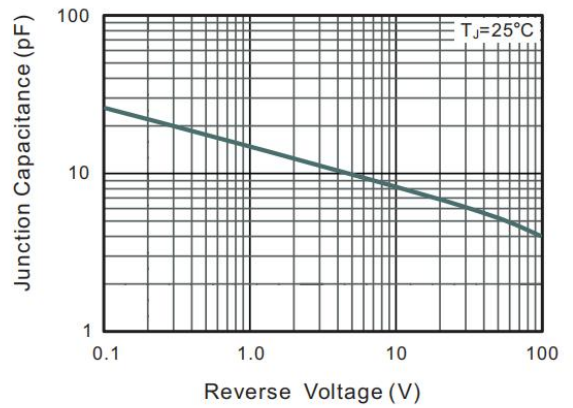
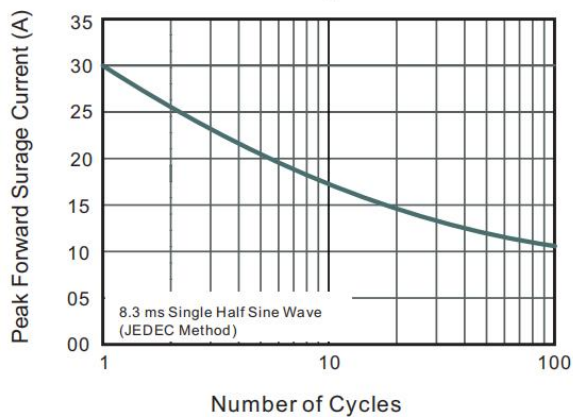


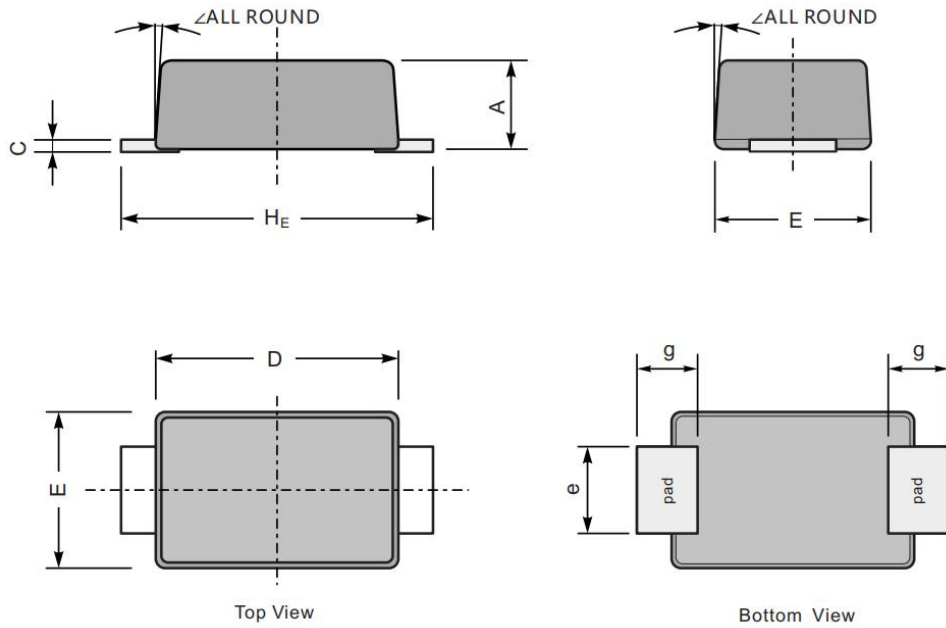
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



Package Outlines

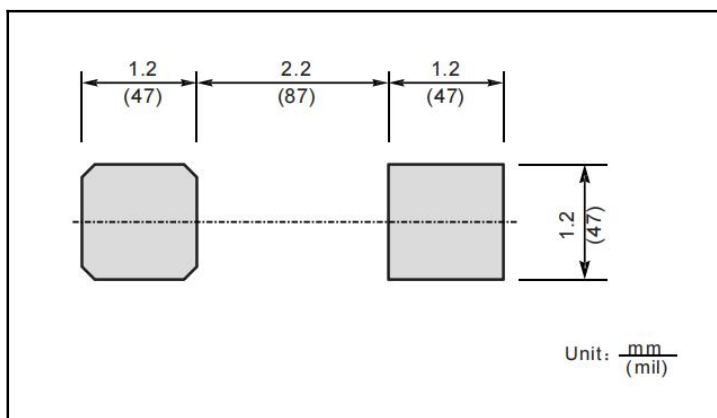
Plastic surface mounted package; 2 leads

SOD-123FL



UNIT		A	C	D	E	e	g	H_E	\angle
mm	max	1.15	0.20	2.9	1.9	1.2	0.9	3.8	5°
	min	0.95	0.12	2.6	1.7	0.9	0.7	3.5	
mil	max	45	7.9	114	75	47	35	150	
	min	37	4.7	102	67	35	28	138	

The recommended mounting pad size



Marking

Type number	Marking code
FR101L	F1
FR102L	F2
FR103L	F3
FR104L	F4
FR105L	F5
FR106L	F7
FR107L	F7

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