

Surface Mount Fast Recovery Rectifiers

Reverse Voltage - 50 to 1000 V

Forward Current - 1 A

FEATURES

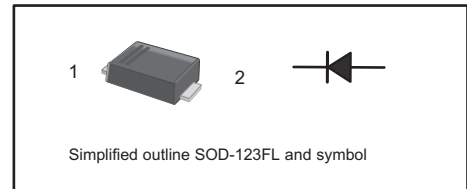
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Fast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- Case: SOD-123FL
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 15mg 0.00053oz

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	FR101W	FR102W	FR103W	FR104W	FR105W	FR106W	FR107W	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}	30							A	
Maximum Forward Voltage at 1 A	V_F	1.3							V	
Maximum DC Reverse Current at $V_R=4V$, $f=1MHz$ $T_a = 25\text{ }^\circ C$ $T_a = 125\text{ }^\circ C$	I_R	5 100							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⁾	$R_{\theta JA}$ $R_{\theta JC}$	115 25							$^\circ C/W$	
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							$^\circ C$	

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

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

Fig.1 Forward Current Derating Curve

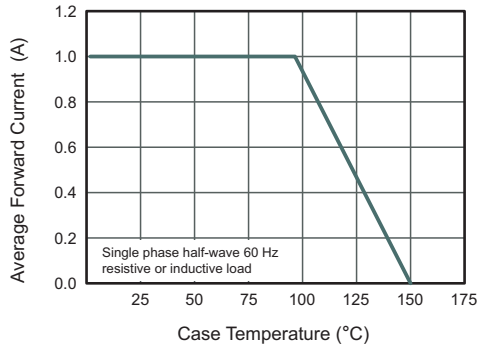


Fig.2 Typical Reverse Characteristics

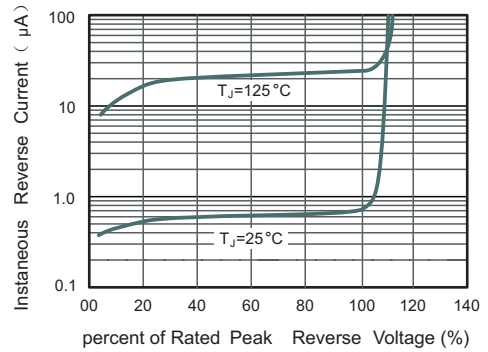


Fig.3 Typical Instantaneous Forward Characteristics

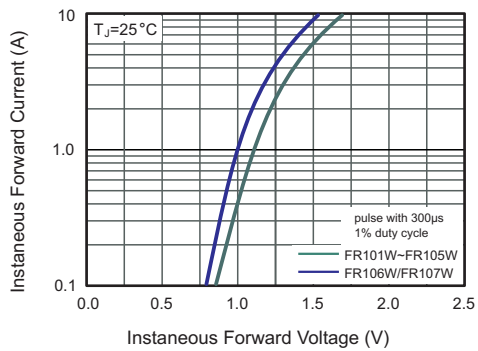


Fig.4 Typical Junction Capacitance

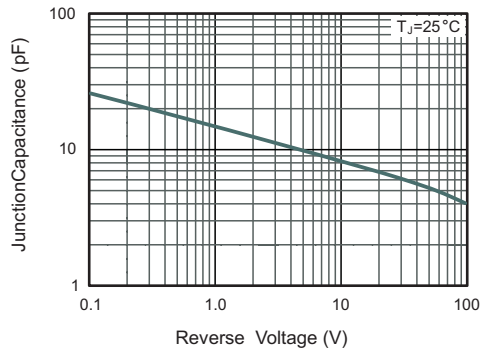
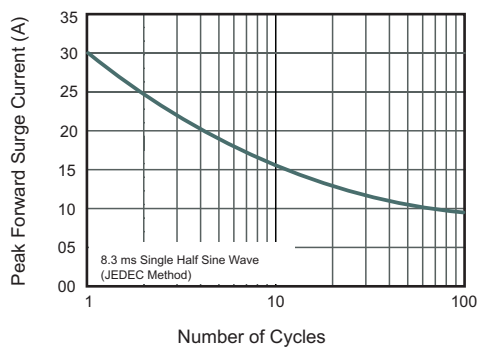


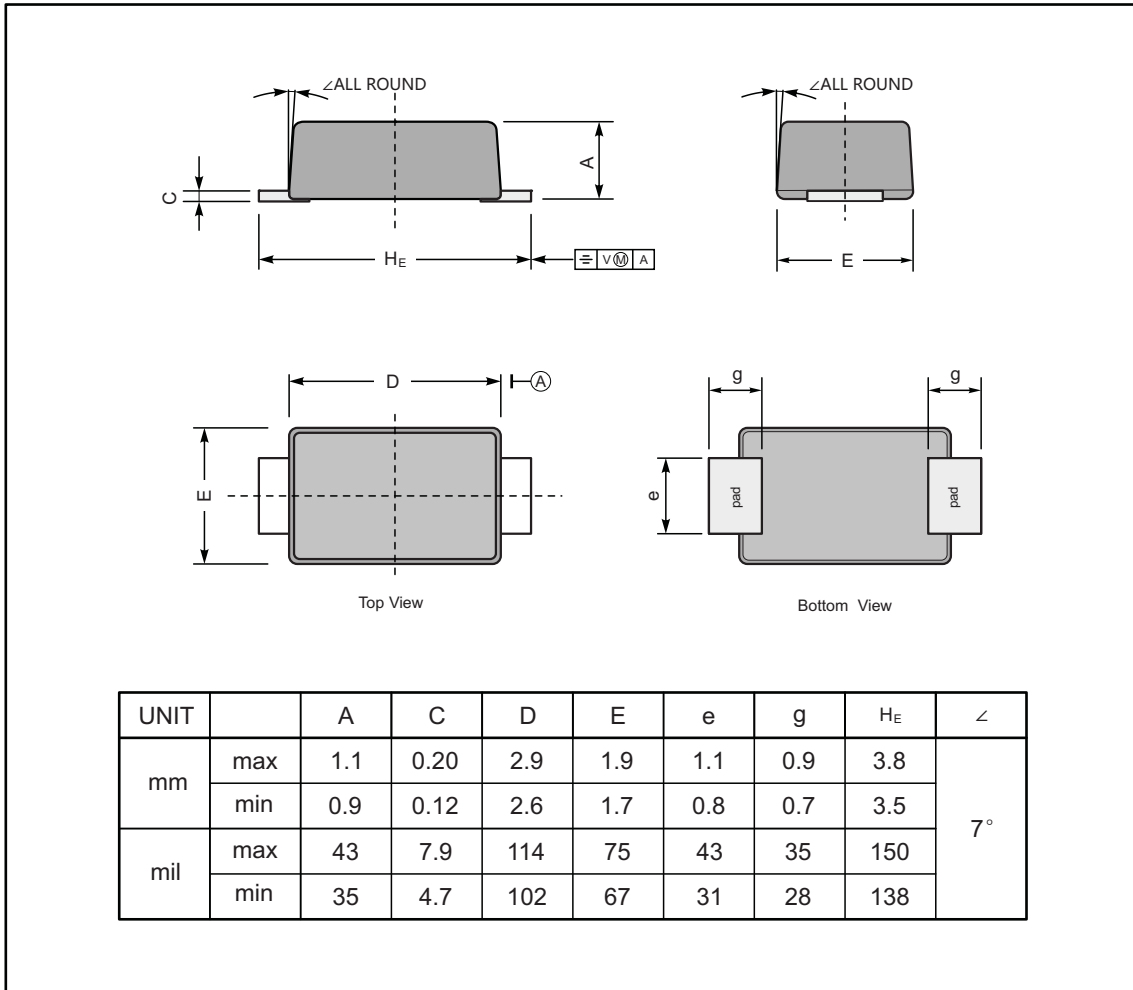
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



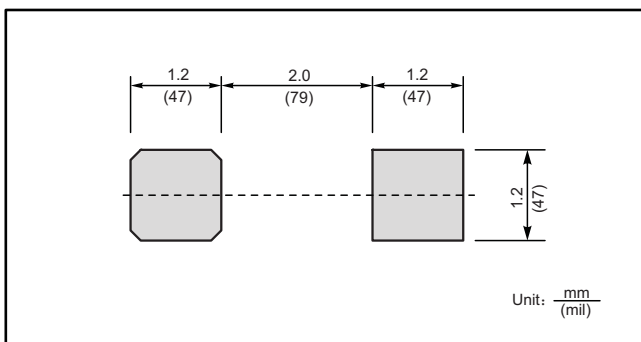
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-123FL



The recommended mounting pad size



Marking

Type number	Marking code
FR101W	F2
FR102W	
FR103W	
FR104W	
FR105W	F5
FR106W	F7
FR107W	