

# FR101W THRU FR107W

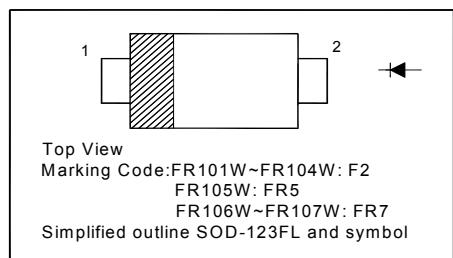
## Surface Mount Fast Recovery Rectifiers

Reverse Voltage - 50 to 1060 V

Forward Current - 1 A

### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



### Features

- Fast reverse recovery time
- For surface mounted applications

### Absolute Maximum Ratings and Characteristics

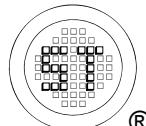
Ratings at 25°C ambient temperature unless otherwise specified.

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	1060	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	742	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1060	V
Maximum Average Forward Rectified Current at $T_a = 65^\circ\text{C}$	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	30							A
Maximum Instantaneous Forward Voltage at 1 A	$V_F$	1.3							V
Maximum DC Reverse Current $T_j = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_j = 125^\circ\text{C}$	$I_R$	5 50							$\mu\text{A}$
Maximum Reverse Recovery Time <sup>1)</sup>	$t_{rr}$	150			200	500	ns		
Typical Junction Capacitance at $V_R = 4 \text{ V}$ , $f = 1 \text{ MHz}$	$C_j$	15							pF
Typical Thermal Resistance <sup>2)</sup>	$R_{\theta JA}$	85							$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_j, T_{stg}$	- 55 to + 150							$^\circ\text{C}$

<sup>1)</sup> Measured with  $I_F = 0.5 \text{ A}$ ,  $I_R = 1 \text{ A}$ ,  $I_{rr} = 0.25 \text{ A}$

<sup>2)</sup> P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.



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## Electrical Characteristics Curves

Fig.1 Forward Current Derating Curve

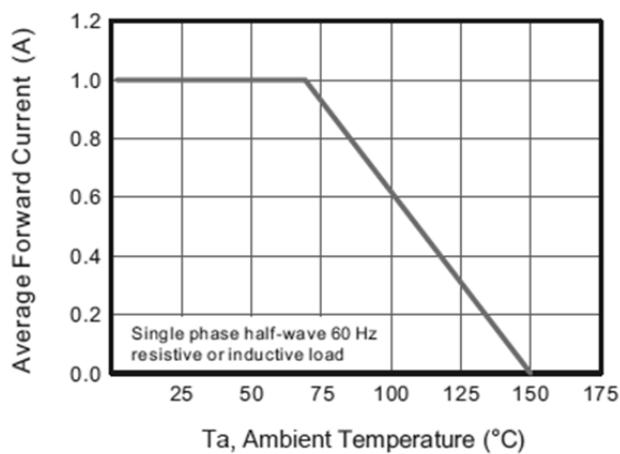


Fig.2 Typical Reverse Characteristics

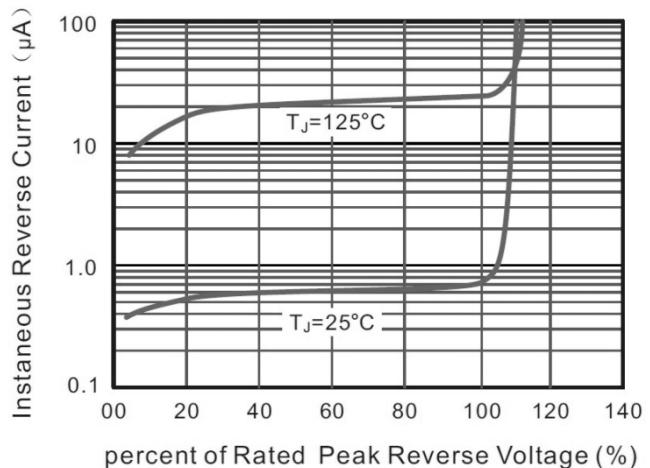


Fig.3 Typical Instantaneous Forward Characteristics

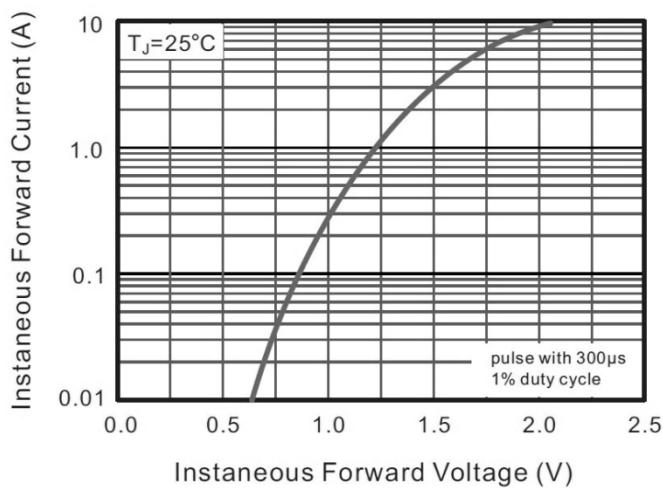


Fig.4 Typical Junction Capacitance

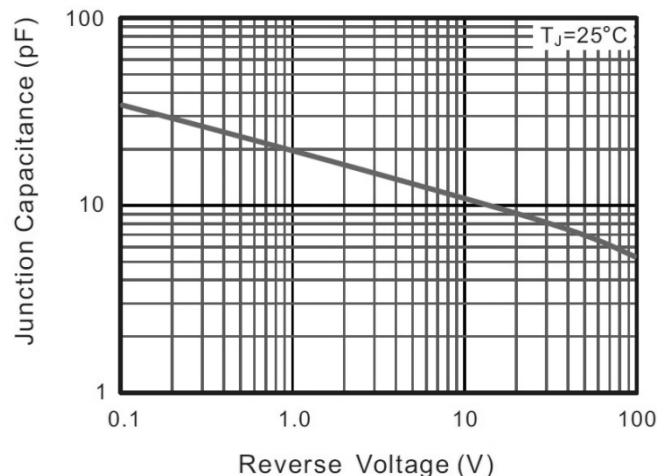
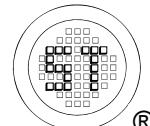
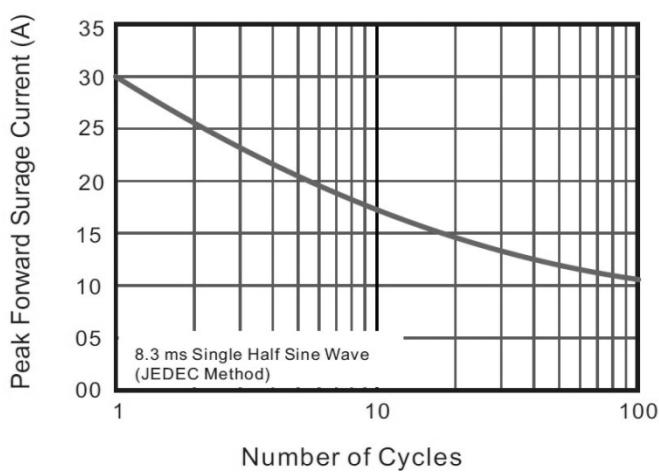


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

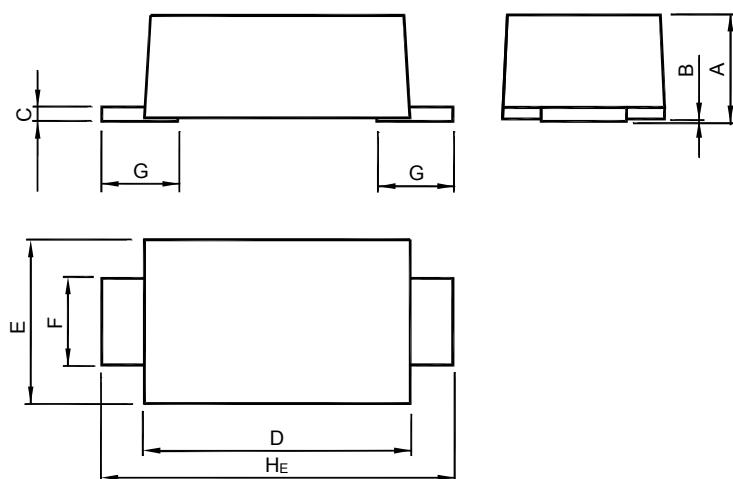


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## PACKAGE OUTLINE

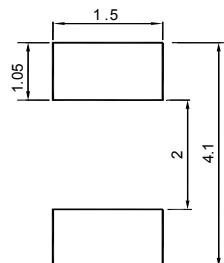
Plastic surface mounted package; 2 leads

SOD-123FL



UNIT	A	B	C	D	E	F	G	H <sub>E</sub>
mm	1.08	0.1	0.2	2.9	1.9	1.1	0.85	3.9
	0.88	0	0.1	2.7	1.7	0.8	0.45	3.5

## Recommended Soldering Footprint



## Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOD-123FL	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

## Marking information

" ||| " = Cathode line

"\*\*\*" = Part No.

Font type: Arial

