



# FR107WS

## Surface Mount Glass Passivated Fast Recovery Rectifier

Reverse Voltage - 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-323
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 5.48mg / 0.00019oz

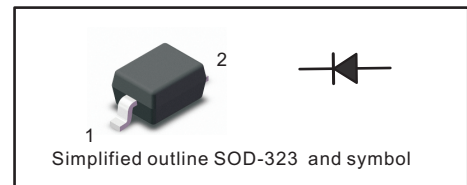
### Maximum Ratings and Electrical characteristics

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	FR107WS	Units
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	1000	V
Maximum RMS voltage	$V_{RMS}$	700	V
Maximum DC Blocking Voltage	$V_{DC}$	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	$\mu\text{A}$
Typical reverse recovery time <sup>(2)</sup>	$t_{rr}$	500	ns
Typical junction capacitance <sup>(3)</sup>	$C_j$	5	pF
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 ~ +150	$^\circ\text{C}$

(1) P.C.B. mounted with 0.2" X 0.2" (5 X 5 mm) 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



### Characteristic Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Fig.1 Forward Current Derating Curve

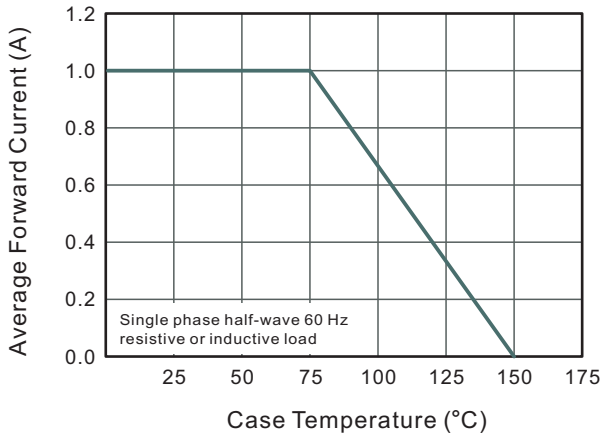


Fig.2 Typical Instantaneous Reverse Characteristics

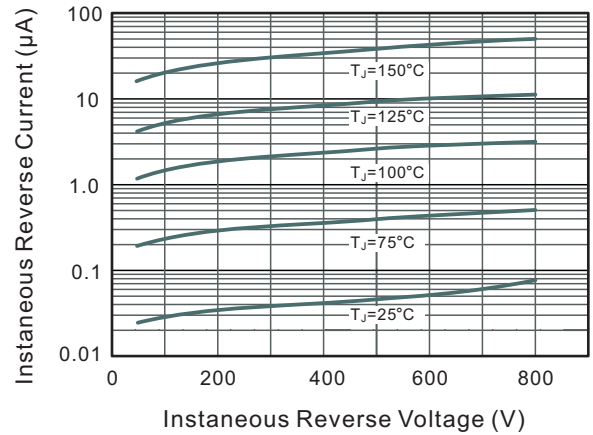


Fig.3 Typical Forward Characteristic

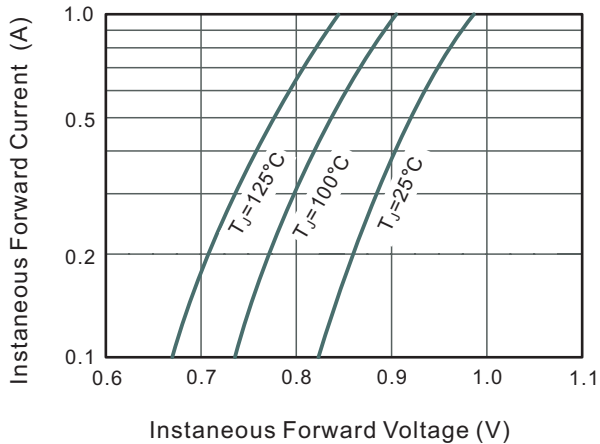


Fig.4 Typical Junction Capacitance

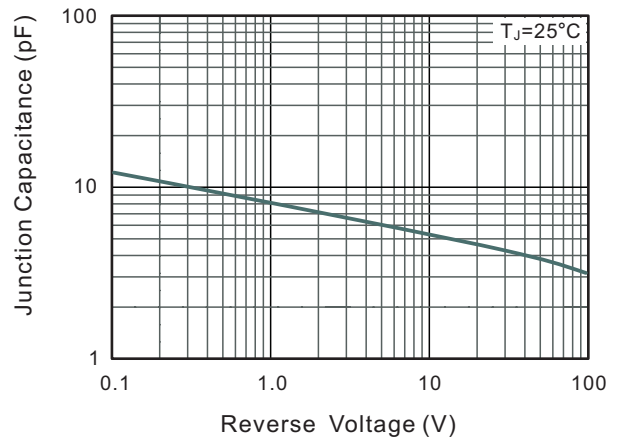
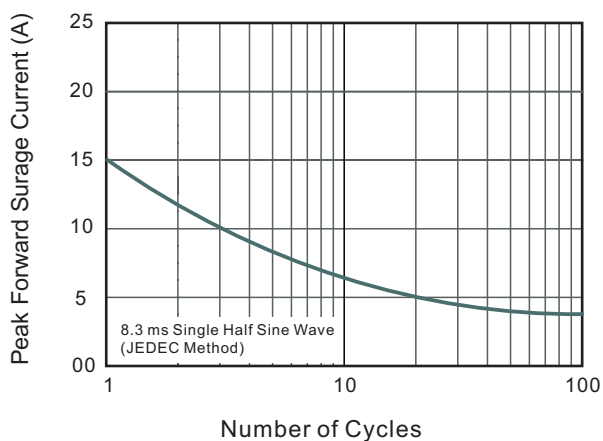


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current





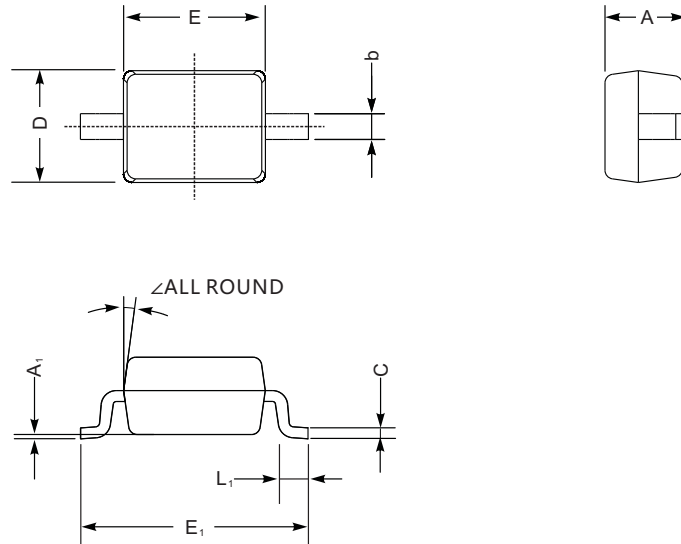
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**PACKAGE OUTLINE**

Plastic surface mounted package; 2 leads

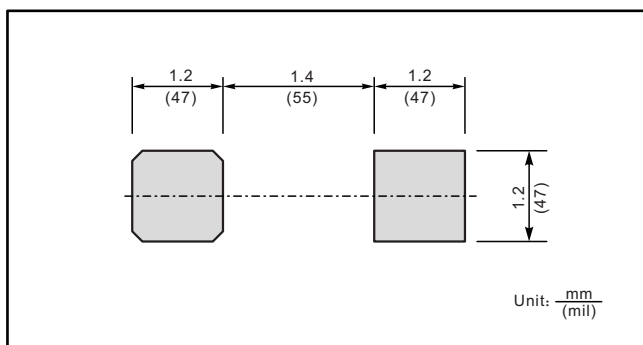
**SOD-323**



SOD-323 mechanical data

UNIT		A	C	D	E	E <sub>1</sub>	b	L <sub>1</sub>	A <sub>1</sub>	∠
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	63	100	9.8	7.9	—	

**The recommended mounting pad size**



**Marking**

Type number	Marking code
FR107WS	R7



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