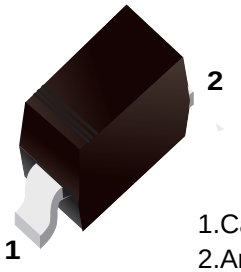
FR101WS THRU FR107WS SOD-323

Surface Mount Fast Recovery Rectifiers

Reverse Voltage - 50 to 1000 V

Forward Current - 1 A



1.Cathode
2.Anode

■ **Simplified outline(SOD-323)**

Top View

FEATURES

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

Marking Code	
FR101WS	**1R**
FR102WS	**2R**
FR103WS	**3R**
FR104WS	**4R**
FR105WS	**5R**
FR106WS	**6R**
FR107WS	**7R**

MECHANICAL DATA

- Case: SOD-323
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 4.5mg /0.00016oz

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 current derate by 20 %.

Parameter	Symbols	FR101WS	FR102WS	FR103WS	FR104WS	FR105WS	FR106WS	FR107WS	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 °C	$IF_{(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	25							A
Maximum Instantaneous Forward Voltage at 1 A	V_F	1.3							V
Maximum DC Reverse Current T_a = 25 °C at Rated DC Blocking Voltage T_a=125 °C	I_R	5 50							μA
Typical Junction Capacitance at V_R=4V,f=1MHZ	C_j	5							pF
Maximum Reverse Recovery Time (1)	Trr	150				250	500		nS
Typical Thermal Resistance (2)	$R_{\theta JA}$	85							℃/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							℃

(1) Measured with I_F=0.5A,I_R=1A,I_n=0.25A

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

Fig.1 Forward Current Derating Curve

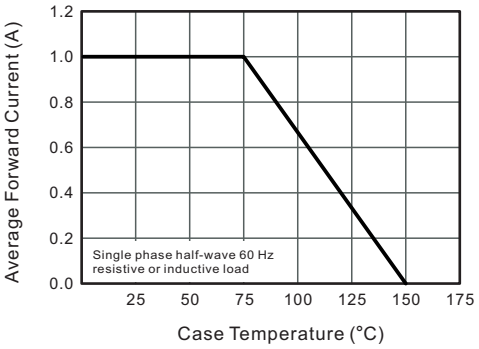


Fig.2 Typical Instaneous Reverse Characteristics

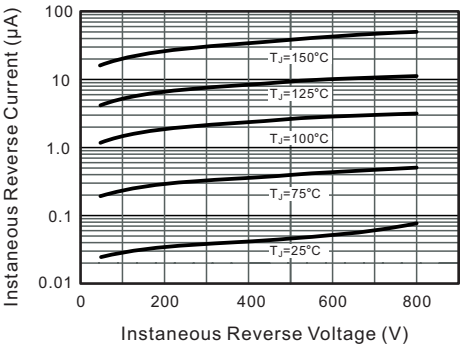


Fig.3 Typical Forward Characteristic

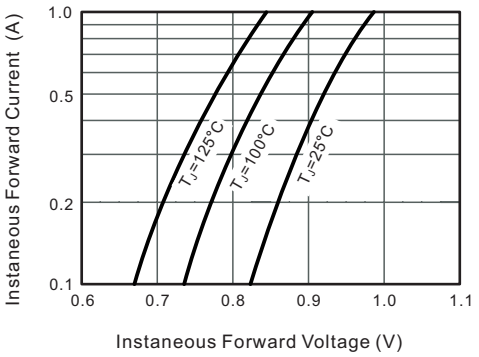


Fig.4 Typical Junction Capacitance

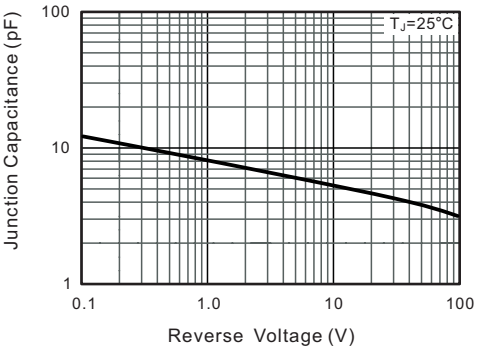
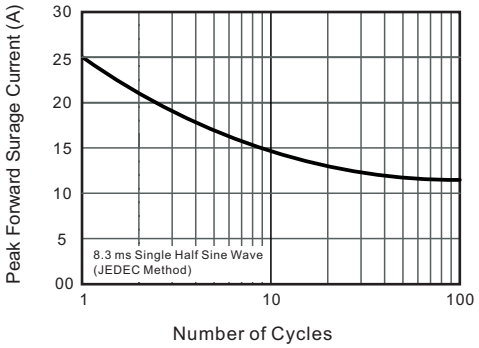
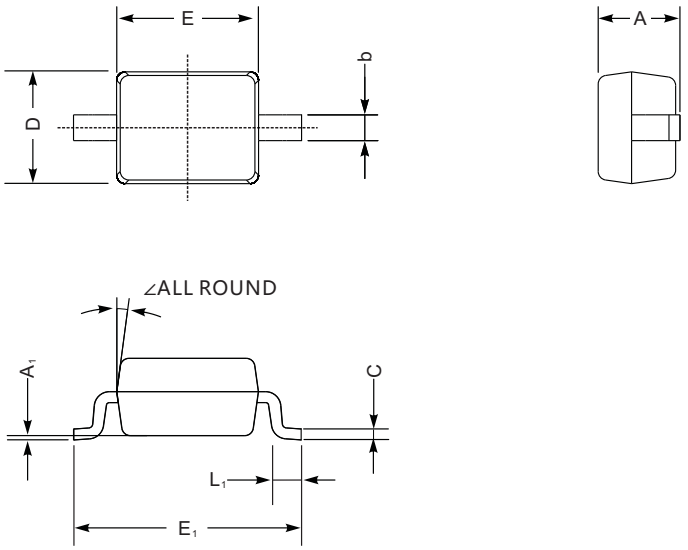


Fig.5 Maximum Non-Repetitive Peak Forward Surage Current



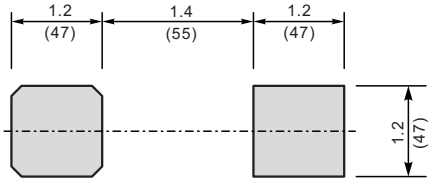
Package Outline SOD-323

Plastic surface mounted package; 2 leads



UNIT		A	C	D	E	E_1	b	L_1	A_1	∠
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



Unit: mm (mil)

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOD-323	Tape/Reel,7"reel	3000	EIA-481-1