

## Surface Mount Fast Recovery Rectifiers

Reverse Voltage - 50 to 1000 V

Forward Current - 1 A

### 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



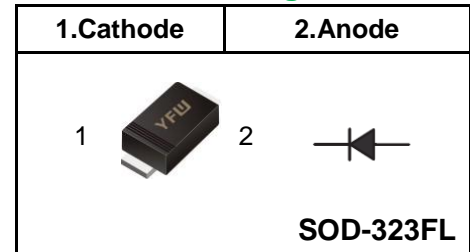
### MECHANICAL DATA

- ◆ Case: SOD-323FL
- ◆ 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 %.

### Pinning



### Marking Code

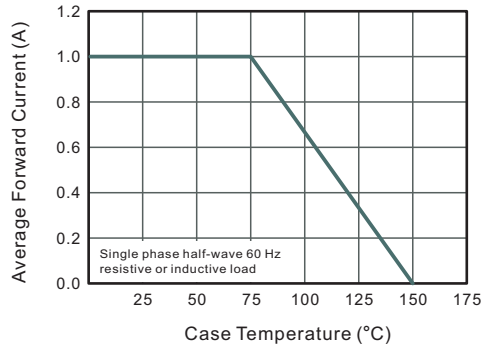
FR101WS	1R
FR102WS	2R
FR103WS	3R
FR104WS	4R
FR105WS	5R
FR106WS	6R
FR107WS	7R

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 $T_c = 125\text{ }^\circ\text{C}$	$I_{F(AV)}$	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 $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125\text{ }^\circ\text{C}$	$I_R$	5 50							$\mu\text{A}$
Typical Junction Capacitance at $V_R = 4\text{V}, f = 1\text{MHz}$	$C_j$	15							pF
Maximum Reverse Recovery Time <sup>(1)</sup>	$T_{rr}$	150			250		500		nS
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JA}$	85							$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 ~ +150							$^\circ\text{C}$

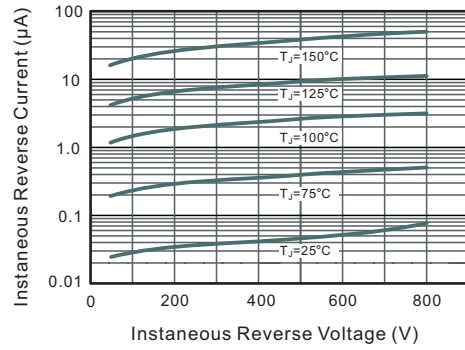
(1) Measured with  $I_F = 0.5\text{A}, I_R = 1\text{A}, I_n = 0.25\text{A}$

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

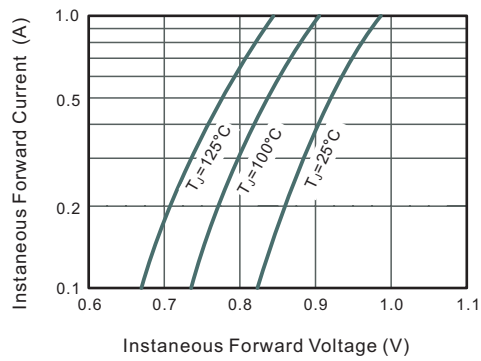
**Fig.1 Forward Current Derating Curve**



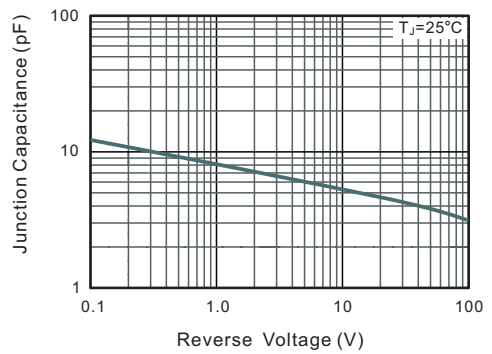
**Fig.2 Typical Instaneous Reverse Characteristics**



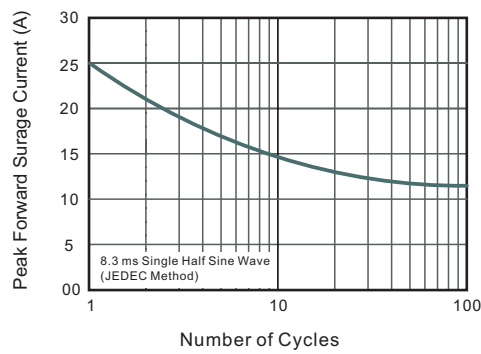
**Fig.3 Typical Forward Characteristic**



**Fig.4 Typical Junction Capacitance**

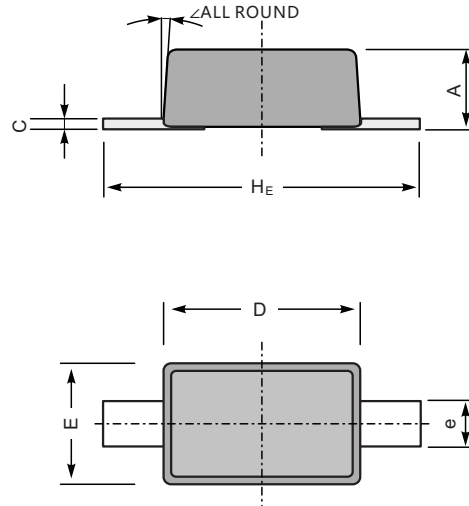


**Fig.5 Maximum Non-Repetitive Peak Forward Surage Current**



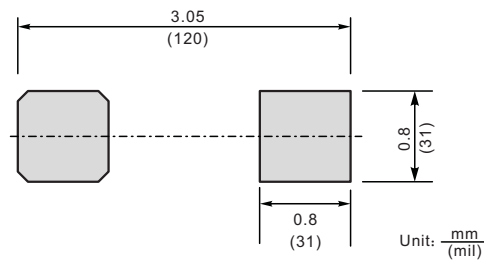
**Package Outline SOD-323FL**

Plastic surface mounted package; 2 leads



UNIT		A	C	D	E	e	H <sub>E</sub>	$\angle$
mm	max	1.0	0.25	1.8	1.35	0.4	2.7	8°
	min	0.8	0.05	1.6	1.15	0.25	2.3	
mil	max	39	9.8	71	53	18	106	
	min	31	2.0	63	45	10	91	

**The recommended mounting pad size**



**Summary of Packing Options**

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