

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

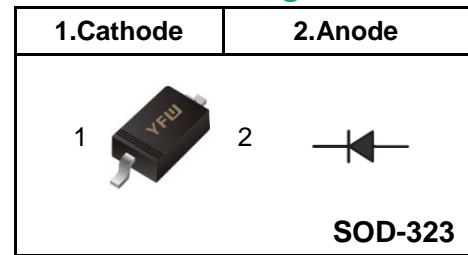
- ◆ Case: SOD-323
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 4.5mg / 0.00016oz

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 %.

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							μA
Typical Junction Capacitance at $V_R = 4\text{V}, f = 1\text{MHz}$	C_j	5							pF
Maximum Reverse Recovery Time ⁽¹⁾	T_{rr}	150				250		500	nS
Typical Thermal Resistance ⁽²⁾	$R_{\theta JA}$	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

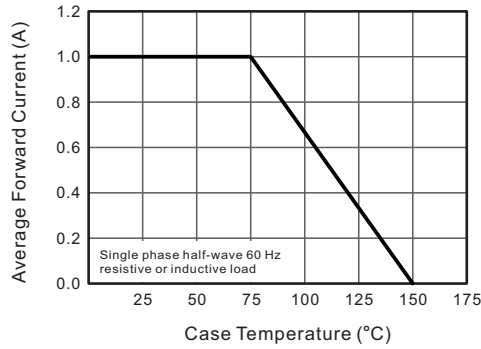


Fig.2 Typical Instaneous Reverse Characteristics

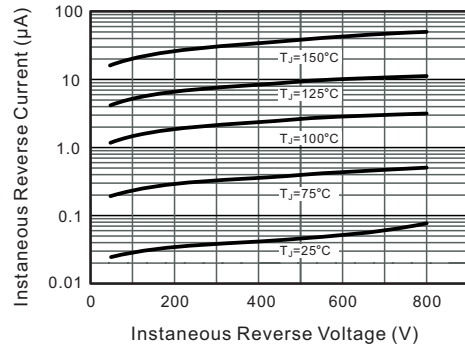


Fig.3 Typical Forward Characteristic

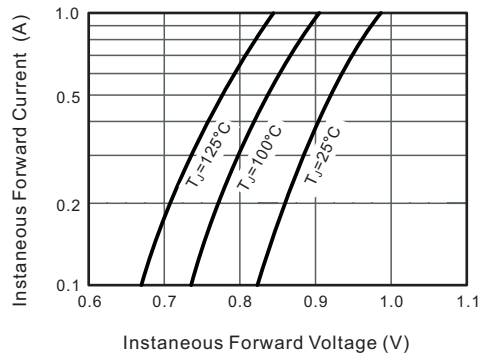


Fig.4 Typical Junction Capacitance

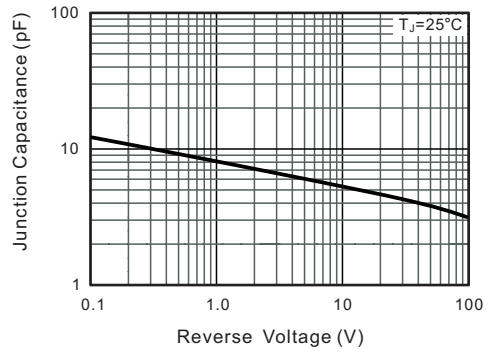
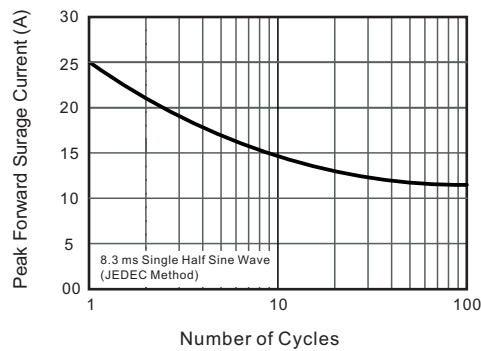


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



Ordering information

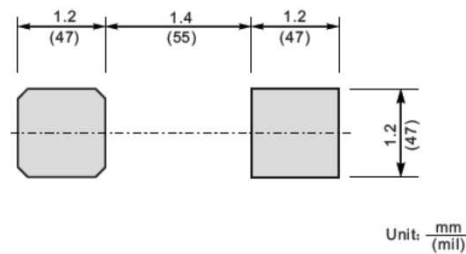
Package	Packing Description	Packing Quantity
SOD-323	Tape/Reel, 7" reel	3000PCS/Reel 120000PCS/Carton

Package Dimensions

SOD-323

	Dim.	Millimeter(mm)		mil	
		Min.	Max.	Min.	Max.
	A	0.8	1.1	32	43
	C	0.08	0.15	3.1	5.9
	D	1.2	1.4	47	55
	E	1.4	1.8	63	70
	E1	2.55	2.75	100	108
	b	0.25	0.4	9.8	16
	L1	0.2	0.45	7.9	16
	A1	-	0.2	-	8
	∠	9°			

The recommended mounting pad size



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