

surface mount ultrafast recovery rectifier

Reverse Voltage - 1200 V

Forward Current - 1 A


FEATURES

- ◆For surface mounted applications
- ◆Low profile package
- ◆Glass Passivated Chip Junction
- ◆High efficiency
- ◆Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- ◆Case: SOD-123FL
- ◆Terminals: Solderable per MIL-STD-750, Method 2026
- ◆Approx. Weight: 15mg / 0.00053oz

Pinning

1.Cathode	2.Anode
	
SOD-123FL	

Marking Code

US1NW	YFW US1N
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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	US1NW	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	1200	V
Maximum RMS voltage	V_{RMS}	840	V
Maximum DC Blocking Voltage	V_{DC}	1200	V
Maximum Average Forward Rectified Current @ Fig.1	$I_{F(AV)}$	1	A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	30	A
Peak Forward Surge Current, 1ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	60	A
I^2t Rating for fusing (3ms ≤ t ≤ 8.3ms)	I^2t	3.7	A ² S
Maximum Instantaneous Forward Voltage at 1 A	V_F	1.65	V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_a = 25\text{ }^{\circ}\text{C}$ $T_a = 125\text{ }^{\circ}\text{C}$	I_R	5 100	μA
Maximum Reverse Recovery Time ⁽¹⁾	t_{rr}	75	ns
Typical Junction Capacitance ⁽²⁾	C_j	7	pF
Typical Thermal Resistance ⁽³⁾	$R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JL}$	105 25 32	°C/W
Operating and Storage Temperature Range	T_J, T_{stg}	-55 ~ +150	°C

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

(2) Measured at 1 MHz and applied reverse voltage of 4 V D.C

(3) P.C.B. mounted with 0.2 X 0.2" (5 X 5 mm) copper pad areas.

Fig.1 Forward Current Derating Curve

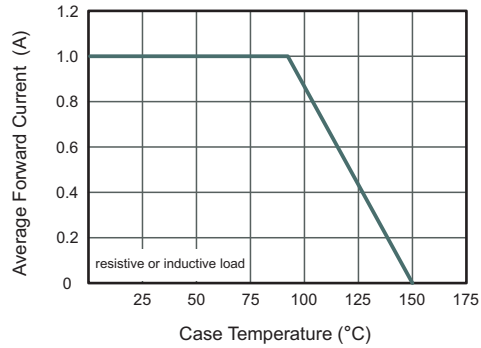


Fig.2 Typical Reverse Characteristics

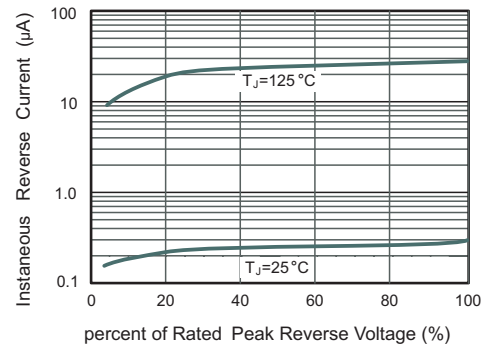


Fig.3 Typical Forward Characteristics

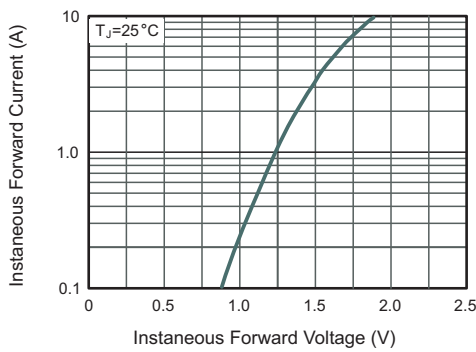


Fig.4 Typical Junction Capacitance

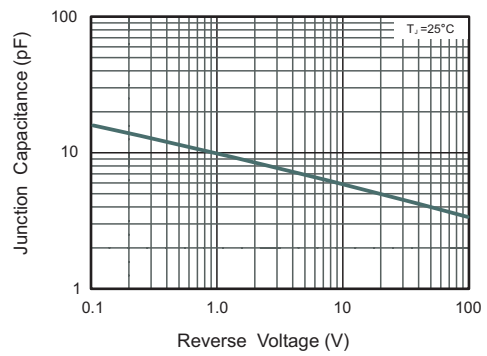
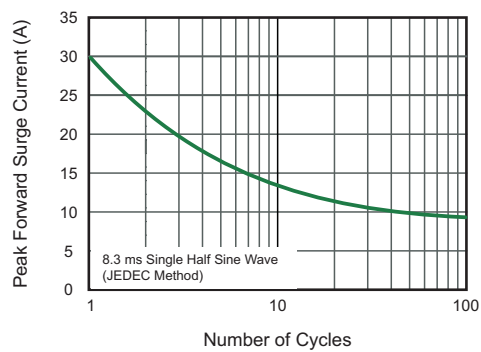
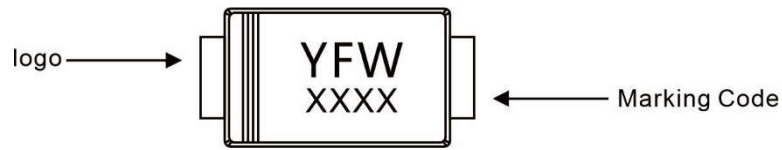


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



Marking Diagram



Ordering information

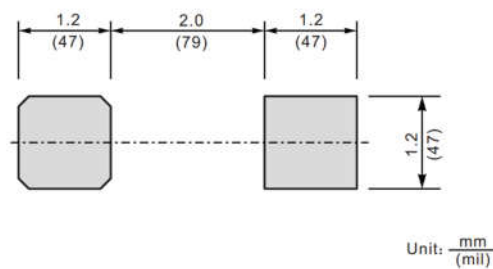
Package	Packing Description	Packing Quantity
SOD-123FL	Tape/Reel, 7" reel	3000PCS/Reel 120000PCS/Carton

Package Dimensions

SOD-123FL

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	0.9	1.3	35	43
C	0.12	0.20	4.7	7.9
D	2.6	2.9	102	114
E	1.7	1.9	67	75
e	0.8	1.1	31	43
g	0.7	0.9	28	35
HE	3.5	3.8	138	150
∠	7°			

The recommended mounting pad size



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