

## SURFACE MOUNT ULTRAFAST RECOVERY RECTIFIER

**Reverse Voltage - 50 to 1000 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

PIN	DESCRIPTION
1	Cathode
2	Anode



Top View  
Marking Code: US1AW~US1DW: USL  
US1GW: USM  
US1JW~US1MW: U1M  
Simplified outline SOD-123FL and symbol

### Maximum Ratings and Electrical characteristics

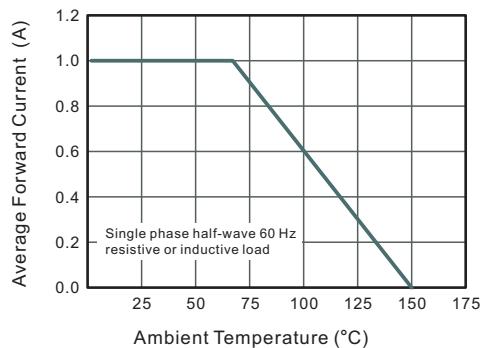
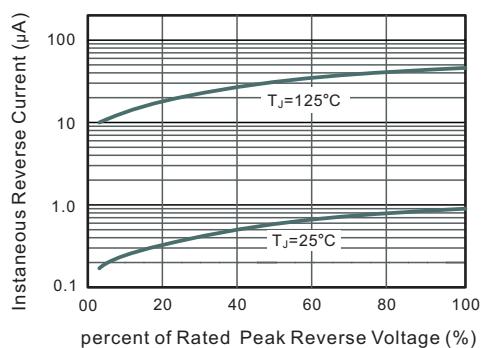
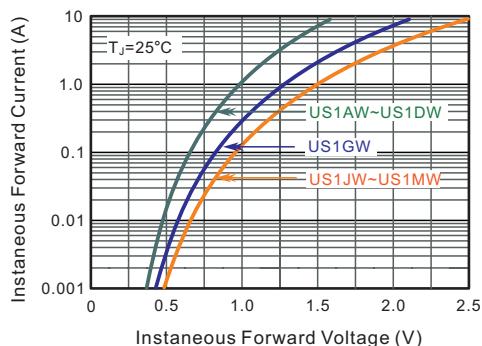
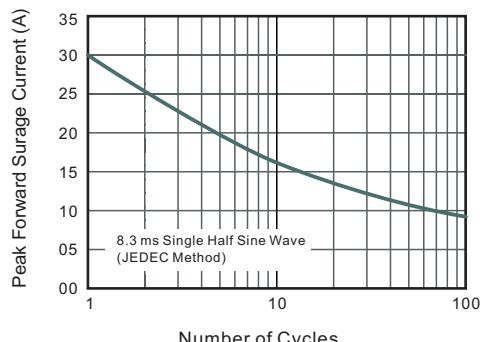
Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

Parameter	Symbols	US1AW	US1BW	US1DW	US1GW	US1JW	US1KW	US1MW	Units
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at Ta = 65 °C	I <sub>F(AV)</sub>	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I <sub>FSM</sub>	30							A
Maximum Instantaneous Forward Voltage at 1 A	V <sub>F</sub>	1.0		1.3	1.65				V
Maximum DC Reverse Current Ta = 25 °C at Rated DC Blocking Voltage Ta = 125 °C	I <sub>R</sub>	5 50							µA
Maximum Reverse Recovery Time <sup>1)</sup>	t <sub>rr</sub>	50				75			
Typical Thermal Resistance <sup>2)</sup>	R <sub>θJA</sub>	120							°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>stg</sub>	-55 ~ +150							°C

1 ) Measured with I<sub>F</sub> = 0.5 A, I<sub>R</sub> = 1 A, I<sub>rr</sub> = 0.25 A.

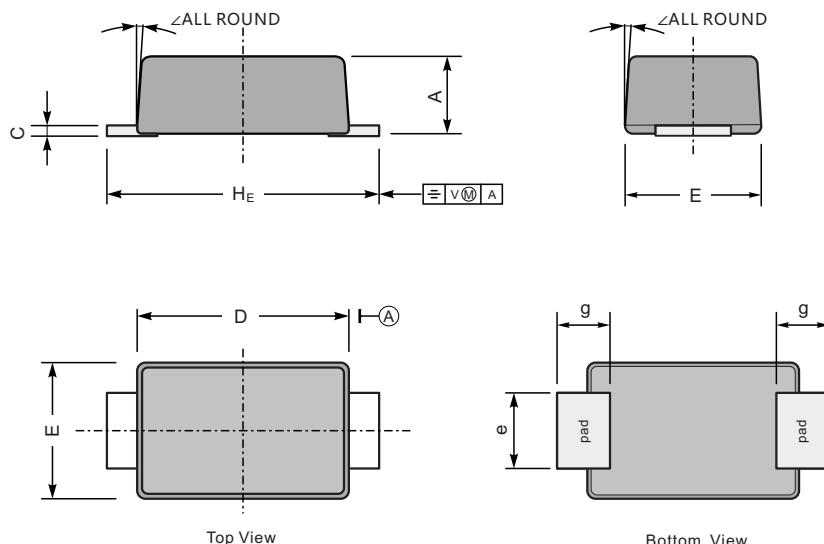
2 ) P.C.B. mounted with 0.2 X 0.2" (5 X 5 mm) copper pad areas.

**Fig.1 Forward Current Derating Curve**

**Fig.2 Typical Reverse Characteristics**

**Fig.3 Typical Forward Characteristics**

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


## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

**SOD-123FL**



UNIT		A	C	D	E	e	g	H <sub>E</sub>	∠
mm	max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	max	43	7.9	114	75	43	35	150	7°
	min	35	4.7	102	67	31	28	138	