



# US2AW THRU US2MW

Reverse Voltage - 50 to 1000 Volts Forward Current - 2.0 Ampere

## SURFACE MOUNT HIGH EFFICIENCY RECTIFIER

### Features

- ◆ Glass passivated device
- ◆ Ideal for surface mouted applications
- ◆ Low reverse leakage
- ◆ Metallurgically bonded construction
- ◆ High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension

### Mechanical Data

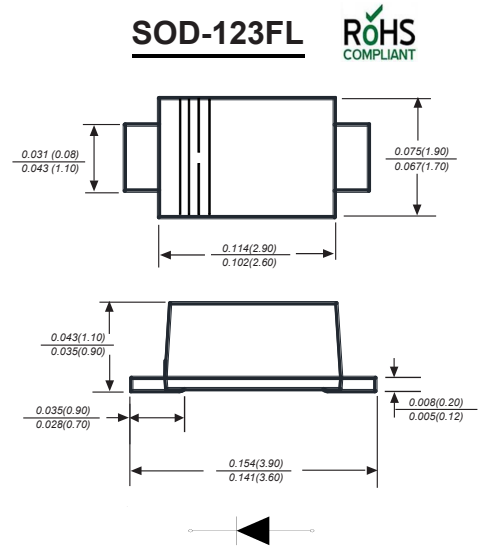
**Case** : JEDEC SOD-123FL Molded plastic body

**Terminals** : Solder plated, solderable per MIL-STD-750, Method 2026

**Polarity** : Polarity symbol marking on body

**Mounting Position** : Any

**Weight** : 0.0007 ounce, 0.02 grams



### Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

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

Parameter	SYMBOLS	US2AW	US2BW	US2DW	US2EW	US2GW	US2JW	US2KW	US2MW	UNITS
		MDD 2U1	MDD 2U2	MDD 2U3	MDD 2U4	MDD 2U5	MDD 2U6	MDD 2U7	MDD 2U8	
Maximum repetitive peak reverse voltage	$V_{RMM}$	50	100	200	300	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	210	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	300	400	600	800	1000	V
Maximum average forward rectified current at $T_L=65^\circ\text{C}$	$I_{(AV)}$	2.0								A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	50								A
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.0		1.30		1.70			V	
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$	$I_R$	5.0 100.0								$\mu\text{A}$
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	50					75			ns
Typical junction capacitance (NOTE 2)	$C_J$	15.0								pF
Typical thermal resistance	$R_{\theta JA}$	90.0								$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150								$^\circ\text{C}$

- Note:**
1. Reverse recovery condition  $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$
  2. P.C.B. mounted with 2.0x2.0" (5.0x5.0cm) copper pad areas.
  3. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
  4. The typical data above is for reference only.



## Ratings And Characteristic Curves

Fig.1 Maximum Average Forward Current Rating

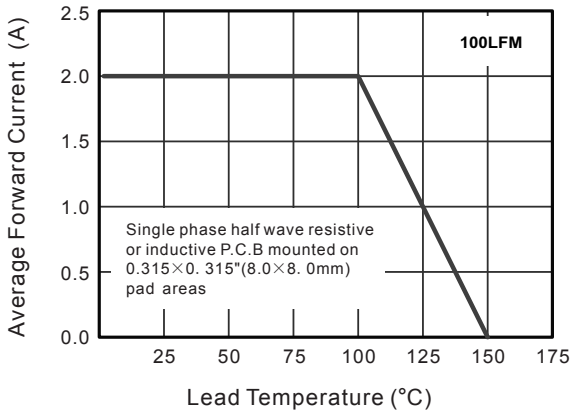


Fig.2 Typical Reverse Characteristics

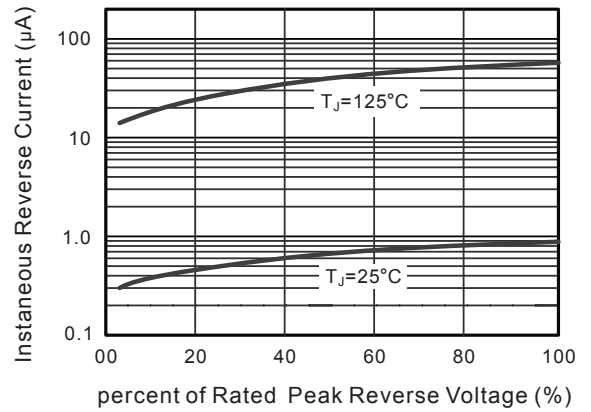


Fig.3 Typical Forward Characteristics

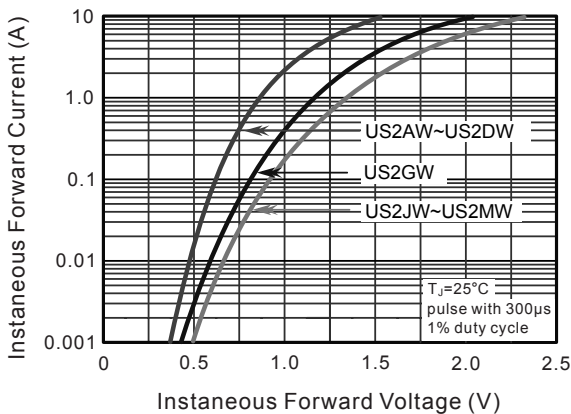


Fig.4 Typical Junction Capacitance

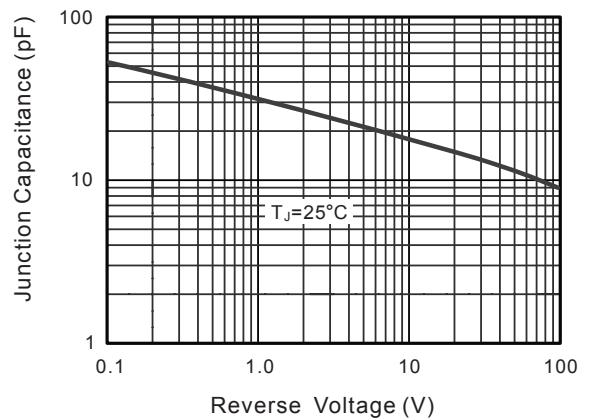


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

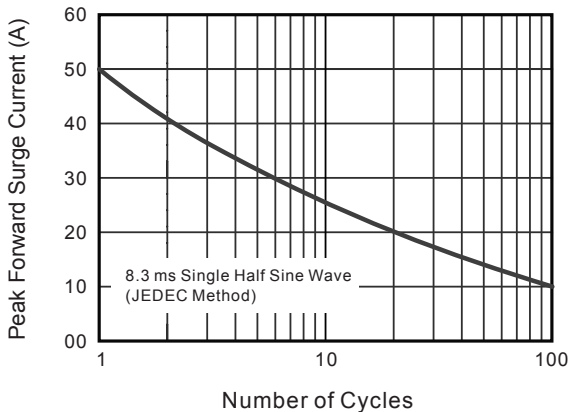
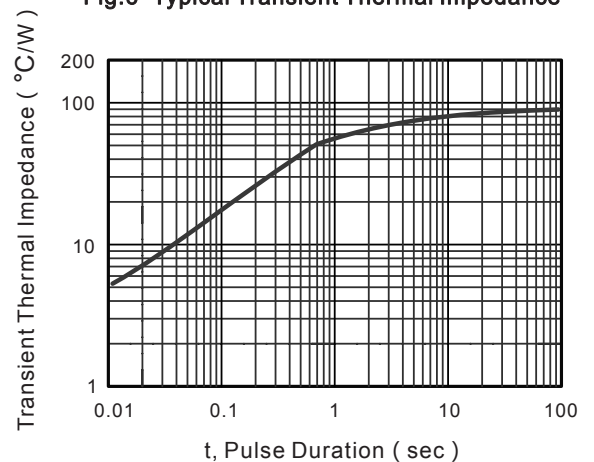


Fig.6- Typical Transient Thermal Impedance



The curve above is for reference only.

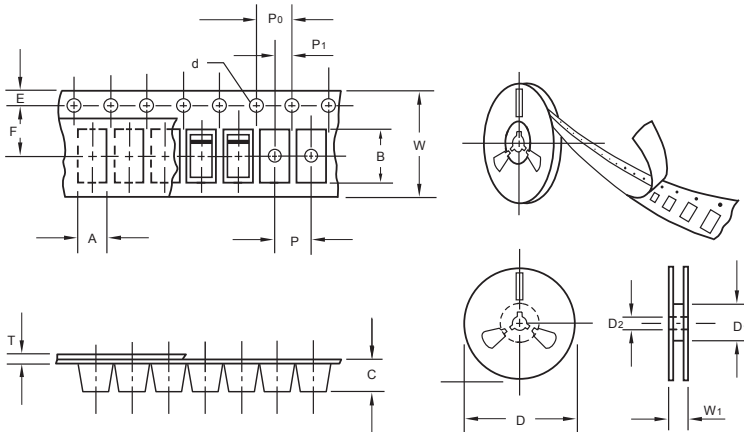


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## Packing information

unit:mm



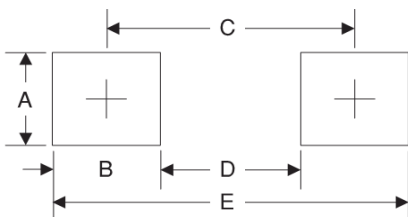
Item	Symbol	Tolerance	SOD-123FL
Carrier width	A	0.1	2.1
Carrier length	B	0.1	4.0
Carrier depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D1	min	50.0
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	8.15
Reel width	W1	1.0	10.5

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

## Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOD-123FL	7"	3,000	4.0	45,000	210*208*203	178	430*430*235	180,000	9.0

## Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	1.2	0.047
B	1.2	0.047
C	3.2	0.126
D	2	0.079
E	4.4	0.173

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