



# S2AW THRU S2MW

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

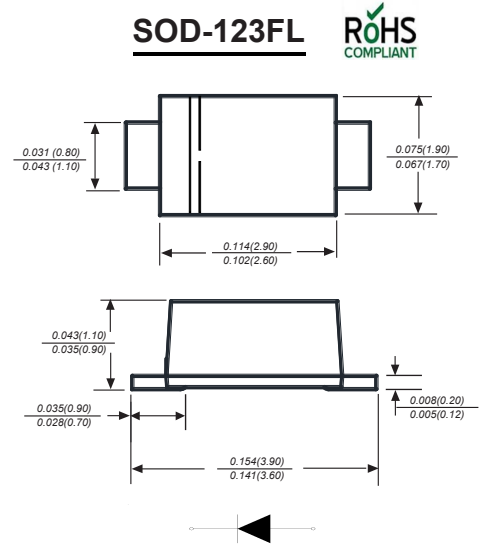
## SURFACE MOUNT GENERAL PURPOSE SILICON RECTIFIER

### Features

- ◆ Glass passivated device
- ◆ Ideal for surface mounted 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 UOD-123FL molded plastic body  
 Terminals: Solderable per MIL-STD-750, Method 2026A  
 Polarity: Polarity symbol marking on body  
 Mounting Position: Any  
 Weight: 0.0053 ounce, 0.015 grams



Dimensions in inches and (millimeters)

### 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	S2AW	S2BW	S2DW	S2GW	S2JW	S2KW	S2MW	UNITS
Marking Code		2A1	2A2	2A3	2A4	2A5	2A6	2A7	
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 TL(see fig.1)	$I_{(AV)}$	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 2.0A	$V_F$	1.1							V
Maximum DC reverse current $T_A=25^\circ C$ at rated DC blocking voltage $T_A=125^\circ C$	$I_R$	5 50							$\mu A$
Typical junction capacitance (NOTE 1)	$C_J$	25							pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$ $R_{\theta JC}$	75 22							$^\circ C/W$
Operating junction temperature range	$T_J$	-55 to +150							$^\circ C$
Storage temperature range	$T_{STG}$	-55 to +150							$^\circ C$

Note: 1. Averaged over any 20ms period.

2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted



## Typical Characteristics

Fig.1 Forward Current Derating Curve

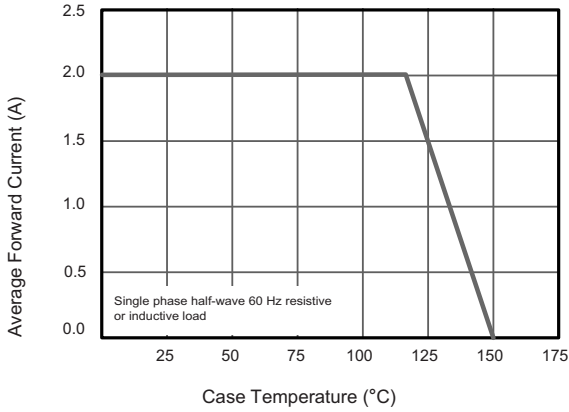


Fig.2 Typical Instantaneous Reverse Characteristics

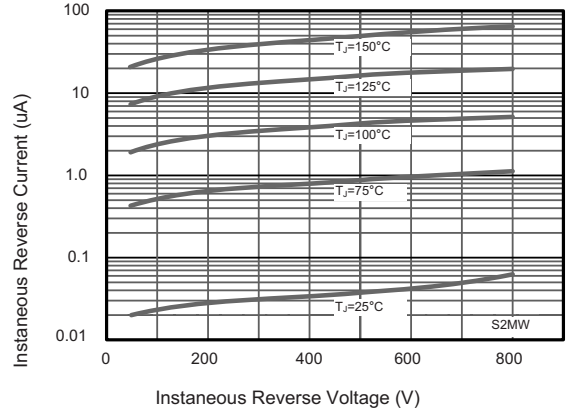


Fig.3 Typical Forward Characteristic

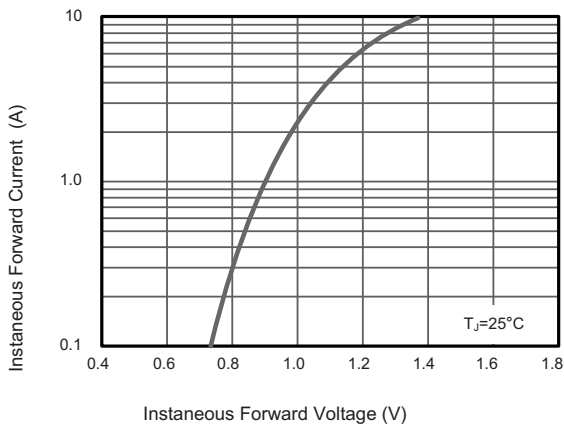


Fig.4 Typical Junction Capacitance

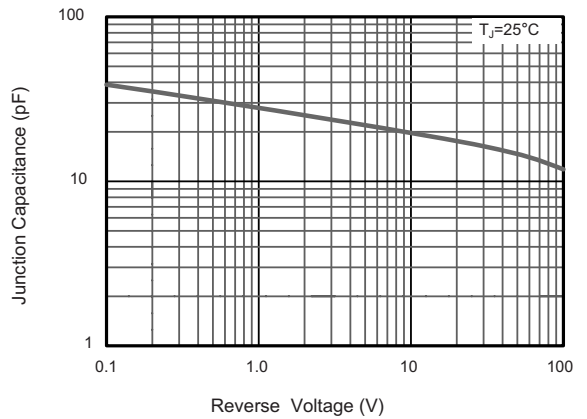
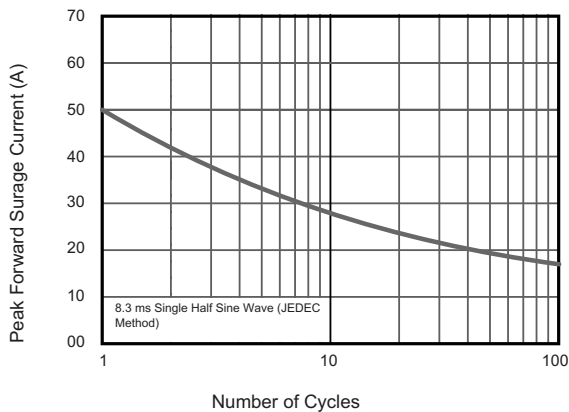


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



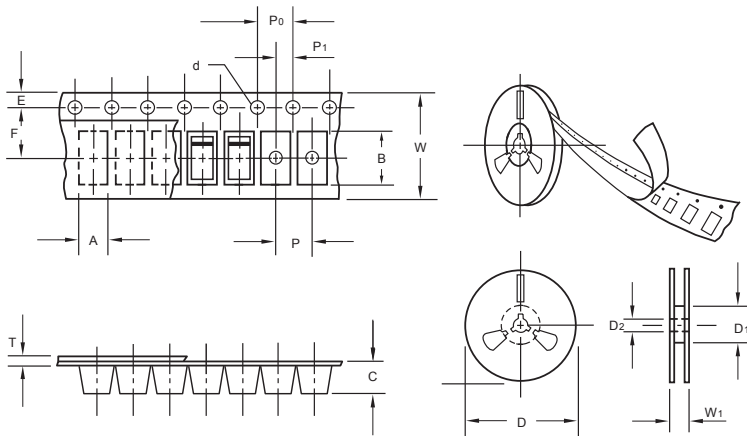
The curve above is for reference only.



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## Packing information



unit:mm

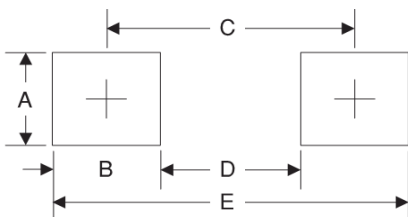
Item	Symbol	Tolerance	SOD-123FL
Carrier width	A	0.1	2.1
Carrier length	B	0.1	4.0
Carrier depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D <sub>1</sub>	min	50.0
Feed hole diameter	D <sub>2</sub>	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P <sub>0</sub>	0.1	4.00
Embossment center	P <sub>1</sub>	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	8.15
Reel width	W <sub>1</sub>	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