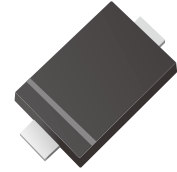


## Surface Mount General Purpose Silicon Rectifier

### Features

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Ideal for automated placement
- Lead free in comply with EU RoHS 2011/65/EU directives



### Mechanical Data

- Case: SOD-123FL
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end



### Ordering Information

Part Number	Shipping	Reel
1N4001W THRU 1N4007W-TR3	3000PCS Tape&Reel	7 inches
1N4001W THRU 1N4007W-TR12	12000PCS Tape&Reel	13 inches

### 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	Symbol	1N4001W	1N4002W	1N4003W	1N4004W	1N4005W	1N4006W	1N4007W	Unit
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	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	$I_{FSM}$	30							A
Maximum Instantaneous Forward Voltage at 1 A	$V_F$	1.1							V
Maximum DC Reverse Current $T_a = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125^\circ\text{C}$	$I_R$	5 50							$\mu\text{A}$
Typical Junction Capacitance (NOTE1)	$C_j$	8(TYP.)							pF
Typical Thermal Resistance (NOTE2)	$R_{\theta JA}$ $R_{\theta JC}$	115 25							$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 ~ +150							$^\circ\text{C}$

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

(2) P.C.B. mounted with 2.0" x 2.0" (5cm x 5cm) copper pad areas.



characteristics Curves

Fig.1 Forward Current Derating Curve

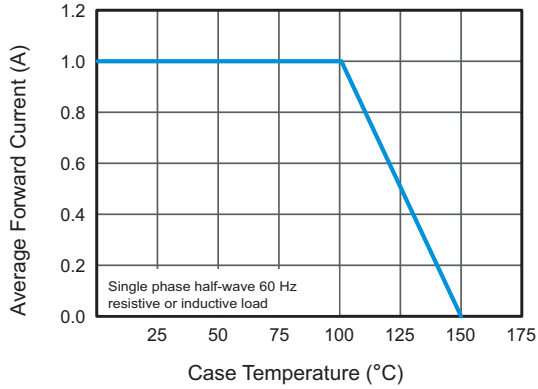


Fig.2 Typical Instaneous Reverse Characteristics

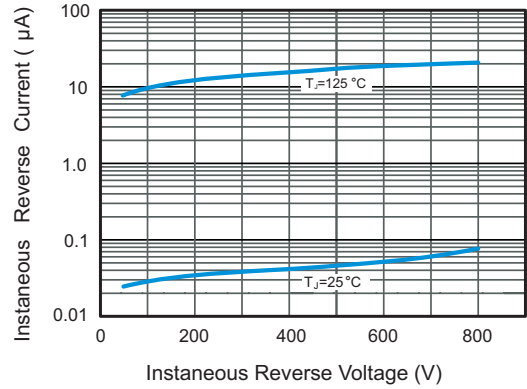


Fig.3 Typical Forward Characteristic

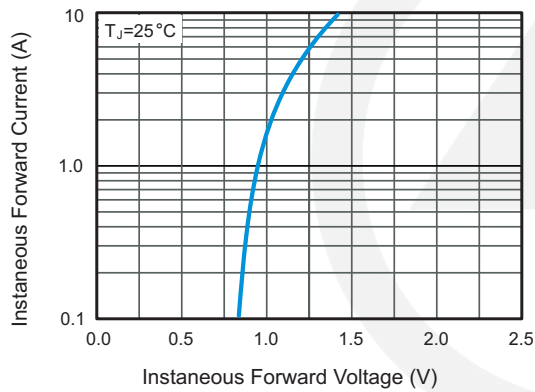


Fig.4 Typical Junction Capacitance

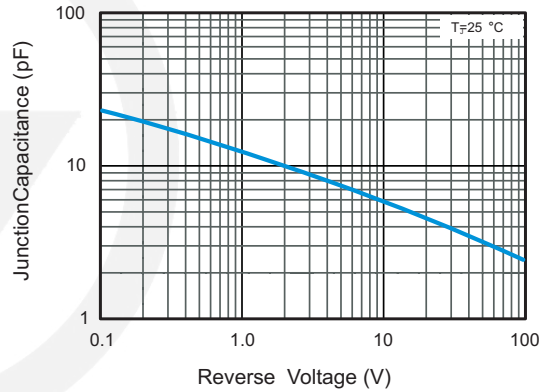
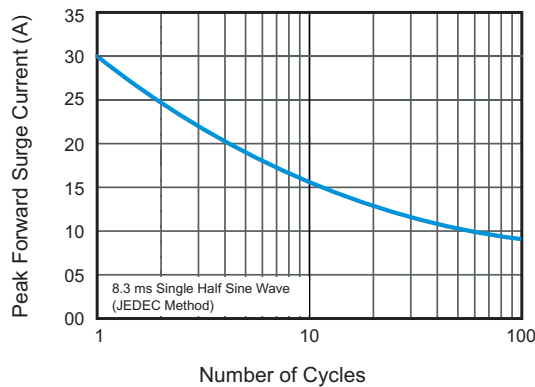
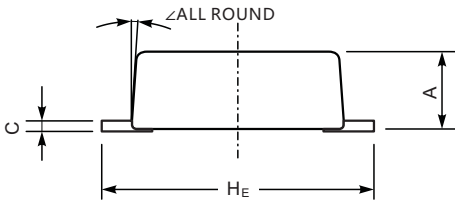


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

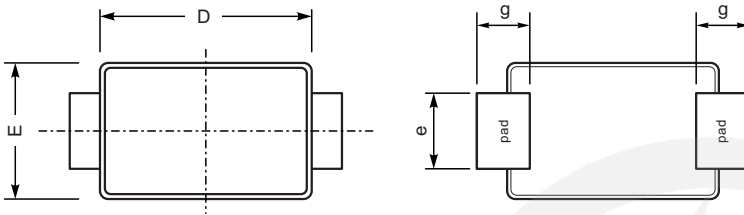


## SOD-123FL Package Outline

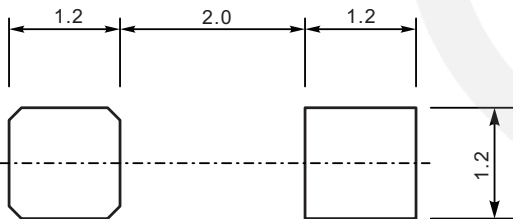
Unit: mm



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.9	1.35
C	0.12	0.20
D	2.6	2.9
E	1.75	1.95
e	0.8	1.1
g	0.7	0.9
H <sub>E</sub>	3.5	3.8
∠	7°	



## SOD-123FL Suggested Pad Layout



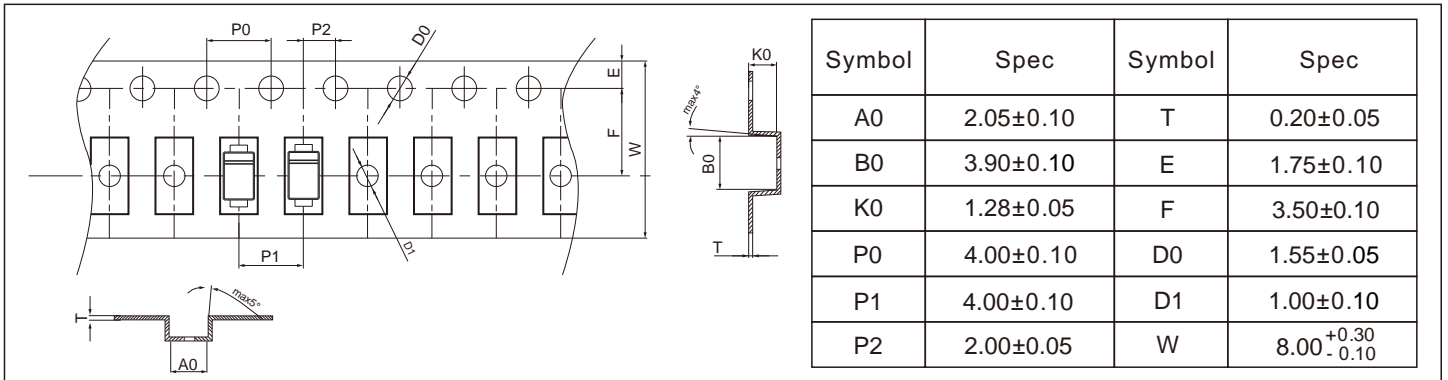
Note:  
 1. Controlling dimension: in millimeters.  
 2. General tolerance:  $\pm 0.05\text{mm}$   
 3. The pad layout is for reference purpose only.

## Marking

Type number	Marking code
1N4001W	A1
1N4002W	A2
1N4003W	A3
1N4004W	A4
1N4005W	A5
1N4006W	A6
1N4007W	A7

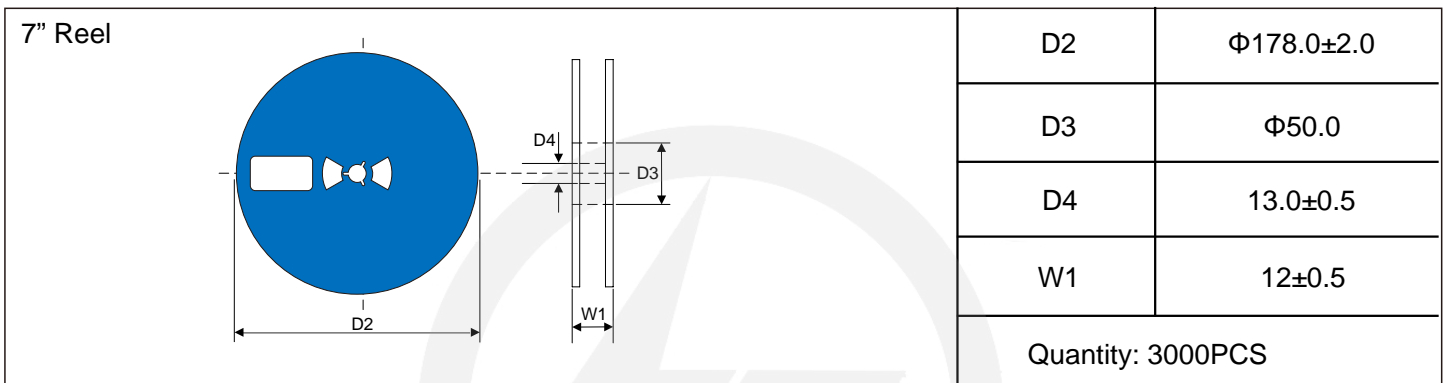
## Carrier Tape Dimensions

Unit : mm



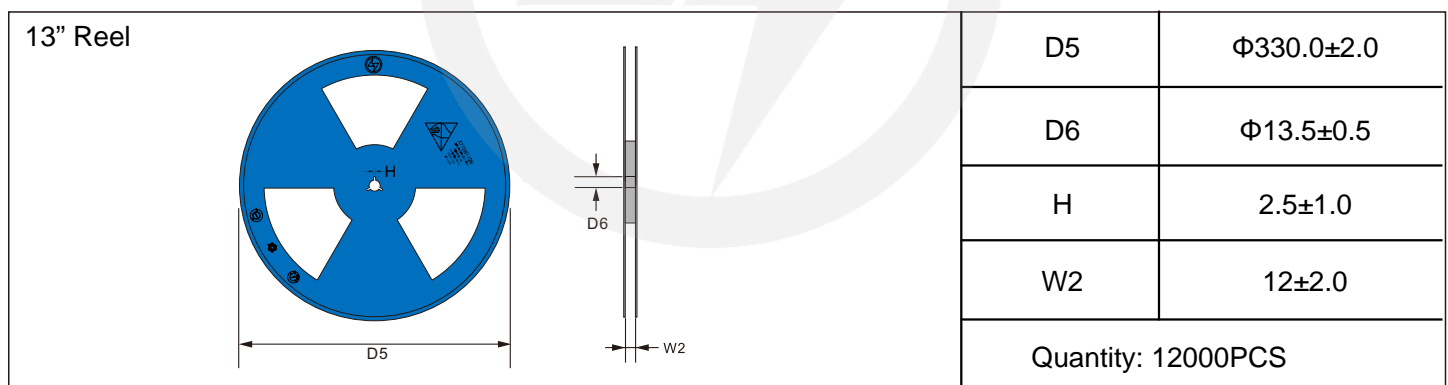
## Reel Dimensions

Unit : mm

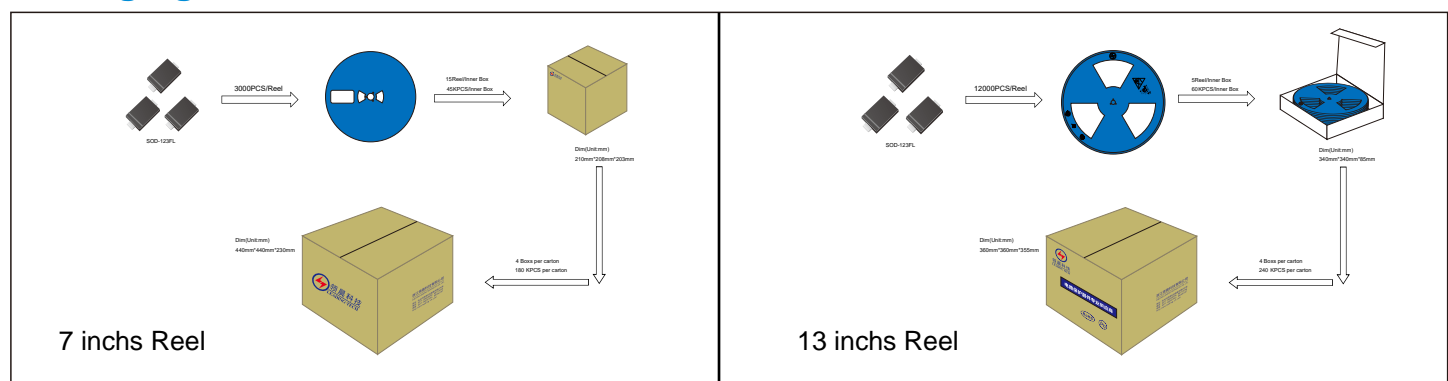


## Reel Dimensions

Unit : mm



## Packaging





Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T <sub>L</sub> to T <sub>P</sub> )	3°C/second max.
Preheat	
-Temperature Min (T <sub>S min</sub> )	150°C
-Temperature Max (T <sub>S max</sub> )	200°C
-Time (min to max) (t <sub>s</sub> )	60-180 seconds
T <sub>S max</sub> to T <sub>L</sub>	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T <sub>L</sub> )	217°C
-Time (t <sub>L</sub> )	60-150 seconds
Peak Temperature (T <sub>P</sub> )	260°C
Time within 5°C of actual Peak Temperature (t <sub>p</sub> )	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

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## Version Update information

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision content	Revision Reason	Revision Person	Note
01	2018.06.11	2018.06.11	1.0	New File	/	Ding	
02	2024.11.28	2024.11.28	3.0	Package size change	/	Ding	