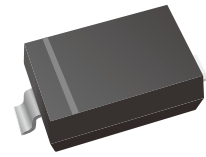


Fast Switching Diode

Features

- For surface mounted applications
- Fast reverse recovery time
- Ideal for automated placement
- Lead free in comply with EU RoHS 2011/65/EU directives



Mechanical Data

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

Ordering Information

Part Number	Marking	Shipping	Reel
LT4148W-TR3	T4	3000PCS Tape&Reel	7 inches
LT4148W-TR12	T4	12000PCS Tape&Reel	13 inches

Absolute Maximum Ratings at 25 °C

Parameter	Symbols	LT 4148W	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Maximum RMS voltage	V_{RMS}	75	V
Continuous Forward Current	I_F	200	mA
Non-repetitive Peak Forward Surge Current at 1s at 1ms at 1us	I_{FSM}	0.5 1 4	A
Total Power Dissipation	P_{tot}	400	mW
Typical Thermal Resistance (1)	$R_{\theta JA}$	280	°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150	°C

(1) P.C.B. mounted with 5*5mm copper pad areas.



Electrical Characteristics Ta =25°C

Parameter	Symbols	LT4148W	Units
Reverse Breakdown Voltage at $I_R=1\mu A$	$V_{(BR)R}$	75	V
Maximum Forward Voltage at 1 mA at 10 mA at 50 mA at 150 mA	V_F	0.715 0.855 1.00 1.25	V
Peak Reverse Current at $V_R=20V$ $T_J=25^\circ C$ at $V_R=75V$ $T_J=25^\circ C$ at $V_R=25V$ $T_J=150^\circ C$ at $V_R=75V$ $T_J=150^\circ C$	I_R	0.025 1 30 50	μA
Typical Junction Capacitance	C_j	2	pF
Maximum Reverse Recovery Time (2)	t_{rr} Typical	4	ns

(2) Measured with $I_F=I_R=10mA, I_{rr}=0.1 \times I_R, R_L=100\Omega$

Characteristics Curve

Fig.1 Power Derating Curve

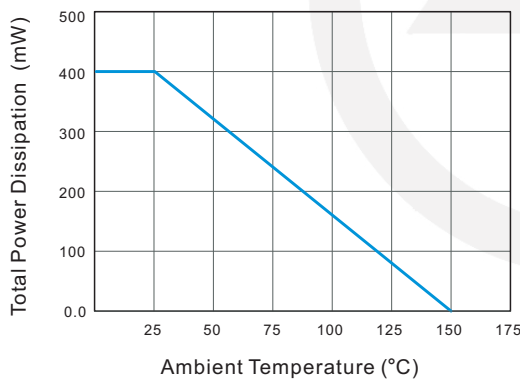


Fig.2 Typical Reverse Characteristics

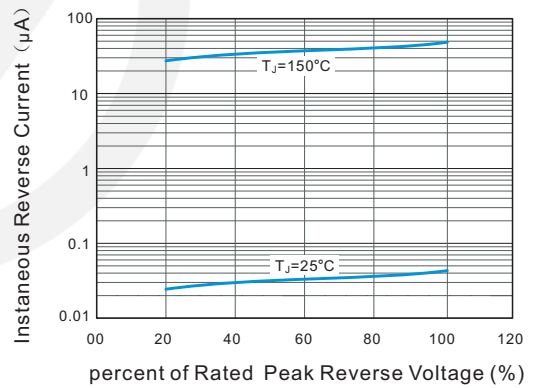


Fig.3 Typical Instantaneous Forward Characteristics

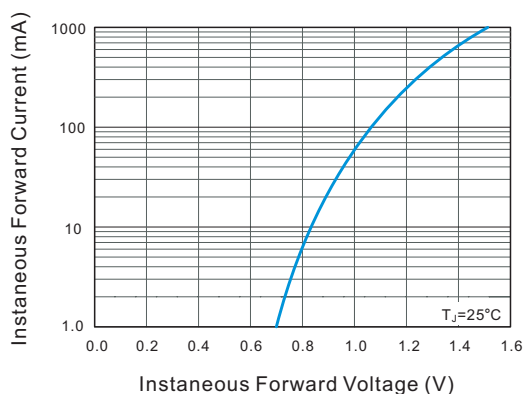
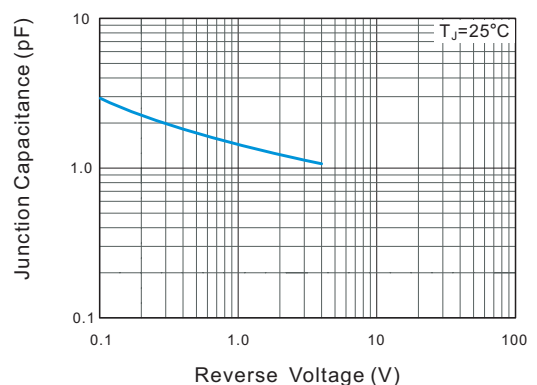
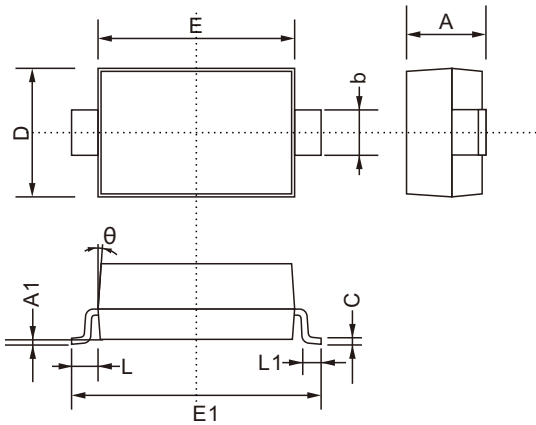


Fig.4 Typical Junction Capacitance



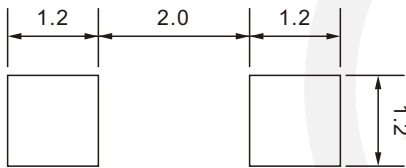
SOD-123 Package Outline

Unit: mm



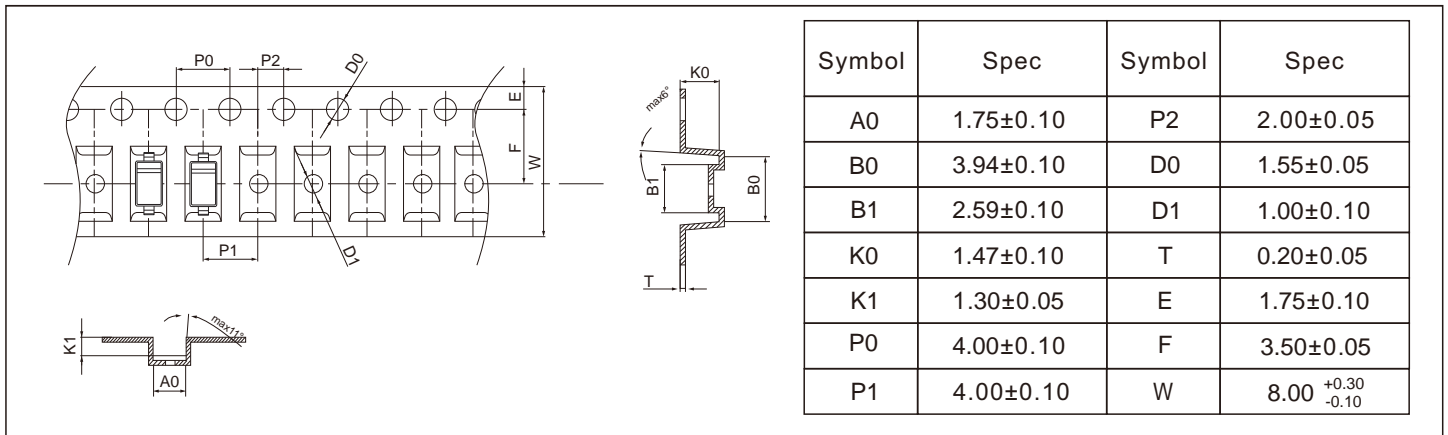
SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.300
A1	0.000	0.200
b	0.450	0.750
C	0.080	0.230
D	1.500	1.800
E	2.500	2.800
E1	3.550	3.900
L1	0.250	0.450
L	0.5REF	
θ	8°	

SOD-123 Suggested Pad Layout

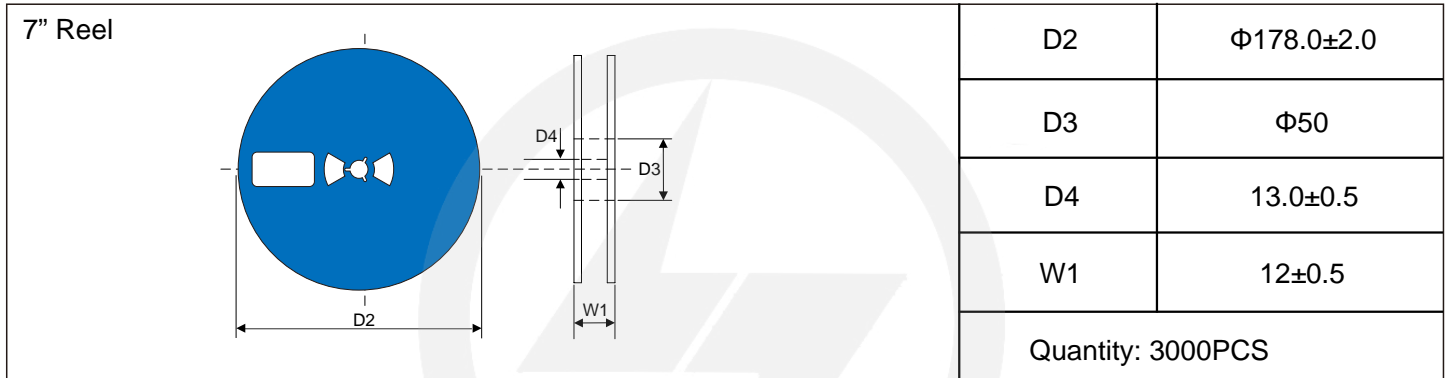


- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$
 3. The pad layout is for reference purpose only.

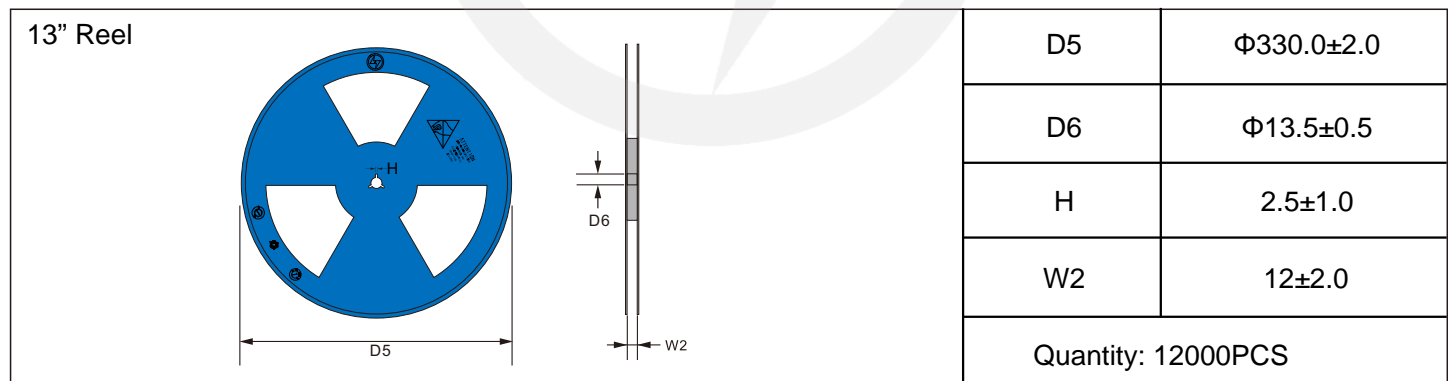
Carrier Tape Dimensions



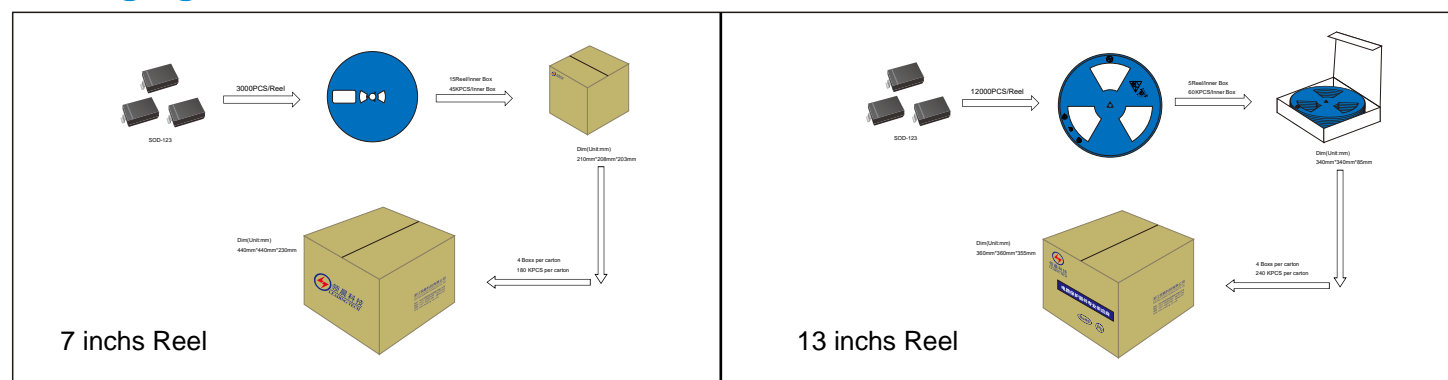
Reel Dimensions

Unit : mm


Reel Dimensions

Unit : mm


Packaging





Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat	
-Temperature Min ($T_{S\ min}$)	150°C
-Temperature Max ($T_{S\ max}$)	200°C
-Time (min to max) (t_s)	60-180 seconds
$T_{S\ max}$ to T_L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T_L)	217°C
-Time (t_L)	60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_p)	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	2025.01.29	2025.01.29	3.0	New File	/	Ding	