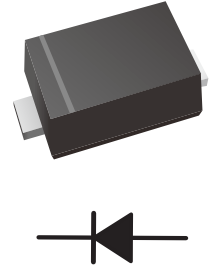


Fast Switching Diode

Features

- Small Package
- Low Reverse Current
- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- Lead free in comply with EU RoHS 2011/65/EU directives



Mechanical Data

- Package: SOD-523
- Polarity: Color band denotes cathode end

Ordering Information

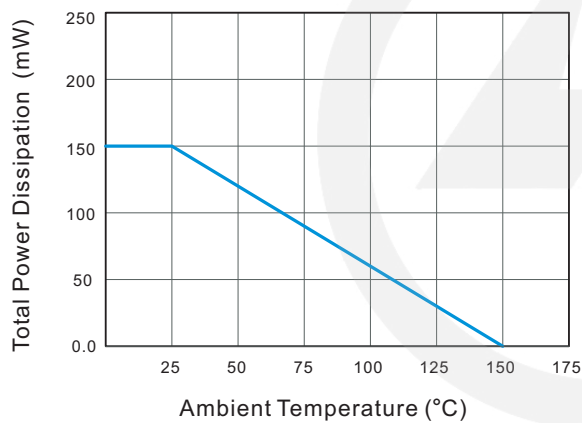
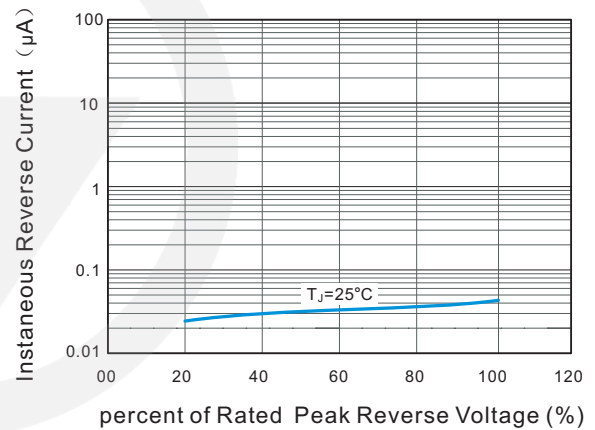
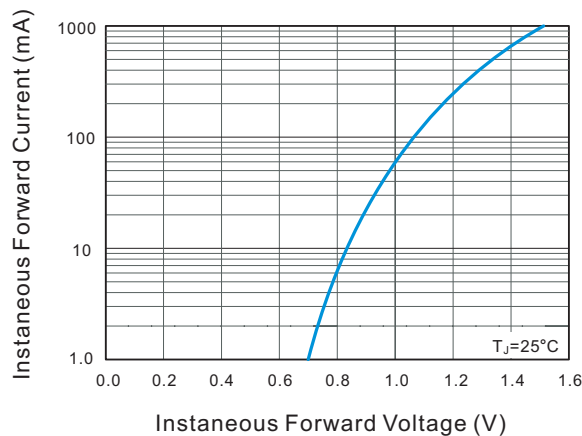
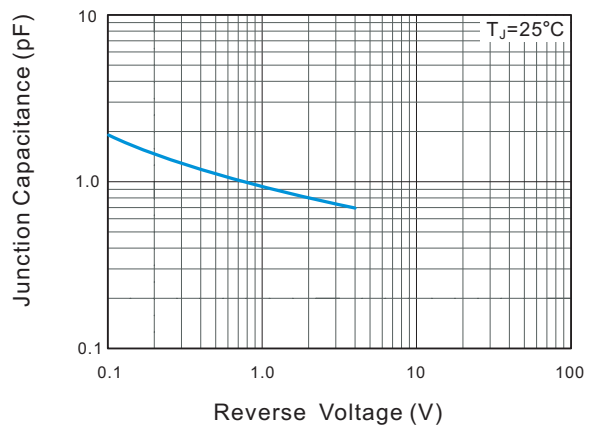
Part Number	Marking	Shipping	Reel
LT5L4148-TR3	T4	3000PCS Tape&Reel	7 inches
LT5L4148-TR8	T4	8000PCS Tape&Reel	7 inches

Maximum Ratings at 25°C

Parameter	Symbols	LT5L4148	Units
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	V
Reverse Voltage	V_R	75	V
Peak Repetitive Reverse Voltage	V_{RRM}		V
Working Peak Reverse Voltage	V_{RWM}		V
RMS Reverse Voltage	$V_{R(RMS)}$	53	V
Average Rectified Output Current	I_o	150	mA
Non-repetitive Peak Forward Surge Current@t= 8.3ms	I_{FSM}	0.8	A
Power Dissipation	P_D	150	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 ~ +150	°C

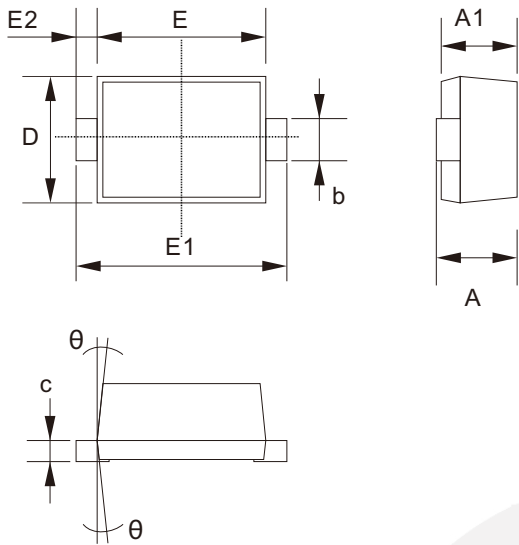
Electrical Characteristics (Ta=25°C unless otherwise specified)

Parameter	Symbols	Test conditions	Min	Typ	Max	Units
Reverse voltage	$V_{(BR)}$	$I_R = 1\mu A$	75			V
Reverse current	I_R	$V_R = 75V$			1	μA
		$V_R = 20V$			25	nA
Forward voltage	V_F	$I_F = 1\text{ mA}$			0.715	V
		$I_F = 10\text{ mA}$			0.855	V
		$I_F = 50\text{ mA}$			1	V
		$I_F = 150\text{ mA}$			1.25	V
Total capacitance	C_{tot}	$V_R = 0V, f = 1\text{MHz}$			2	pF
Reverse recovery time	t_{rr}	$I_F = I_R = 10\text{mA}, I_{rr} = 0.1 * I_R, R_L = 100\Omega$			4	ns

Characteristics Curve
Fig.1 Power Derating Curve

Fig.2 Typical Reverse Characteristics

Fig.3 Typical Instantaneous Forward Characteristics

Fig.4 Typical Junction Capacitance


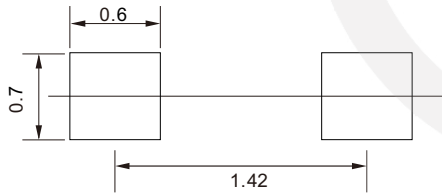
SOD-523 Package Outline

Unit: mm



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.500	0.770
A1	0.500	0.700
b	0.250	0.380
c	0.070	0.200
D	0.700	0.900
E	1.100	1.300
E1	1.500	1.700
E2	0.200 REF	
θ	7° REF	

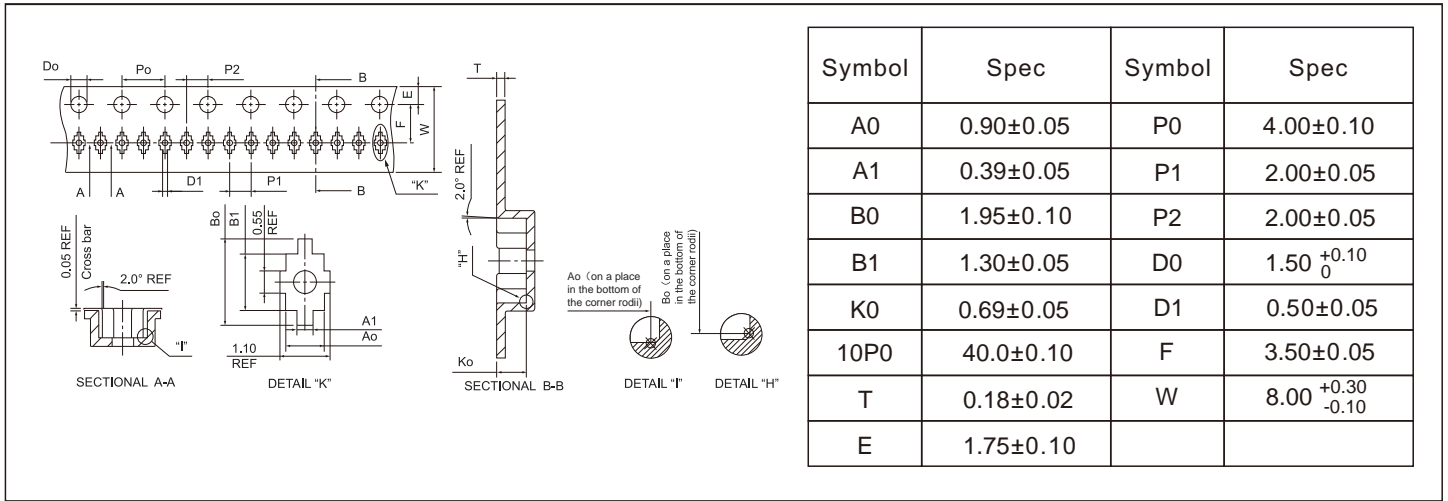
SOD-523 Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05 mm.
 3. The pad layout is for reference purposes only.

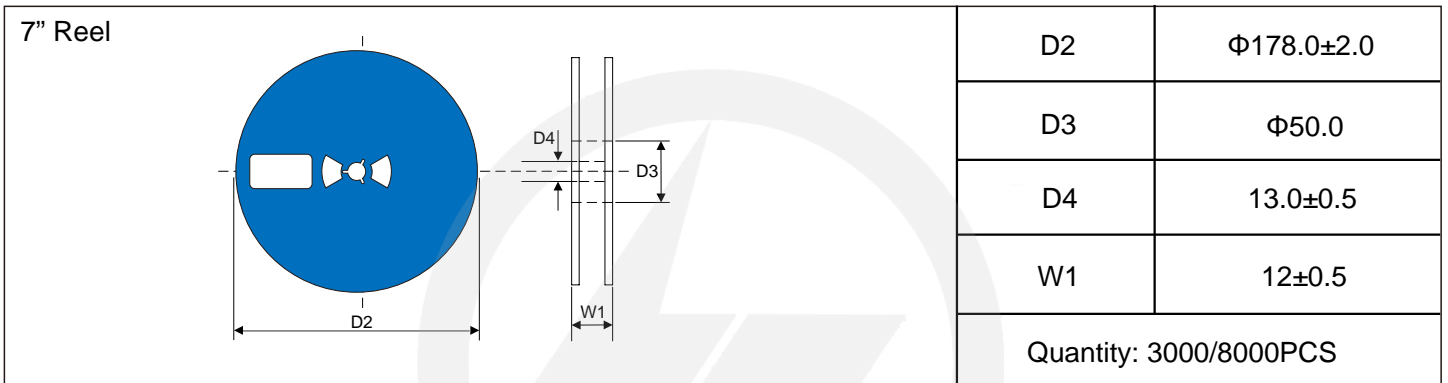
Carrier Tape Dimensions

Unit : mm

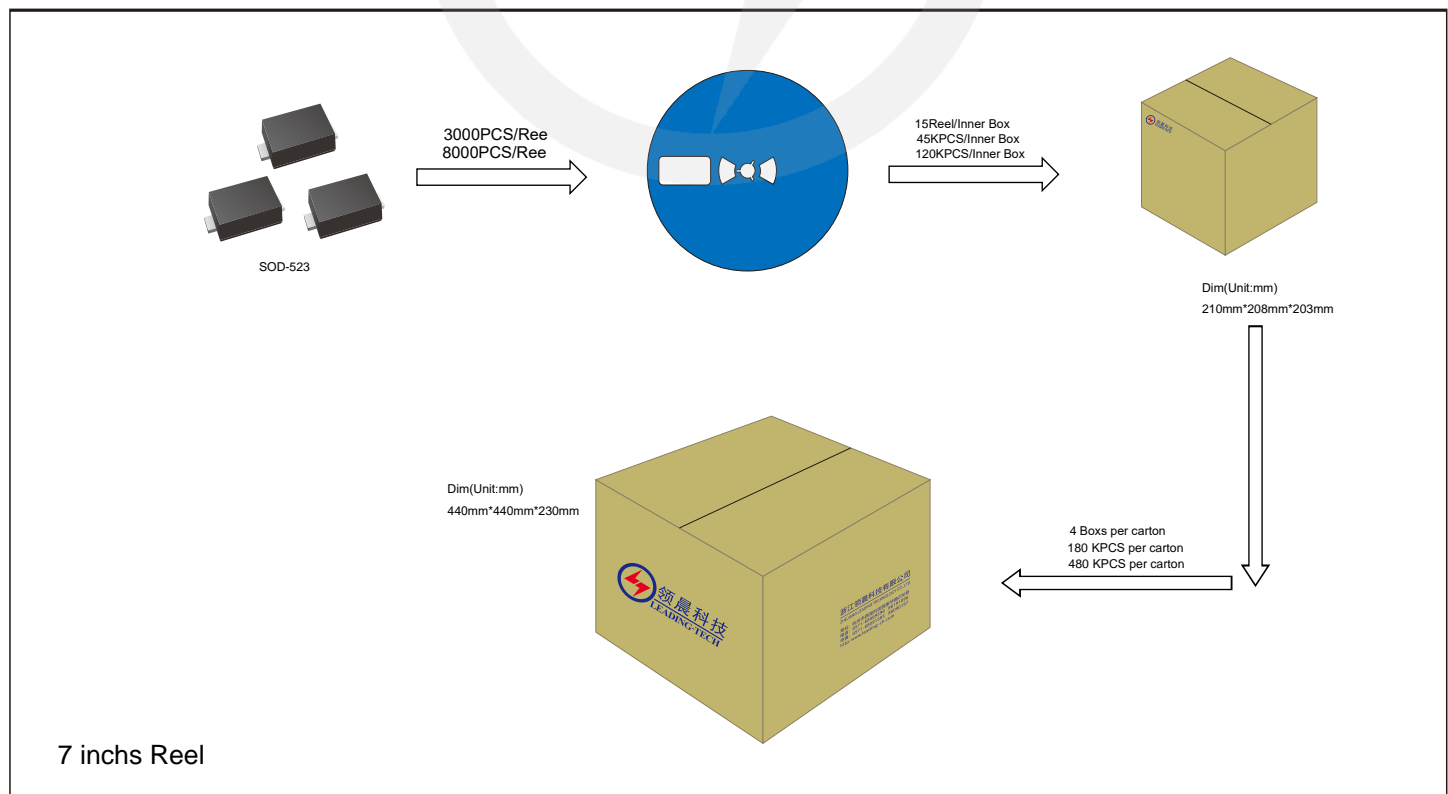


Reel Dimensions

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	2024.3.14	2024.3.14	3.0	New File	/	Ding	
02	2025.5.13	2025.5.13	3.1	Modify the number of reels	/	Ding	