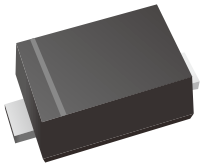
High Speed Switching Diode

Features



- Small Surface Mounting Type
- High Speed
- High Reliability With High Surge Current Handing Capability
- Lead free in comply with EU RoHS 2011/65/EU directives

Mechanical Data

- Package: SOD-523
- Polarity: Color band denotes cathode end
- Epoxy UL: 94V-0
- Mounting Position: Any

Ordering Information

Part Number	Marking	Shipping	Reel
LT5L0210X-TR3	A	3000PCS Tape&Reel	7 inchs
LT5L0210X-TR10	A	10000PCS Tape&Reel	7 inchs

Absolute Maximum Rating (Ta=25°C unless otherwise noted)

Parameters	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	90	V
DC Blocking Voltage	V_R	80	V
Average Rectified Output Current	I_O	100	mA
Forward Continuous Current	I_{FM}	225	mA
Non-repetitive Peak Forward Surge Current@t= 8.3ms	I_{FSM}	2.0	A
Power Dissipation	Pd	150	mW
Junction temperature	Tj	150	˚C
Storage temperature range	T_{STG}	-55-+150	˚C

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

Symbols	Parameter	Test Condition	Limits		Unit
			Min	Max	
V_F	Forward Voltage	I_F=100mA		1.2	V
I_R	Reverse Current	V_R = 80V		0.1	uA
T_{RR}	Reverse Recovery Time	V_R = 6V, I_F = 10mA, R_L=100Ω,		4	nS
C	Capacitance	V_R=0.5V, f=1MHZ		3	pF

Characteristics Curve

Fig.1 Forward characteristics

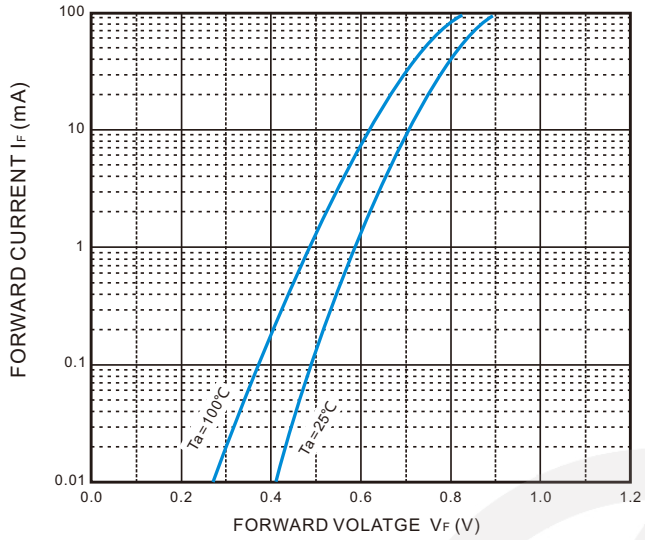


Fig.2 Reverse characteristics

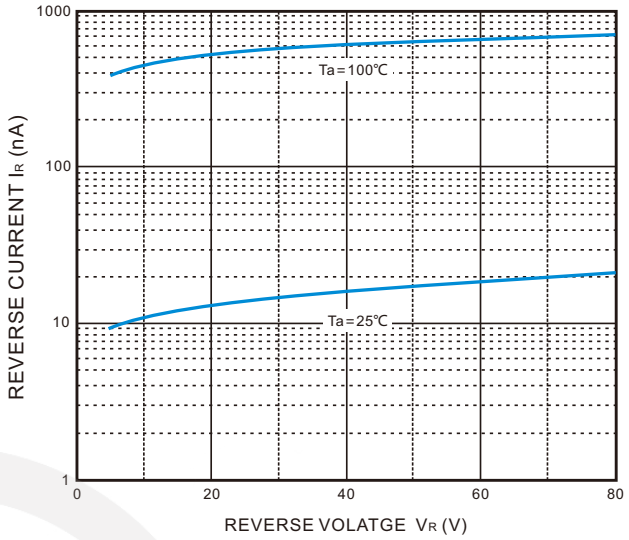


Fig.3 Capactiance characteristics

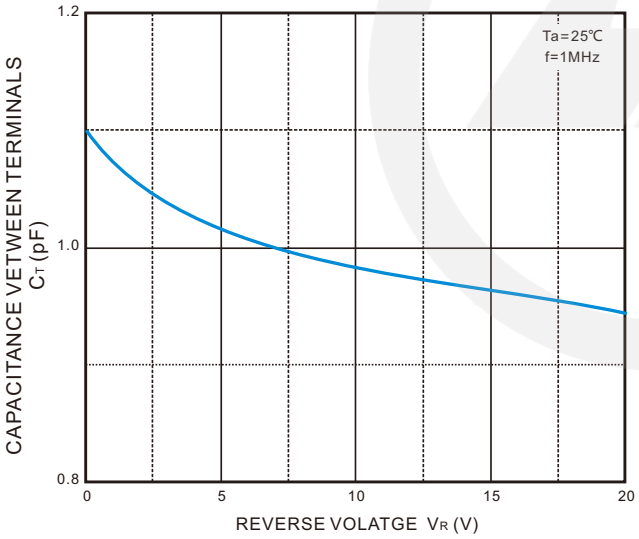
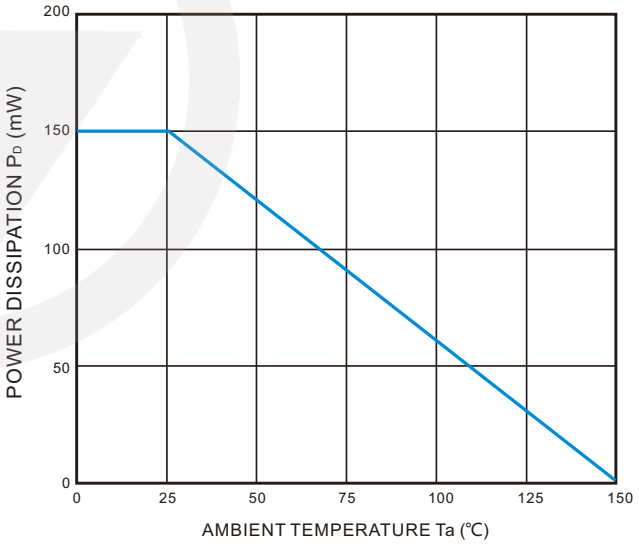
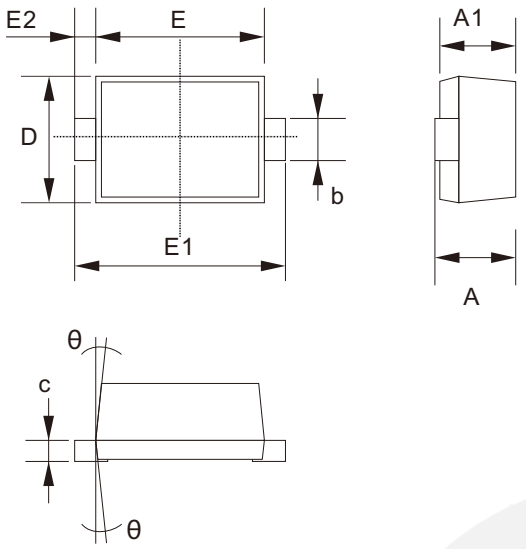


Fig.4 Power Derating Curve



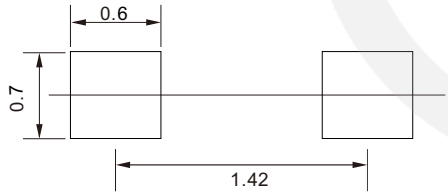
SOD-523 Package Outline



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	

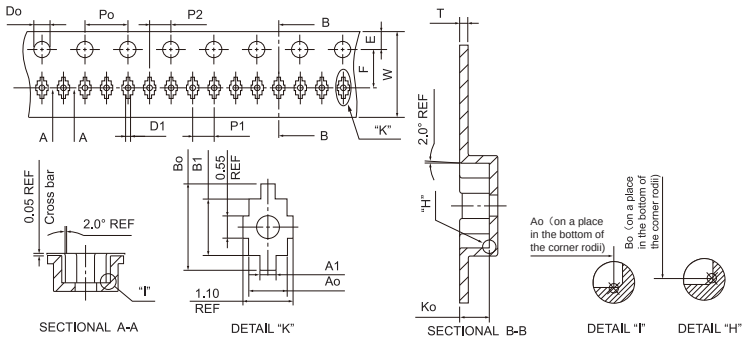
SOD-523 Suggested Pad Layout



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

Carrier Tape Dimensions

Unit：mm

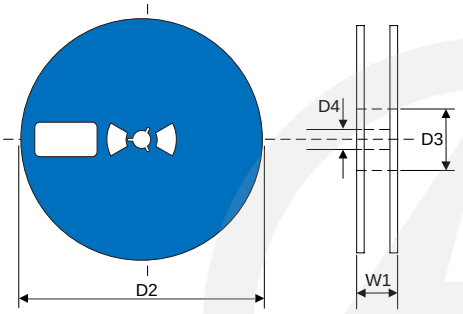


Symbol	Spec	Symbol	Spec
A0	0.90±0.05	P0	4.00±0.10
A1	0.39±0.05	P1	2.00±0.05
B0	1.95±0.10	P2	2.00±0.05
B1	1.30±0.05	D0	1.50 $^{+0.10}_{0}$
K0	0.69±0.05	D1	0.50±0.05
10P0	40.0±0.10	F	3.50±0.05
T	0.18±0.02	W	8.00 $^{+0.30}_{-0.10}$
E	1.75±0.10		

Reel Dimensions

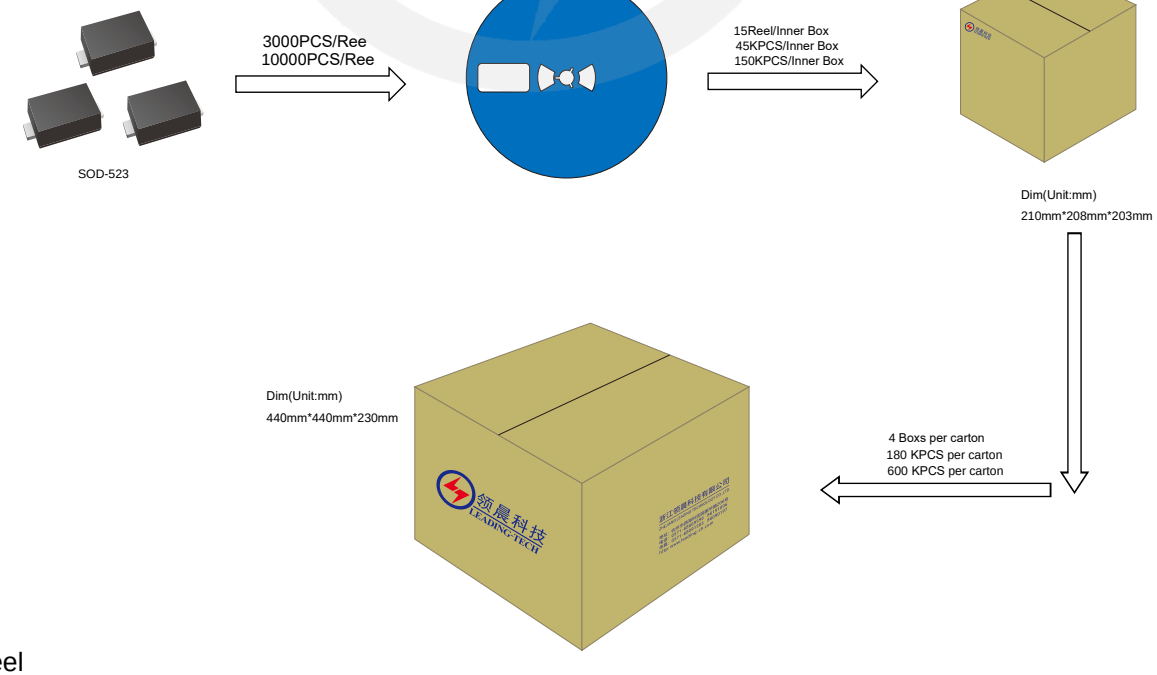
Unit：mm

7” Reel



D2	Φ178.0±2.0
D3	Φ50.0
D4	13.0±0.5
W1	12±0.5
Quantity: 3000/10000PCS	

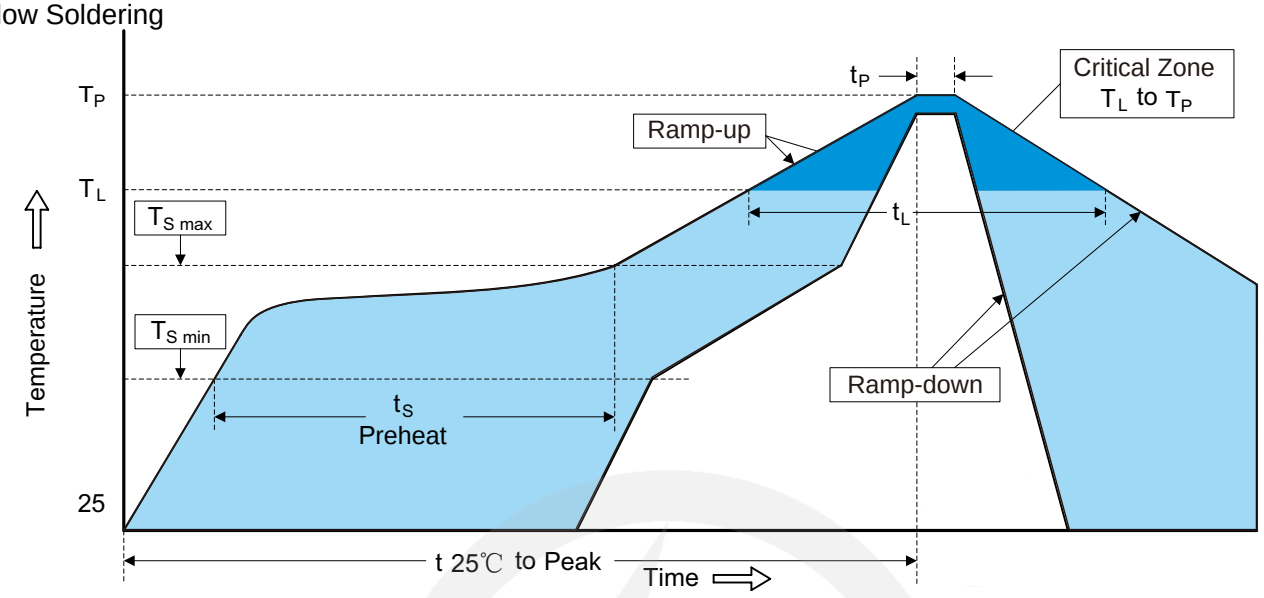
Packaging



7 inchs Reel

Recommended Soldering Conditions

Reflow Soldering



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3℃/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_S)	 150℃ 200℃ 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	 3℃/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	 217℃ 60-150 seconds
Peak Temperature (T_P)	260℃
Time within 5℃ of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to Peak Temperature	8 minutes max.

Important Notice and Disclaimer

Leading-Tech reverses the right to make changes to this document and its products and specifications at any time without notice.

Customers should obtain and confirm the latest product information and specifications before final design,purchase or use.

Leading-Tech makes no warranty,representation or guarantee regarding the suitability of its products for any particular purpose,not does Leading-Tech assume any liability for application assistance or customer product design.

Leading-tech does not warrant or accept any liability with products which are purchase or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of Leading-Tech.

Leading-Tech products are not authorized for use as critical components in life support devices or systems without express written approval of Leading-tech.

Version Update Information

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision content	Revision Reason	Revision Person	Note
01	2024.10.10	2024.10.10	3.0	New File	/	Ding	