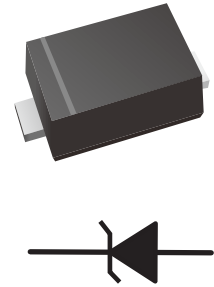


1-Line Uni-directional TVS Diode

Features

- Protects one data or power line
- Ultra low clamping voltage
- Operating voltage: 5V
- High peak pulse current capability
- IEC61000-4-2 $\pm 30\text{KV}$ contact $\pm 30\text{KV}$ air
- IEC61000-4-5 (lightning) 20A(8/20us)
- Lead free in comply with EU RoHS 2011/65/EU directives



Mechanical Data

- Case:SOD-523
- Flammability Rating: UL 94V-0
- Polarity:Color band denotes cathode end
- Approx. Weight: 1.4mg

Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players

Ordering Information

Part Number	Marking	Shipping	Reel
LTE5L05A01H-TR3	05W	3000PCS Tape&Reel	7 inches
LTE5L05A01H-TR10	05W	10000PCS Tape&Reel	7 inches



Absolute Maximum Rating

Parameters	Symbol	Value	Unit
ESD per IEC61000-4-2(Air) ESD per IEC61000-4-2(Contact)	V _{ESD}	±30 ±30	kV
Peak Pulse Current (8/20μs) @Ta=25°C	I _{PP}	20	A
Total Power Dissipation on FR-5 Board @Ta=25°C	P _{PP}	280	W
Maximum Junction temperature	T _J	-55-+125	°C
Storage Temperature Range	T _{STG}	-55-+150	°C

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

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Stand-Off voltage	V _{RWM}				5.0	V
Reverse Breakdown Voltage	V _{BR}	I _T =1mA	6			V
Reverse Leakage Current	I _R	V _{RWM} =5.0V			300	nA
Forward Voltage	V _F	I _F =10mA		0.8	1.2	V
Clamping Voltage	V _C	I _{PP} =1A		8	10	V
		I _{PP} =20A		13	15	V
Junction Capacitance	C _j	V _R =0V, f=1MHz		180		pF

Characteristics Curve

Fig.1 Junction Capacitance vs Reverse Voltage

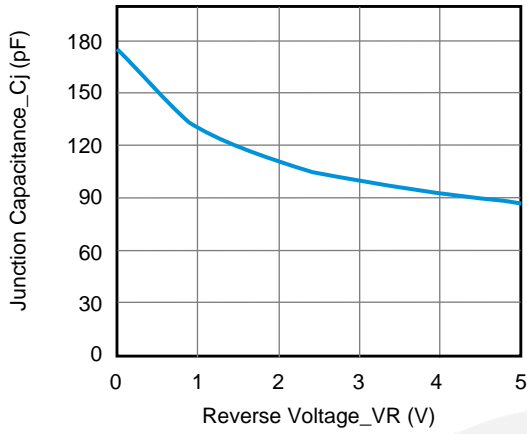


Fig.2 Peak Pulse Power vs Pulse Time

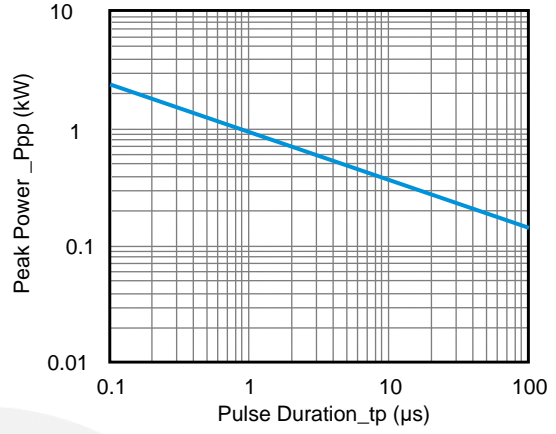


Fig.3 Clamping Voltage vs Peak Pulse Current

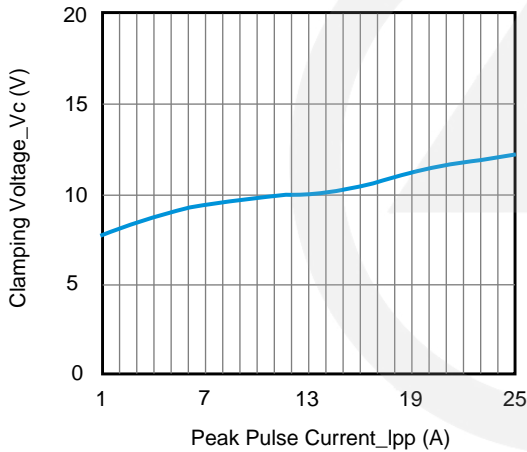


Fig.4 Power Derating Curve

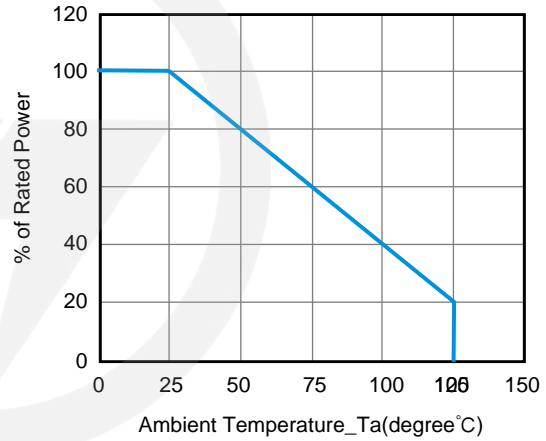
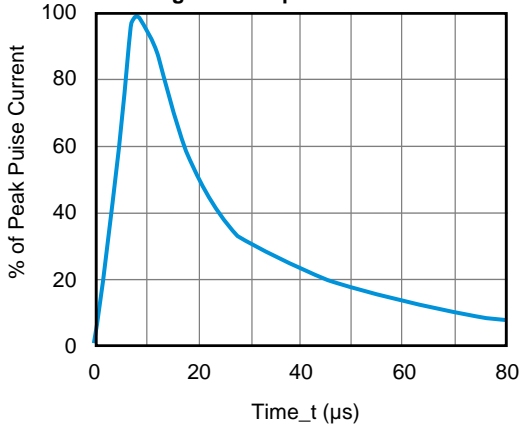
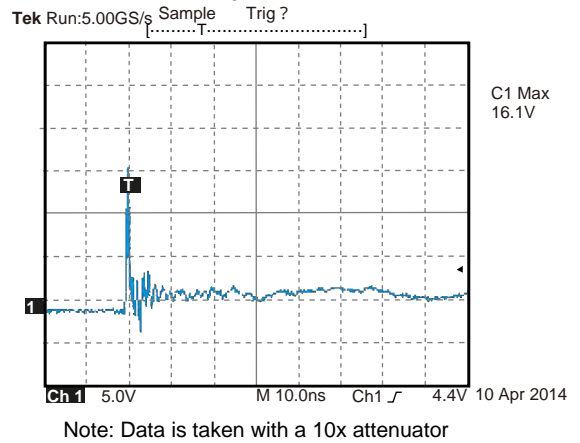


Fig.5 8 X 20μs Pulse Waveform

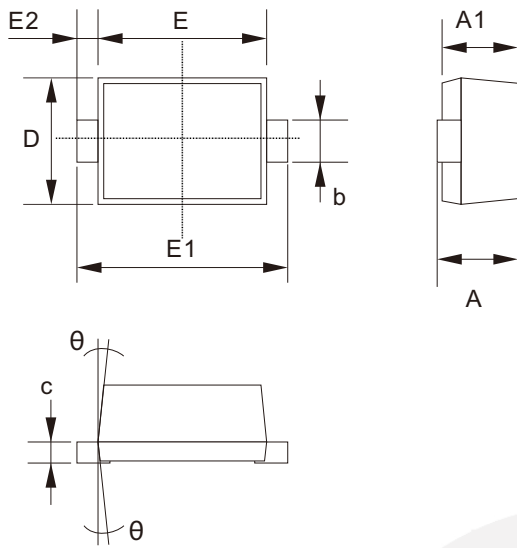


**Fig.6 ESD Clamping Voltage
8 kV Contact per IEC61000-4-2**



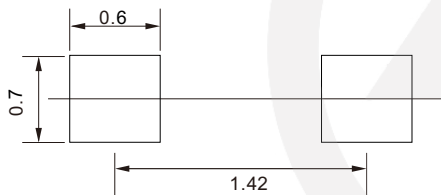
SOD-523 Package Outline

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

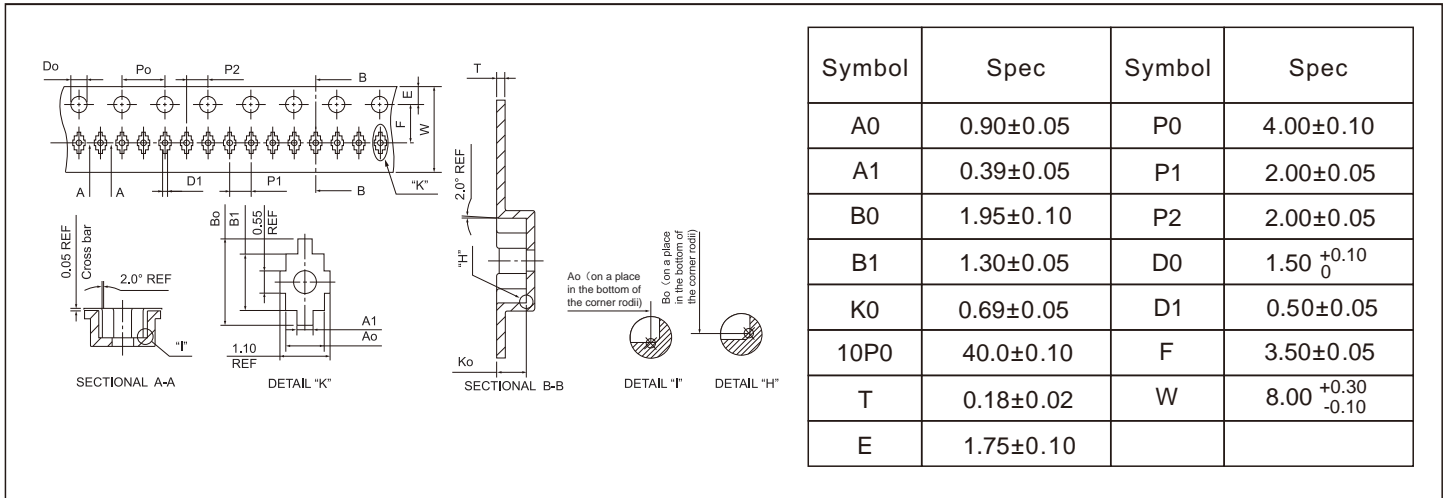


Note:

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

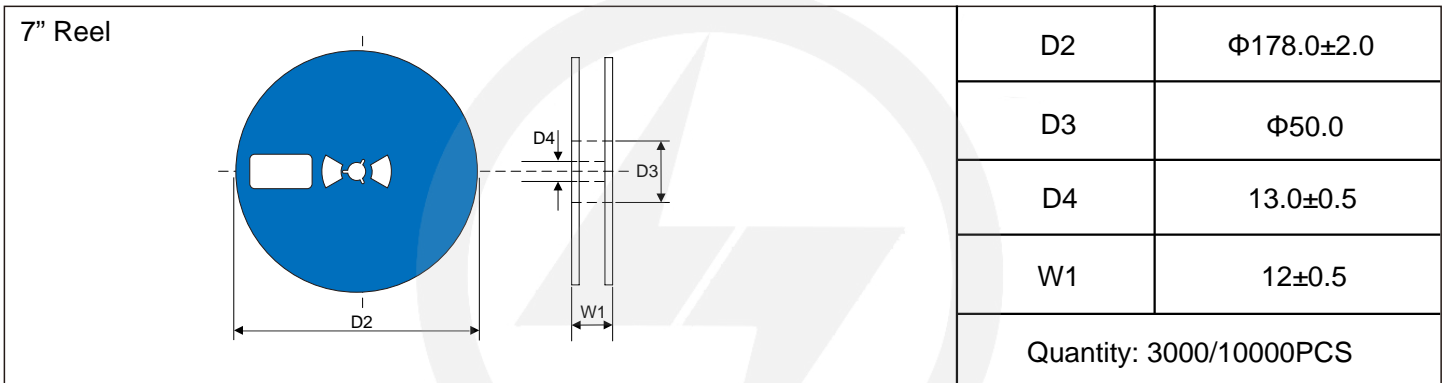
Carrier Tape Dimensions

Unit : mm

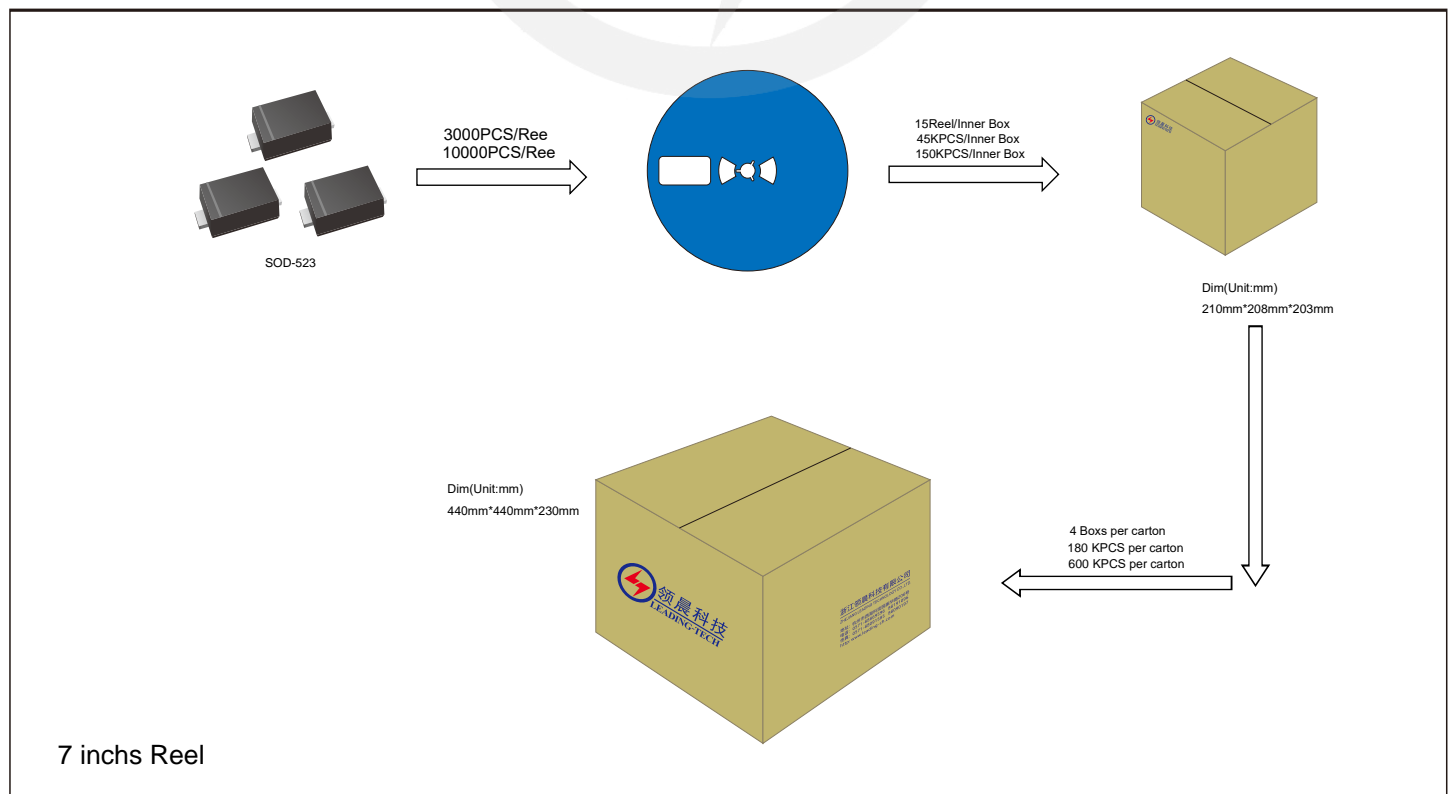


Reel Dimensions

Unit : mm

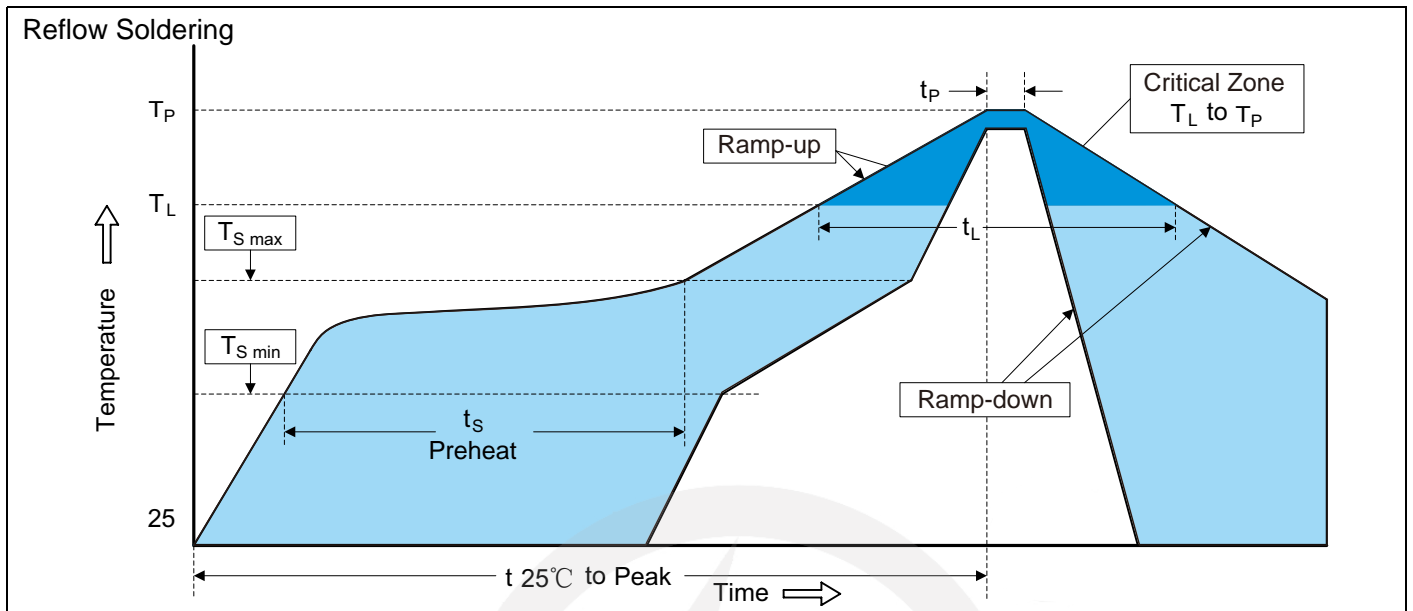


Packaging





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	2025.06.11	2025.06.11	3.0	New File	/	Ding	