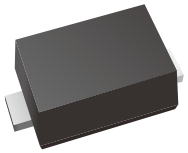
LTE52C05L01

Transient Voltage Suppressors for ESD Protection

Features



- IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- Peak power dissipation: 128W (8/20μs)
- Protects one directional I/O line
- Low clamping voltage
- Working voltages : 5V
- Low leakage current
- Lead free in comply with EU RoHS 2011/65/EU directives

Mechanical Data

- Case:SOD-523
- Terminals: Tin plated, solderable per MIL-STD-750, method 2026
- MSL1

Applications

- High Speed Line :USB1.0/2.0, VGA, DVI, SDI
- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Projection TV
- Cellular handsets and accessories
- Portable instrumentation
- Peripherals

Ordering Information

Part Number	Marking	Shipping	Reel
LTE52C05L01-TR3	5C∞	3000PCS Tape&Reel	7 inchs
LTE52C05L01-TR10	5C∞	10000PCS Tape&Reel	7 inchs

Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Symbol	Parameter	Value	Unit
V_{ESD}	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	±30 ±30	kV
P_{PP}	Peak Pulse Power (8/20μs)	128	W
T_{OPT}	Operating Temperature	-40~150	°C
T_{STG}	Storage Temperature	-40~150	°C

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

Symbol	Parameter	Test Condition	Min	Typ	Max	Unit
V_{RWM}	Reverse Working Voltage				5.0	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	5.6		9.0	V
I_R	Reverse Leakage Current	V_{RWM} = 5V			1.0	μA
V_C	Clamping Voltage	I_{PP} = 5A, t_p = 8/20μs			11.6	V
V_C	Clamping Voltage	I_{PPmax} = 8A , t_p = 8/20μs			16.0	V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz		10	15	pF

Characteristic Curves

Fig.1 Pulse Waveform

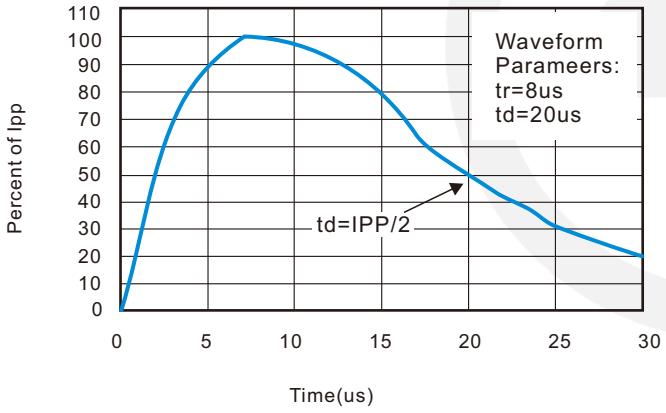


Fig.2 Power Derating Curve

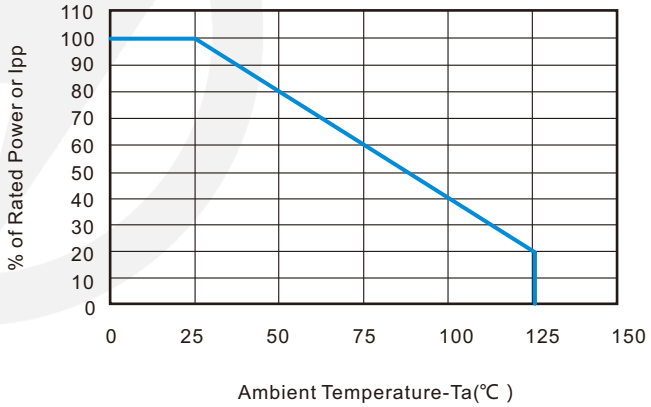


Fig.3 Voltage vs Capacitance

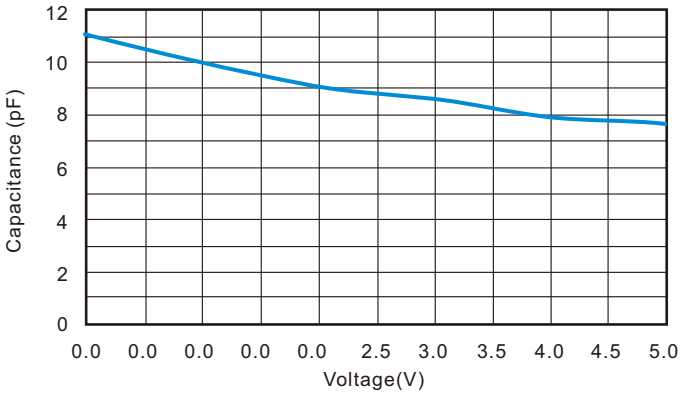
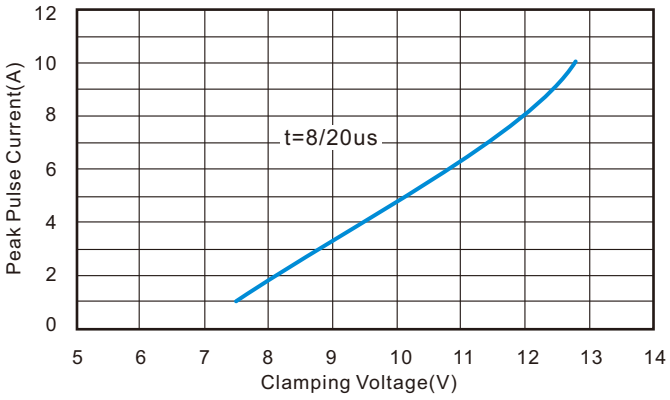
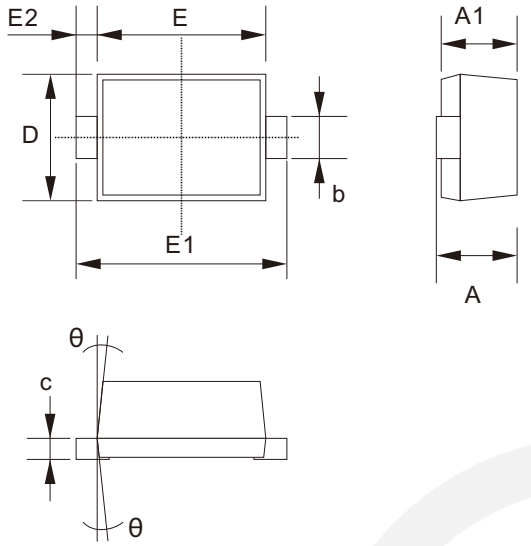


Fig.4 Clamping Voltage vs Peak Pulse Current



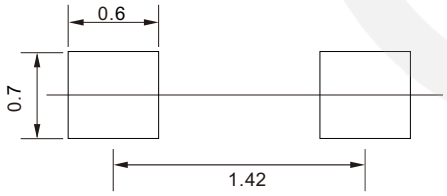
SOD-523 Package Outline



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	

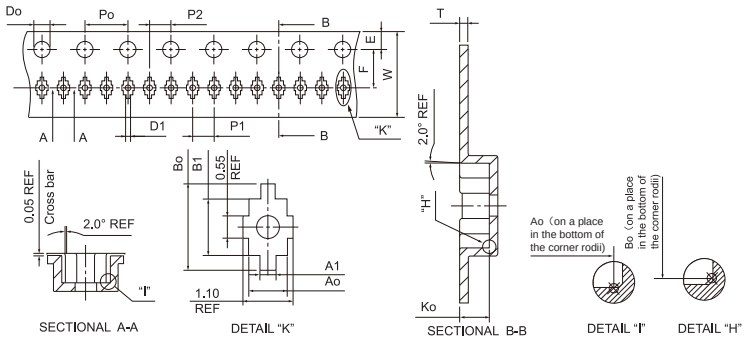
SOD-523 Suggested Pad Layout



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

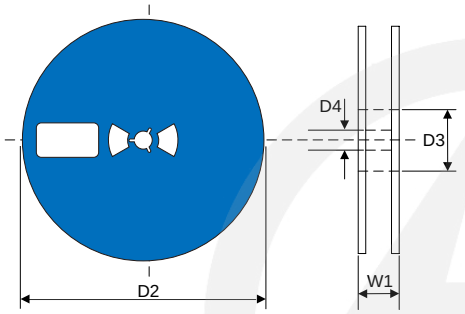


Symbol	Spec	Symbol	Spec
A0	0.90±0.05	P0	4.00±0.10
A1	0.39±0.05	P1	2.00±0.05
B0	1.95±0.10	P2	2.00±0.05
B1	1.30±0.05	D0	$1.50^{+0.10}_{0}$
K0	0.69±0.05	D1	0.50±0.05
10P0	40.0±0.10	F	3.50±0.05
T	0.18±0.02	W	$8.00^{+0.30}_{-0.10}$
E	1.75±0.10		

Reel Dimensions

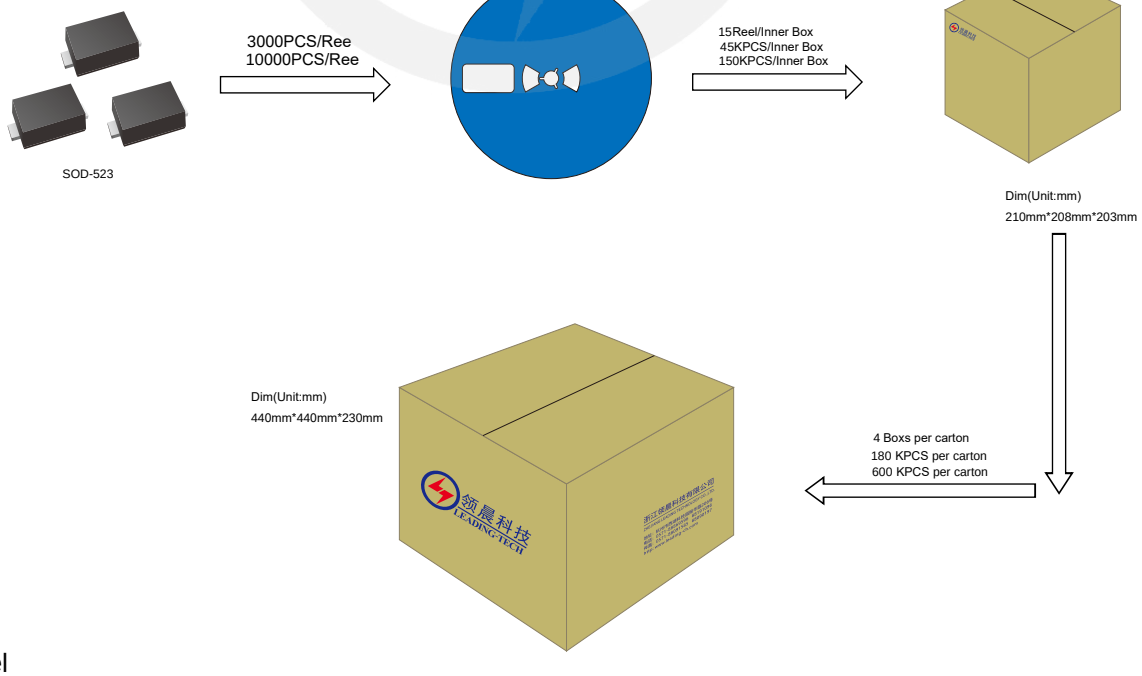
Unit：mm

7” Reel



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

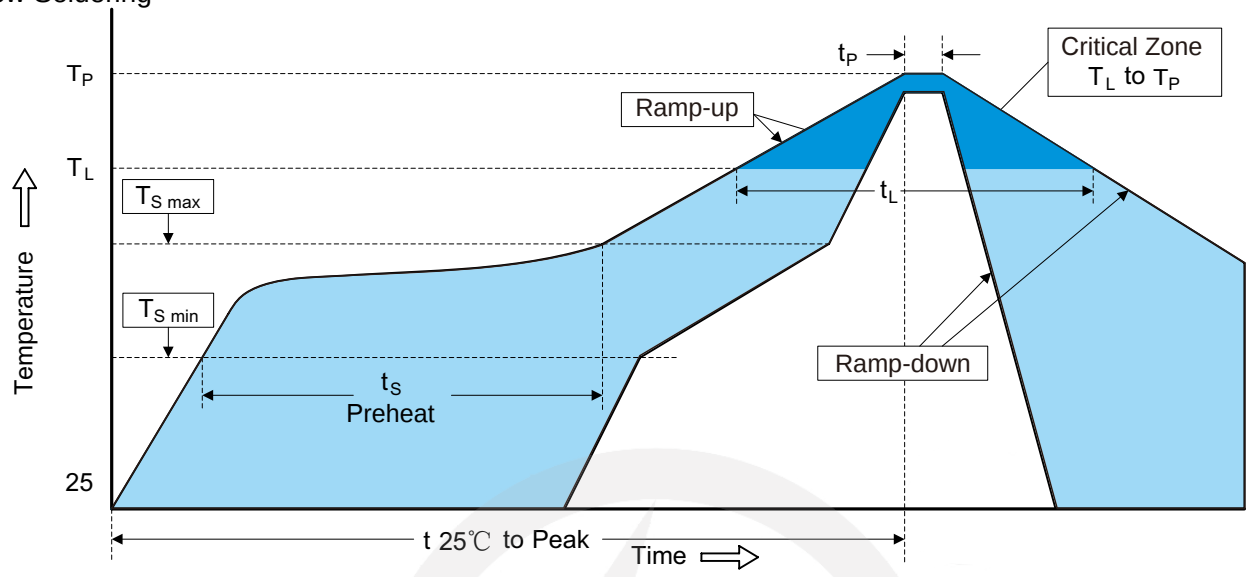
Packaging



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.

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Version Update Information

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision content	Revision Reason	Revision Person	Note
01	2024.12.16	2024.12.16	3.0	New File	/	Ding	