LTE1ZxxC01 Series

Bidirectional TVS Diodes

Features

- IEC61000-4-2 (ESD) ±30kV (Contact)
  IEC61000-4-2 (ESD) ±30kV (Air)
- IEC61000-4-4 (EFT) 40A (5/50ηs)
- 350 Watts Peak Pulse Power per (tp=8/20μs)
- Protects one I/O line (bidirectional)
- Low clamping voltage
- Working voltages:
  3V,5V,8V,12V,15V,18V,20V,24V,36V
- Low leakage current
- Lead free in comply with EU RoHS 2011/65/EU directives

Mechanical Data

- Case: SOD-123
- FlammabilityRating: UL94V-0
- Approx. Weight: 10.5mg

Ordering information

Part Number	Shipping	Reel
LTE1ZxxC01-TR3	3000PCS Tape&Reel	7 inchs
LTE1ZxxC01-TR12	12000PCS Tape&Reel	13 inchs

Absolute Maximum Rating

Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	±30 ±30	kV
P_{PP}	Peak Pulse Power (8/20μs)	350	W
T_{OPT}	Operating Temperature	-55/+150	°C
T_{STG}	Storage Temperature	-55/+150	°C
T_L	Lead Soldering Temperature	260 (10 sec.)	°C

Electrical Characteristics (Tamb=25°C)

Part Number	Device Marking	V_{RWM} (V) (max.)	V_B (V) (min.)	I_T (mA)	V_C@1A (V) (max.)	V_C (V) (max.)	(@A)	I_R (μA) (max.)	C_T (pF) (max.)
LTE1Z03C01	2A	3.3	4.0	1	7.5	16.0	20	40	450
LTE1Z05C01	2B	5.0	6.0	1	9.8	18.0	17	10	200
LTE1Z08C01	2C	8.0	8.5	1	13.4	24.0	15	2	120
LTE1Z12C01	2D	12.0	13.3	1	19.0	32.0	11	1	75
LTE1Z15C01	2J	15.0	16.7	1	24.0	38.0	10	1	68
LTE1Z18C01	2K	18.0	20.0	1	29.0	45.0	9	1	57
LTE1Z20C01	2L	20.0	22.3	1	35.0	50.0	8	1	52
LTE1Z24C01	2H	24.0	26.7	1	43.0	52.0	7	1	50
LTE1Z36C01	2N	36.0	40.0	1	60.0	75.0	4.5	1	35

Characteristic Curves

Fig.1 8/20μs waveform per IEC61000-4-5

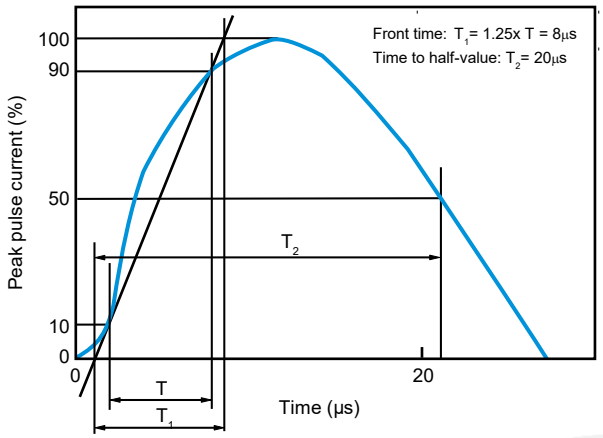


Fig.2 Contact discharge current waveform per IEC61000-4-2

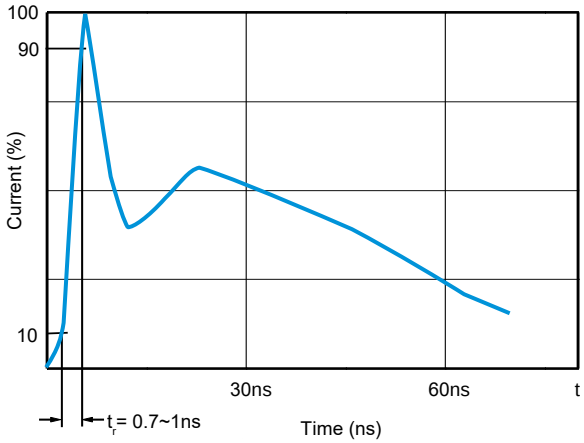


Fig.3 Voltage vs Capacitance

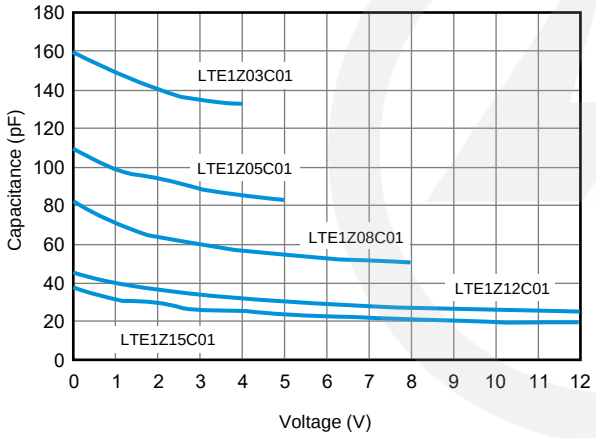


Fig.4 Voltage vs Capacitance

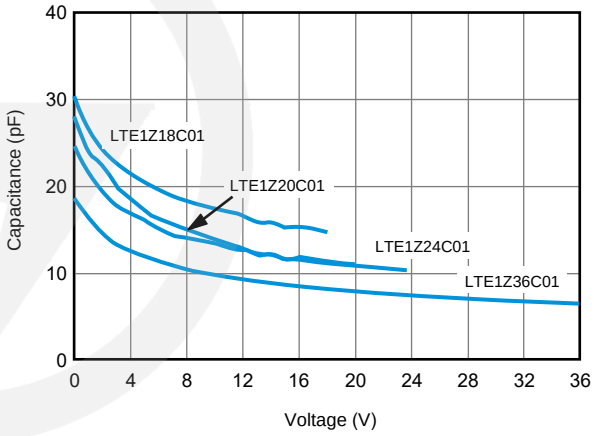


Fig.5 Clamping voltage vs Peak pulse current

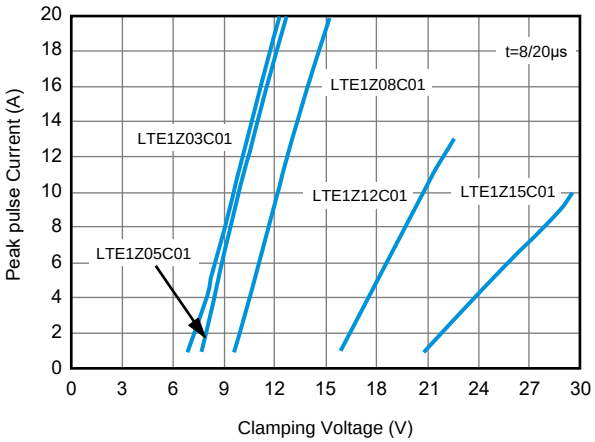
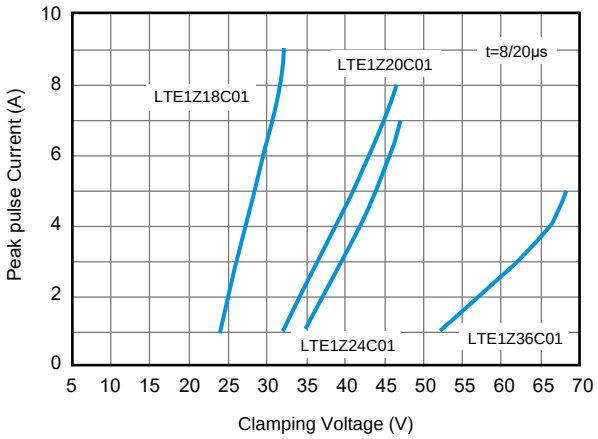
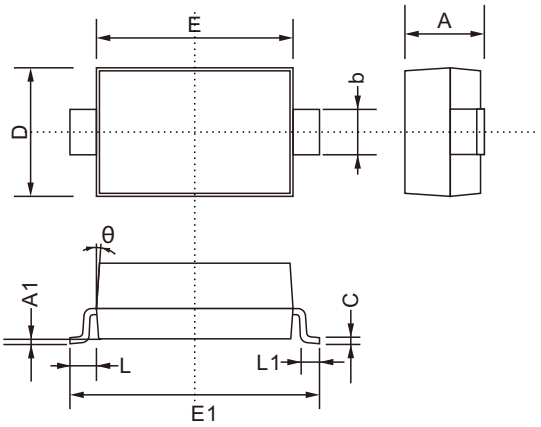


Fig.5 Clamping voltage vs Peak pulse current



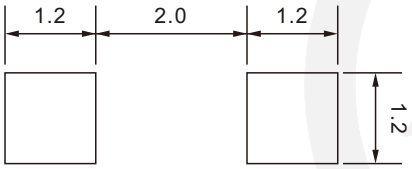
SOD-123 Package Outline



Unit: mm

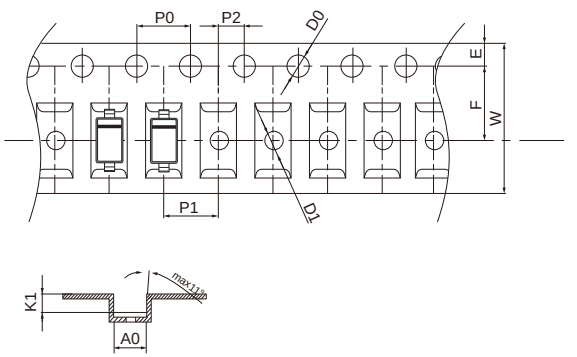
SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.300
A1	0.000	0.200
b	0.450	0.750
C	0.080	0.230
D	1.500	1.800
E	2.500	2.800
E1	3.550	3.900
L1	0.250	0.450
L	0.5REF	
θ	8°	

SOD-123 Suggested Pad Layout



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

Carrier Tape Dimensions

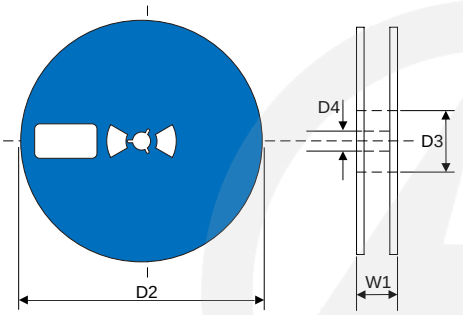


Symbol	Spec	Symbol	Spec
A0	1.75±0.10	P2	2.00±0.05
B0	3.94±0.10	D0	1.55±0.05
B1	2.59±0.10	D1	1.00±0.10
K0	1.47±0.10	T	0.20±0.05
K1	1.30±0.05	E	1.75±0.10
P0	4.00±0.10	F	3.50±0.05
P1	4.00±0.10	W	8.00 $^{+0.30}_{-0.10}$

Reel Dimensions

Unit：mm

7” Reel

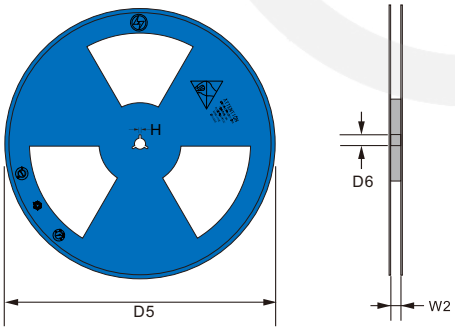


D2	Φ178.0±2.0
D3	Φ50
D4	13.0±0.5
W1	12±0.5
Quantity: 3000PCS	

Reel Dimensions

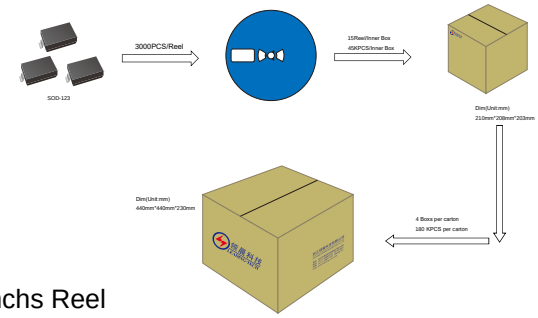
Unit：mm

13” Reel

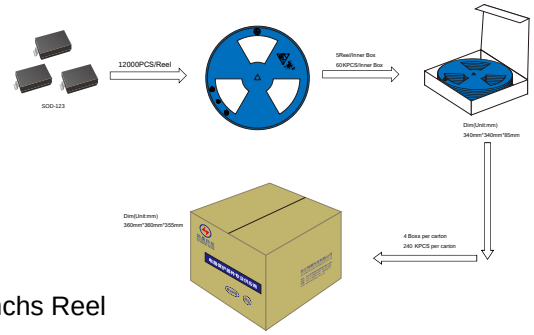


D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±2.0
Quantity: 12000PCS	

Packaging



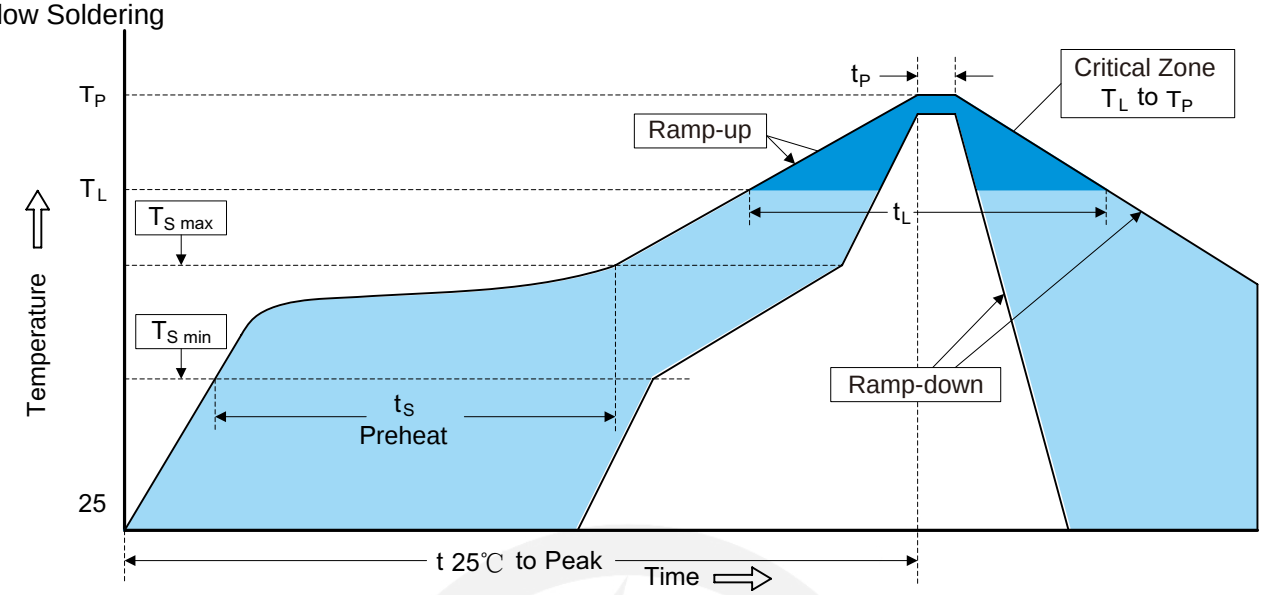
7 inchs Reel



13 inchs Reel

Recommended Soldering Conditons

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	2025.06.04	2025.06.04	3.0	New File	/	Ding	