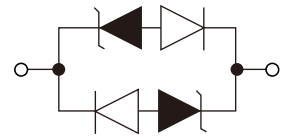
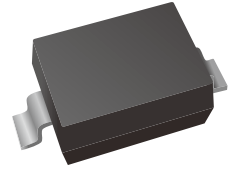


Bi-directional Ultra Low Capacitance TVS Array

Features

- IEC61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- Protects one I/O line (bidirectional)
- Low clamping voltage
- Working voltages : 12V
- Low leakage current
- Response Time is $< 1\text{ ns}$
- Lead free in comply with EU RoHS 2011/65/EU directives



Mechanical Data

- Package: SOD-323
- Flammability Rating: UL 94V-0
- Packaging: Tape and Reel
- High temperature soldering guaranteed: $260^{\circ}\text{C}/10\text{s}$
- Reel size: 7 inch

Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Peripherals
- USB Interface

Ordering Information

Part Number	Marking	Shipping	Reel
LTES12C01LG-TR3	DC	3000PCS Tape&Reel	7 inches
LTES12C01LG-TR12	DC	12000PCS Tape&Reel	13 inches

Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

Symbol	Parameter	Value	Units
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)	350	W
T _{OPT}	Operating Temperature	-55/+150	°C
T _{STG}	Storage Temperature	-55/+150	°C
T _L	Lead Soldering Temperature	260	°C

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

PART NUMBER	DEVICE MARKING	V _{RWM} (V) Max	V _B @1mA (V) Min	V _C @1A (V) Max	V _C @I _{pp} *1 (V)		V _C @I _{pp} (V)		I _R (μA)	C _J *2 (pF)	
					Max	I _{pp} (A)	Max	I _{pp} (A)		Type	Max
LTES12C01LG	DC	12.0	13.3	19.0	24.0	6	28.6	12	1	0.8	1.5

*1 Surge Pulse waveform tp=8/20us

*2 Capacitance @VR=0V f=1MHz



Characteristic Curves

Fig1. 8/20us Waveform per IEC61000-4-5

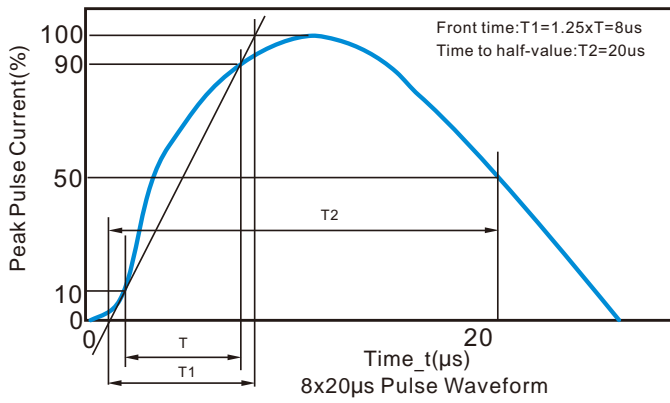


Fig2. Contact Discharge Current Waveform per IEC 61000-4-2

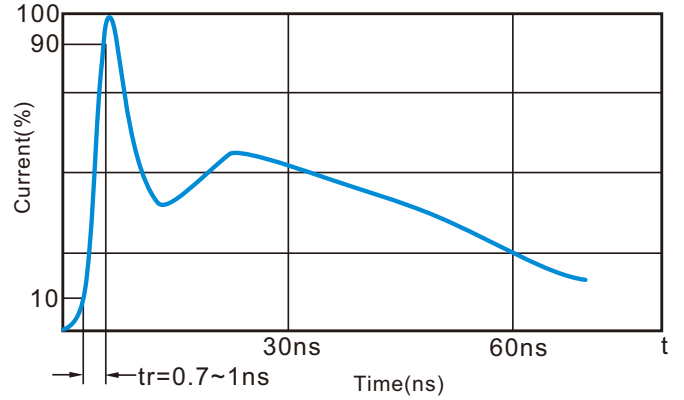
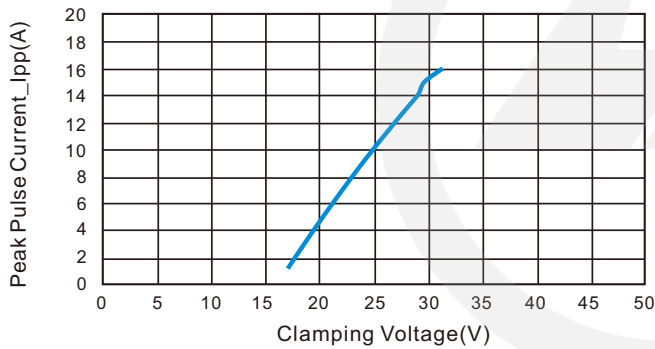


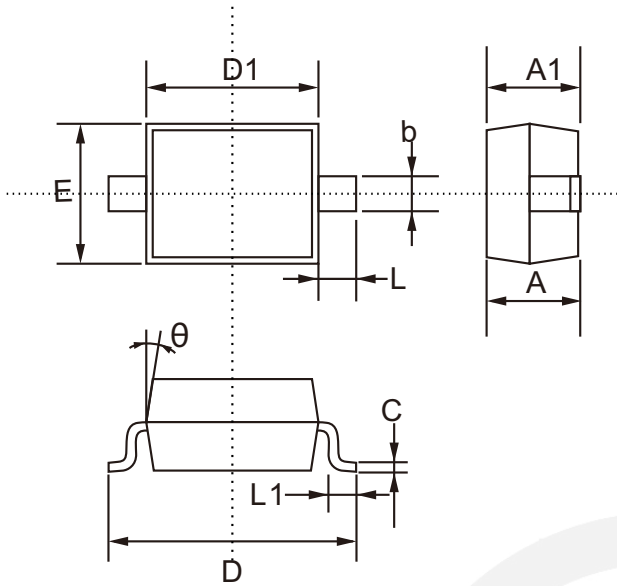
Fig3. Clamping Voltage vs Peak Pulse Current





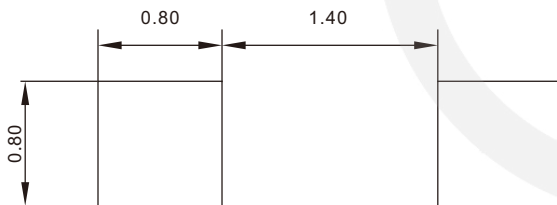
SOD-323 Package Outline

Unit: mm



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.800	1.100
A1	0.800	0.900
b	0.250	0.400
C	0.080	0.177
D	2.300	2.800
D1	1.400	1.800
E	1.150	1.400
L1	0.100	0.400
L	0.475 TYP.	
θ	8°	

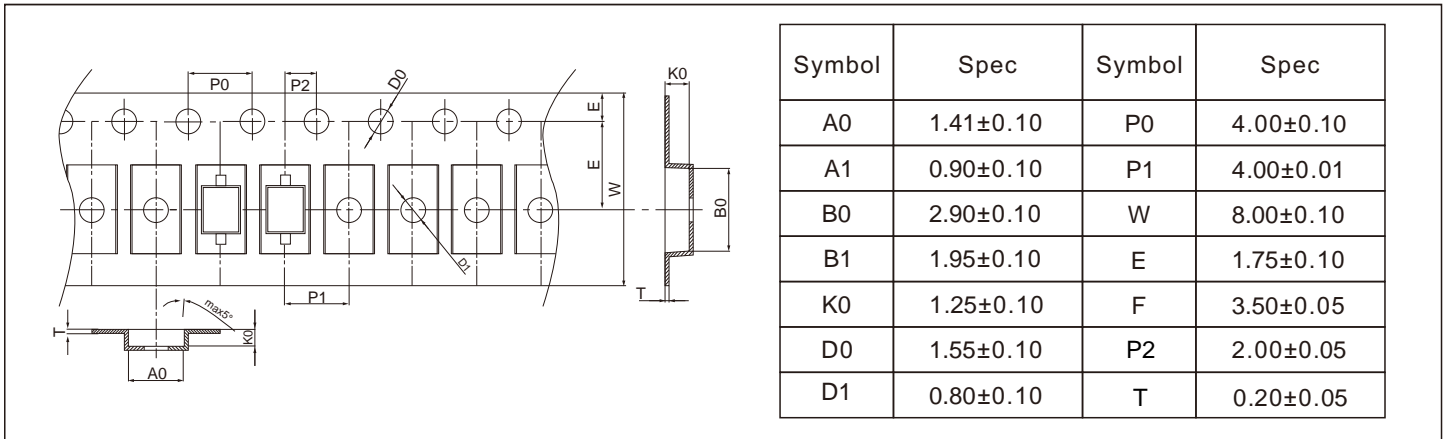
SOD-323 Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$
 3. The pad layout is for reference purpose only.

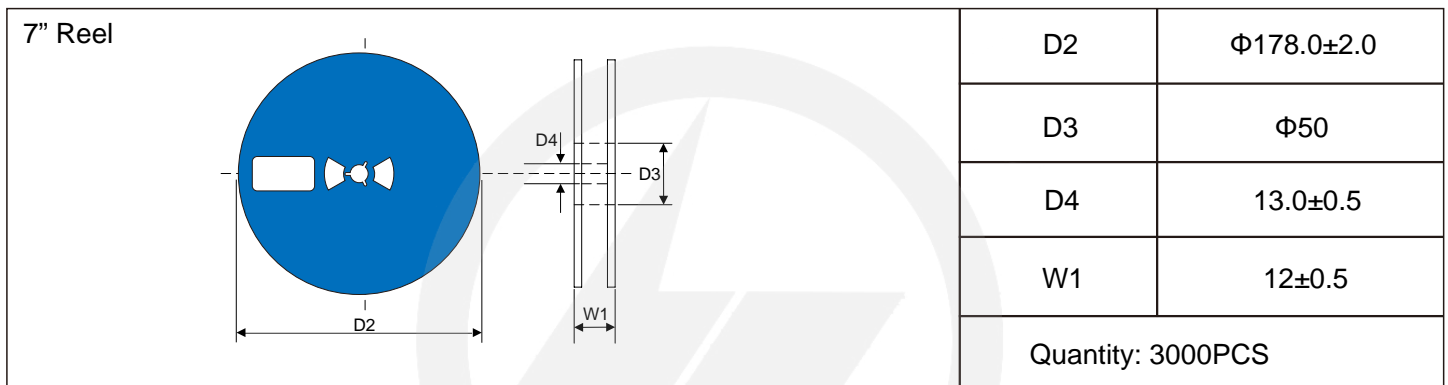
Carrier Tape Dimensions

Unit : mm



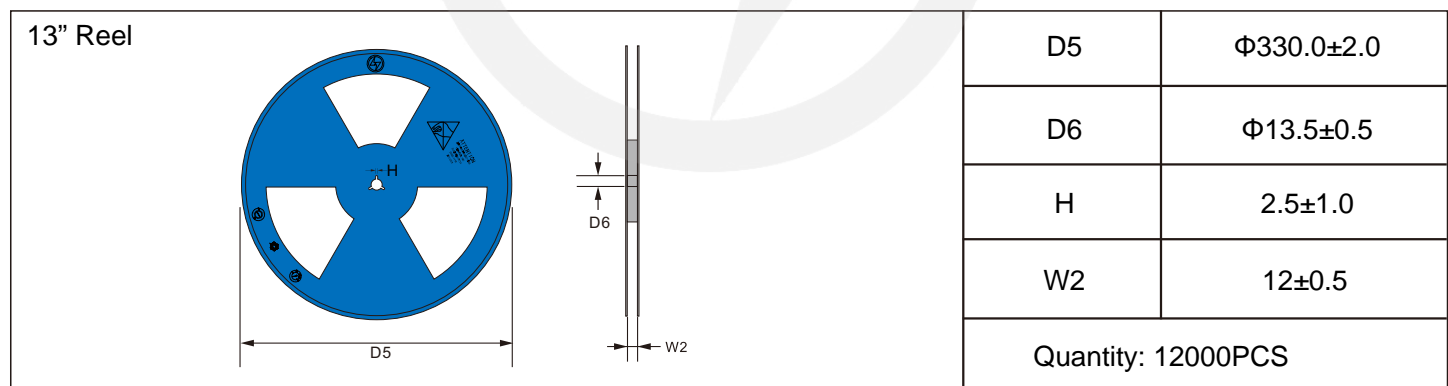
Reel Dimensions

Unit : mm

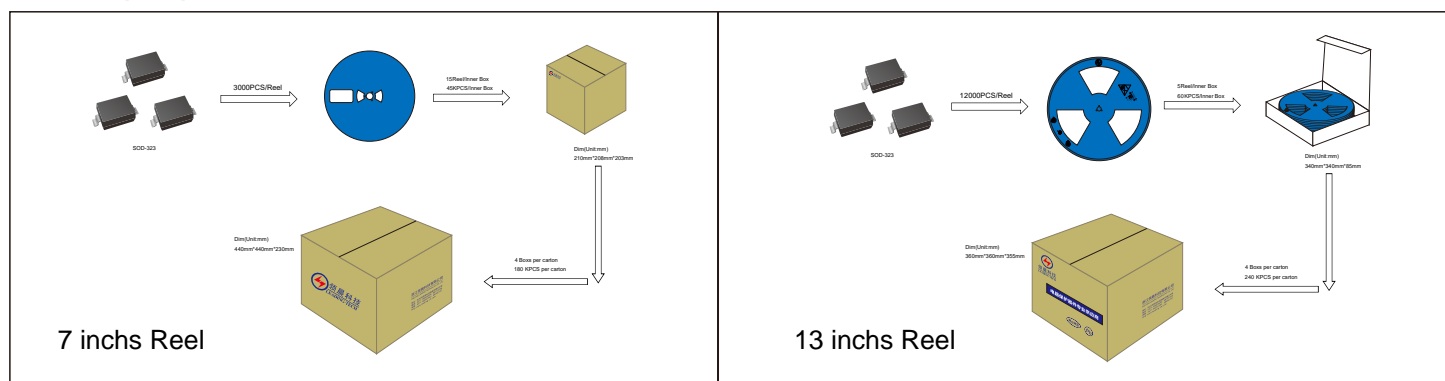


Reel Dimensions

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	2024.05.16	2024.05.16	3.0	New File	/	Ding	
02	2025.06.18	2025.06.18	3.1	Update packaging information	/	Ding	