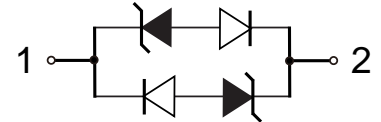
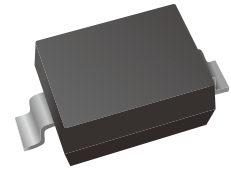


## Bi-directional Ultra Low Capacitance TVS Array

### Features

- IEC61000-4-2 (ESD)  $\pm 30\text{kV}$  (air),  $\pm 30\text{kV}$  (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning) 20A (8/20us)
- Protects one I/O line (bidirectional)
- Low clamping voltage
- Working voltages :3.3V
- Low leakage current
- Response Time is < 1 ns
- Lead free in comply with EU RoHS 2011/65/EU directives



### Mechanical Data

- Case:SOD-323
- Flammability Rating: UL 94V-0

### 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
LTES03C01LG-TR3	CC	3000PCS Tape&Reel	7 inches
LTES03C01LG-TR12	CC	12000PCS Tape&Reel	13 inches

### Absolute Maximum Rating

Symbol	Parameter	Value	Unit
$V_{ESD}$	ESD per IEC 61000-4-2 (Air)	$\pm 30$	kV
	ESD per IEC 61000-4-2 (Contact)	$\pm 30$	
$P_{PP}$	Peak Pulse Power (8/20 $\mu$ s)	350	W
$T_{OPT}$	Operating Temperature	-55/+150	$^{\circ}$ C
$T_{STG}$	Storage Temperature	-55/+150	$^{\circ}$ C
$T_L$	Lead Soldering Temperature	260	$^{\circ}$ C

### Electrical Characteristics (TA=25 $^{\circ}$ 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)		$V_C@I_{pp}^{*1}$ (V)		$I_R$ ( $\mu$ A) Max	$C_T^{*2}$ (pF) Typ.
					Max	$I_{pp}$ (A)	Max	$I_{pp}$ (A)		
LTES03C01LG	CC	3.3	4.0	7.0	13.9	8	20.0	20	5	0.8

\*1 Surge Pulse waveform tp=8/20 $\mu$ s

\*2 Capacitance @  $V_R=0V, f=1MHz$

### Characteristic Curves

Fig.1 8x20 $\mu$ s Pulse Waveform per IEC 61000-4-5

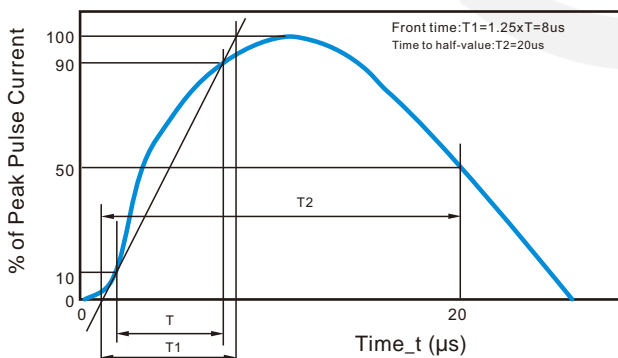


Fig.2 Contact Discharge Current Waveform per IEC 61000-4-2

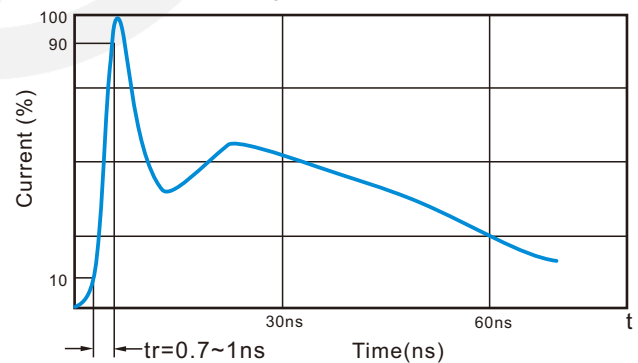


Fig.3 Voltage vs Capacitance

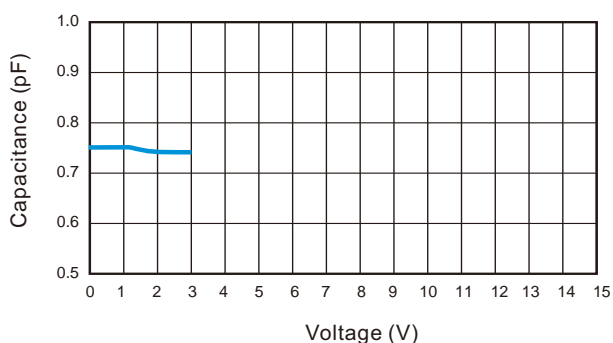
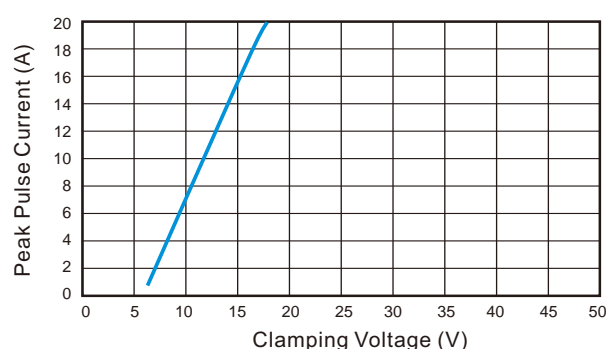


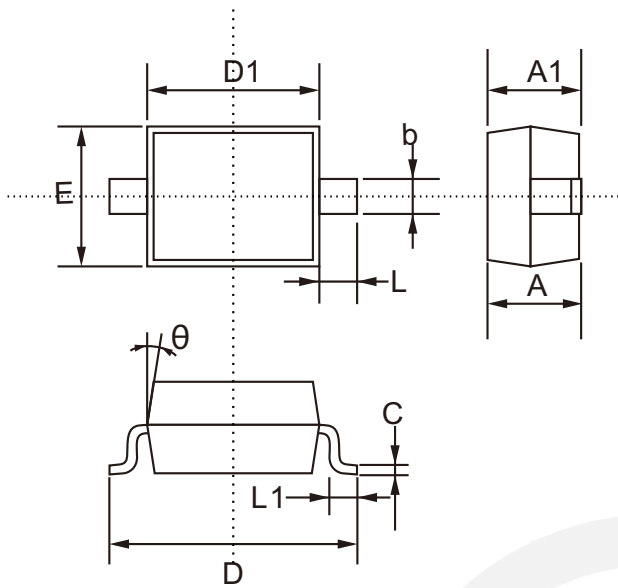
Fig.4 Clamping Voltage vs Peak Pulse Current





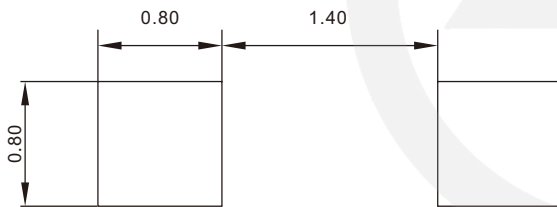
SOD-323 Package Outline

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.	
theta	8°	

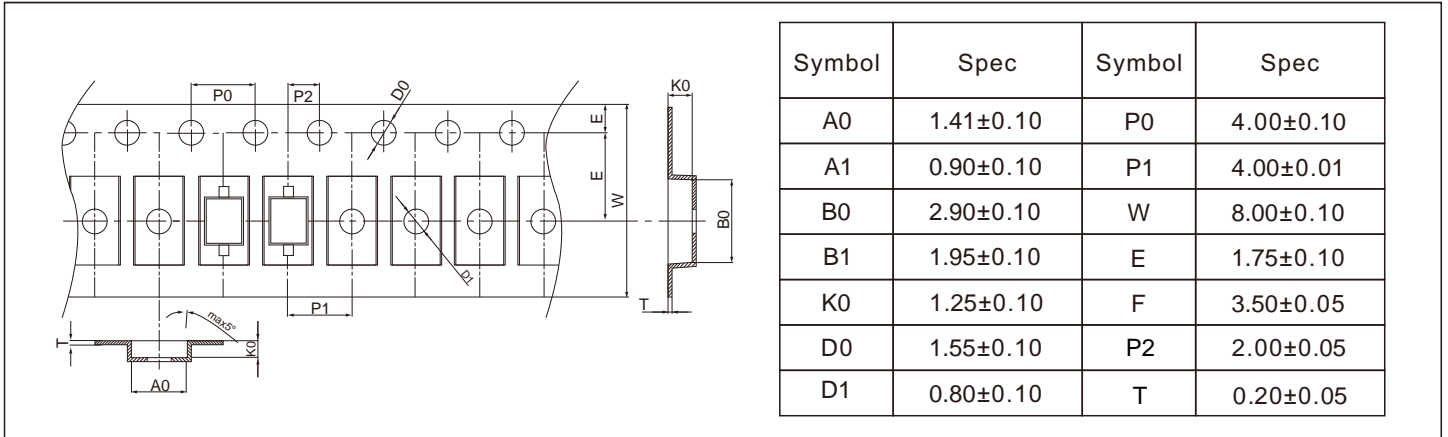
SOD-323 Suggested Pad Layout



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

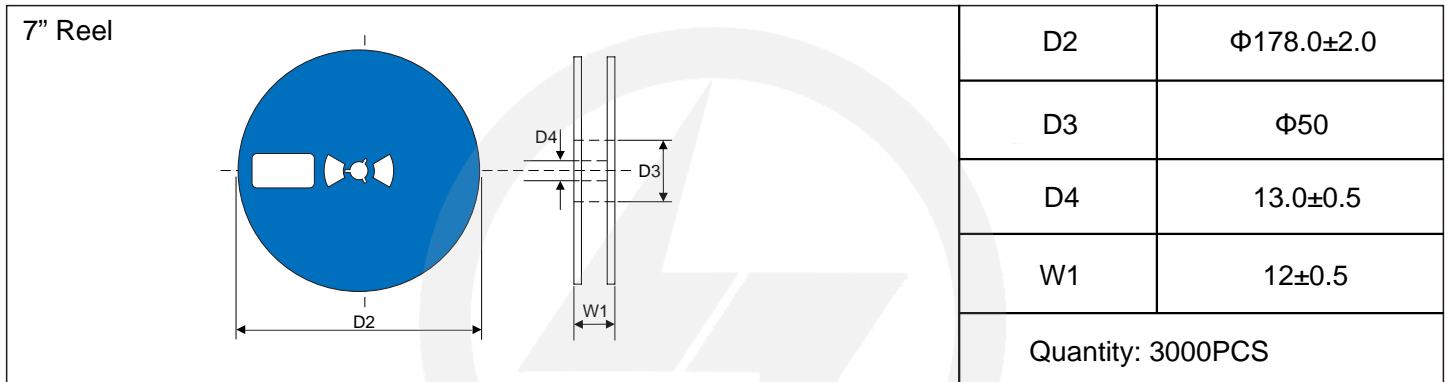
**Carrier Tape Dimensions**

Unit : mm



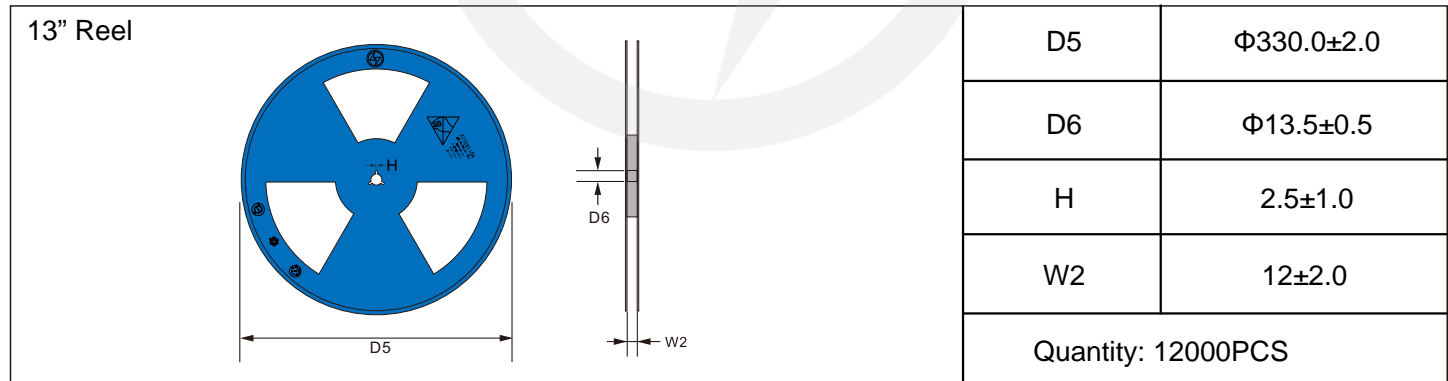
**Reel Dimensions**

Unit : mm

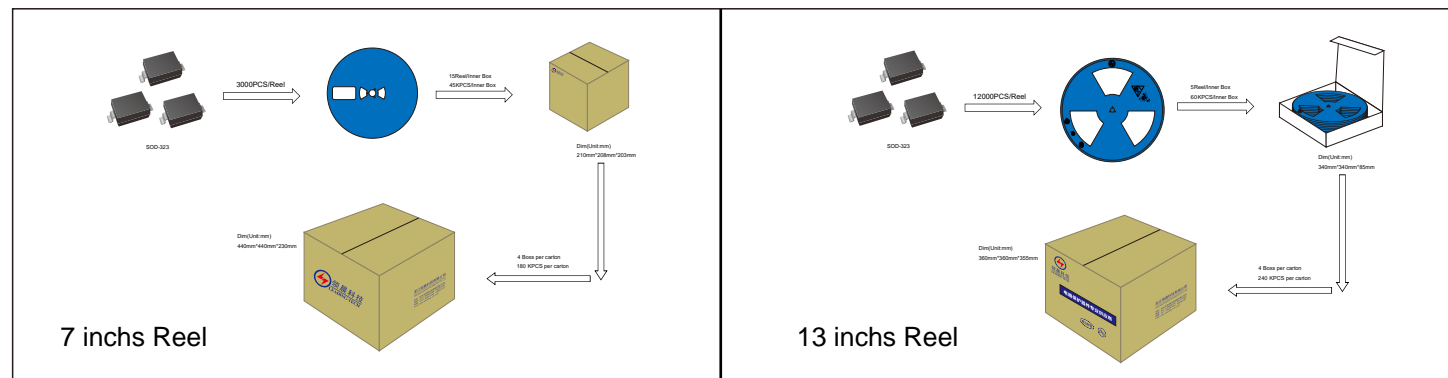


**Reel Dimensions**

Unit : mm



**Packaging**





Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T <sub>L</sub> to T <sub>P</sub> )	3°C/second max.
Preheat	
-Temperature Min (T <sub>S min</sub> )	150°C
-Temperature Max (T <sub>S max</sub> )	200°C
-Time (min to max) (t <sub>s</sub> )	60-180 seconds
T <sub>S max</sub> to T <sub>L</sub>	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T <sub>L</sub> )	217°C
-Time (t <sub>L</sub> )	60-150 seconds
Peak Temperature (T <sub>P</sub> )	260°C
Time within 5°C of actual Peak Temperature (t <sub>p</sub> )	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	2024.03.16	2024.03.16	3.0	New File	/	Ding	
02	2025.06.16	2025.06.16	3.1	Update packaging information	/	Ding	