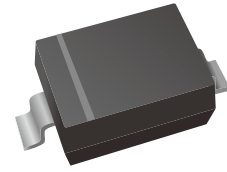


Transient Voltage Suppressors for ESD Protection Features

Features

- Protects one data or power line
- Operating Voltage: 4.5V
- High peak pulse current capability
- Ultra low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) ±30kV (Contact)
 - ±30kV (Air)
- IEC61000-4-5 (Lightning) 130A (8/20μs)
- Lead free in comply with EU RoHS 2011/65/EU directives



Mechanical Data

- Case:SOD-323
- Flammability Rating: UL 94V-0
- Lead Finish: Matte Tin
- Case Material:“Green”Molding Compound
- Polarity: Color band denotes cathode end

Applications

- Mobile Phonesand Accessories
- Battery Protection
- Power Supply Protection
- Hand Held PortableApplications
- Peripherals

Ordering Information

Part Number	Marking	Shipping	Reel
LTES4V5A01HN-TR3	47D	3000PCS Tape&Reel	7 inches
LTES4V5A01HN-TR12	47D	12000PCS Tape&Reel	13 inches

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	2200	W
Peak Pulse Current (8/20μs)	Ipp	130	A
ESD per IEC 61000-4-2 (Air)	VESD	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

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

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			4.5	V	
Breakdown Voltage	VBR	4.7			V	IT = 1mA
Reverse Leakage Current	IR			1	μA	VRWM = 4.5V
Clamping Voltage	VC			8.5	V	I _{PP} = 20A (8 x 20μs pulse)
Clamping Voltage	VC			17	V	I _{PP} = 130A (8 x 20μs pulse)
Junction Capacitance	CJ		500		pF	VR = 0V, f = 1MHz

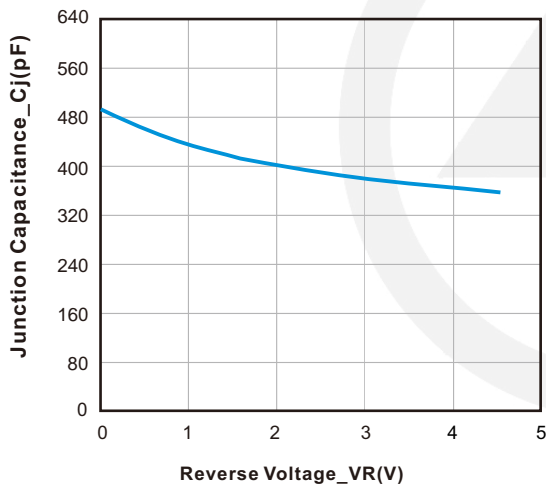
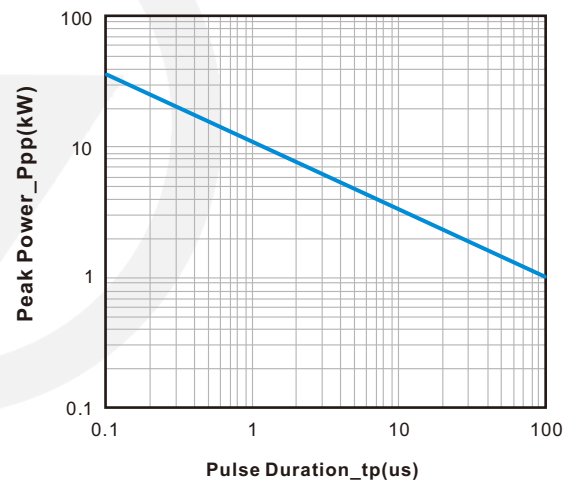
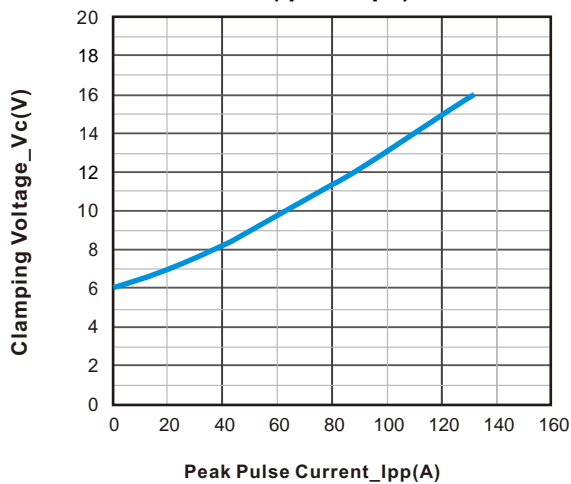
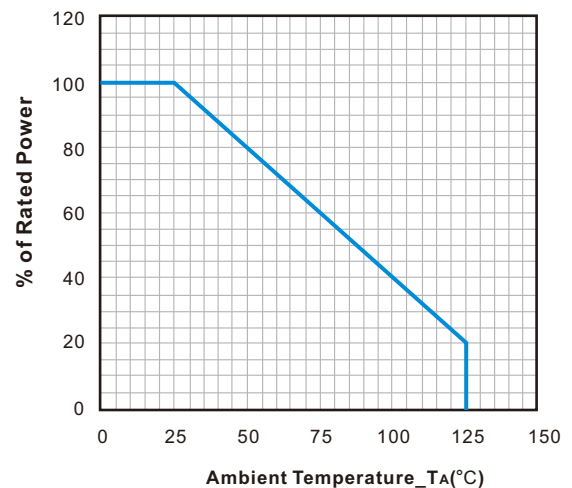
Characteristic Curves
Fig.1 Junction Capacitance vs. Reverse Voltage

Fig.2 Peak Pulse Power vs. Pulse Time

Fig.3 Clamping Voltage vs. Peak Pulse Current (tp=8/20μs)

Fig.4 Power Derating Curve




Fig.5 8 X 20 μ s Pulse Waveform

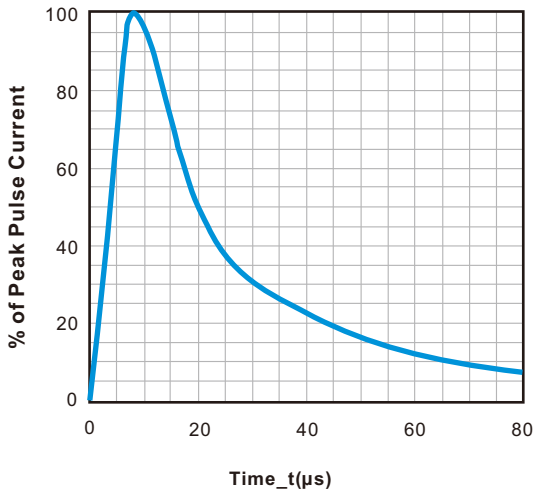
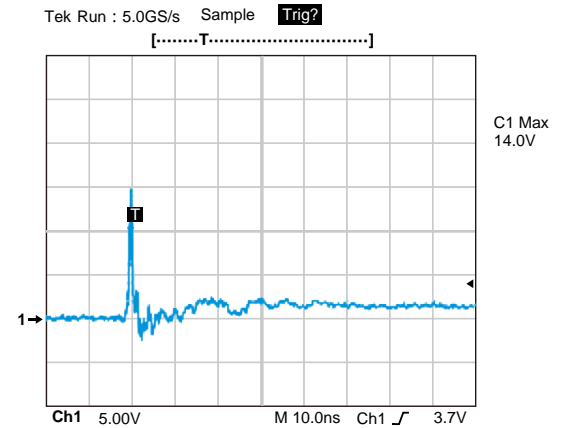


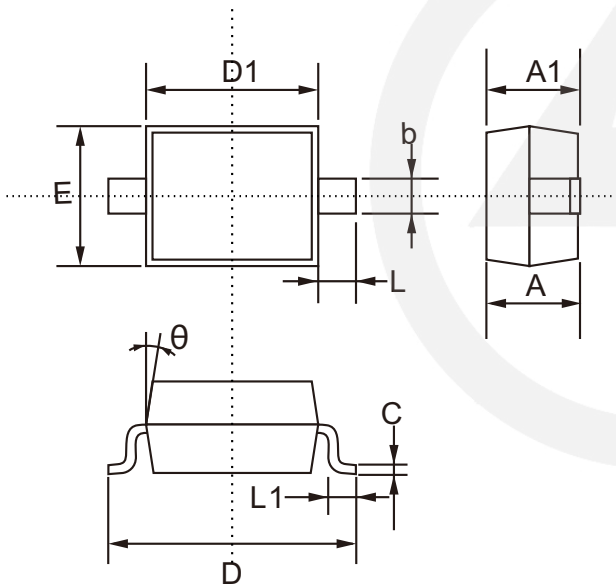
Fig.6 8 kV Contact per IEC61000-4-2



Note : Data is taken with a 10x attenuator
ESD Clamping Voltage

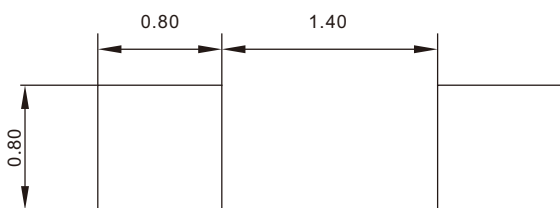
SOD-323 Package Outline

Unit : mm

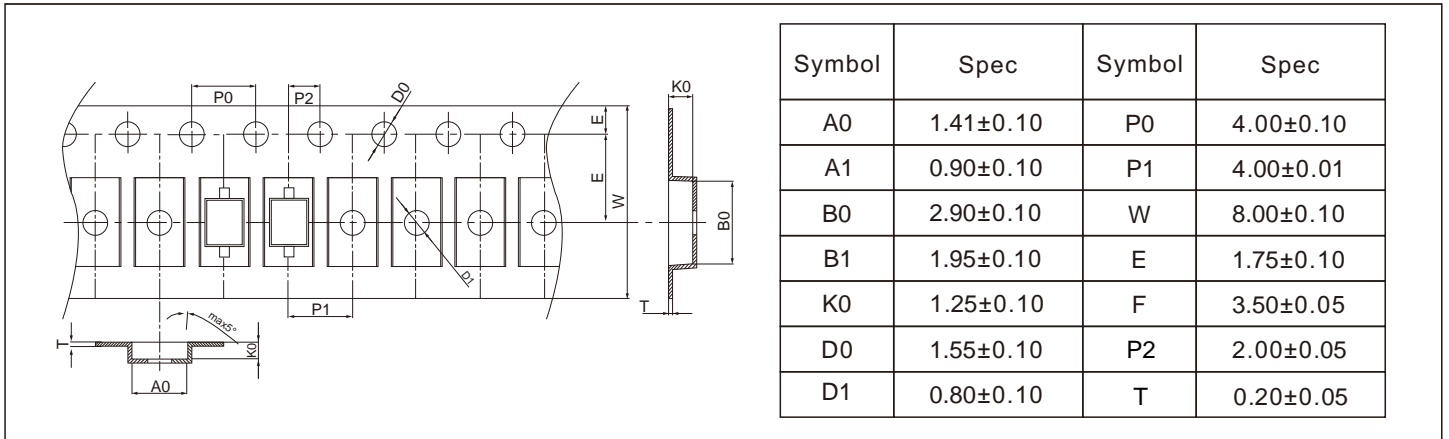
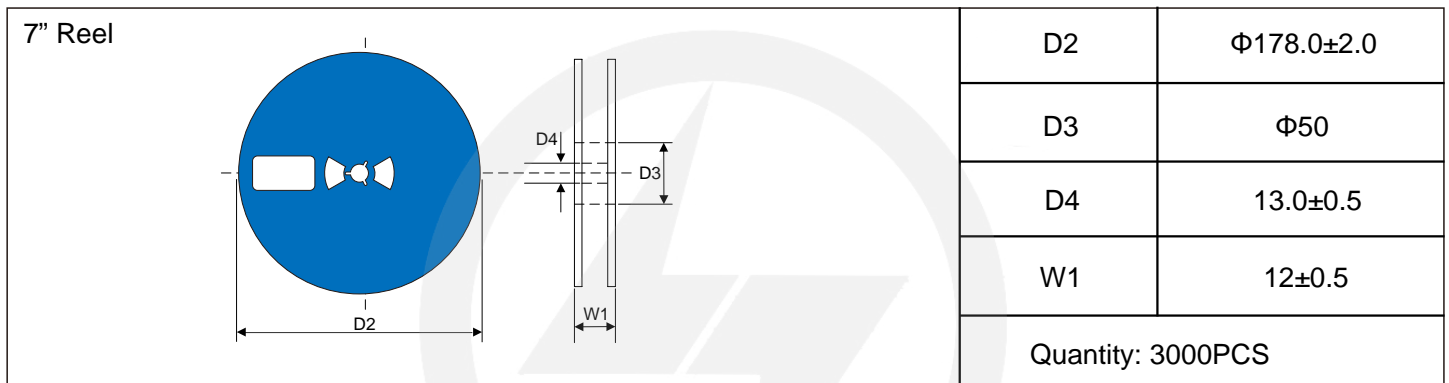
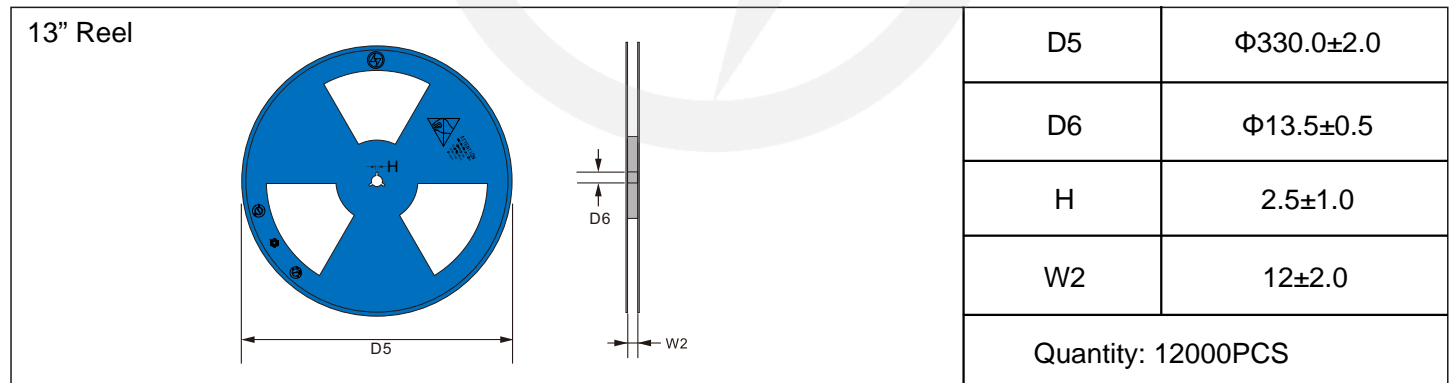
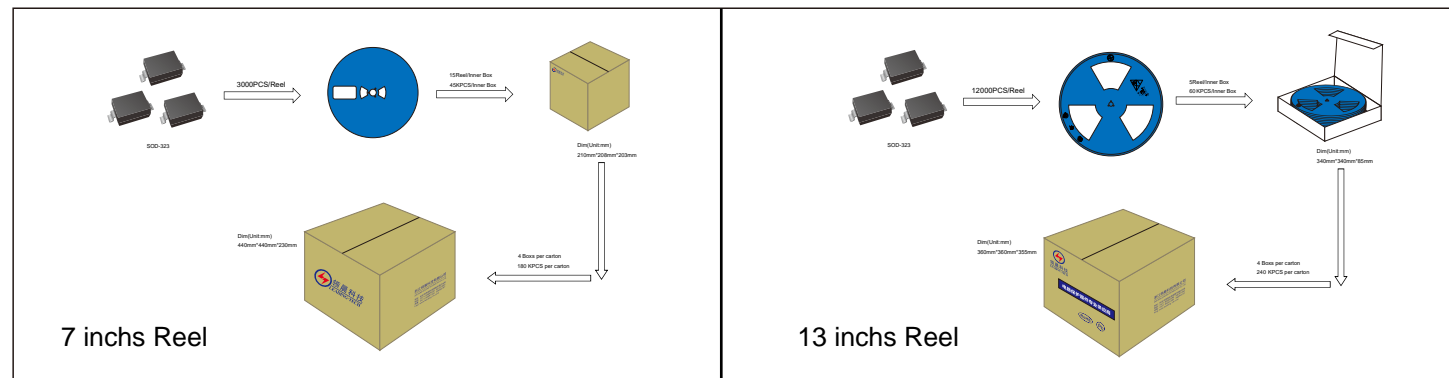


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.800	1.100
A1	0.800	0.900
b	0.250	0.400
C	0.080	0.177
D	2.300	2.800
D1	1.400	1.800
E	1.150	1.400
L1	0.100	0.400
L	0.475 TYP.	
θ	8°	

SOD-323 Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05 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	2024.03.16	2024.03.16	3.0	New File	/	Ding	