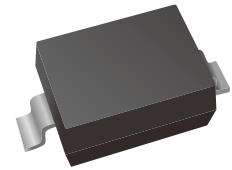


Transient Voltage Suppressors

Features

- Protects one data or power line
- Operating voltage: 3.3V
- Low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
- Air discharge: $\pm 30\text{kV}$
- Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (Lightning) 20A (8/20 μs)
- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras; Peripherals
- Audio Players, Keypads, Side Keys, LCD Displays
- Lead free in comply with EU RoHS 2011/65/EU directives



Mechanical Date

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

Ordering Information

Part Number	Marking	Shipping	Reel
LTES03C01H-TR3	2A	3000PCS Tape&Reel	7 inches
LTES03C01H-TR12	2A	12000PCS Tape&Reel	13 inches

Absolute Maximum Rating

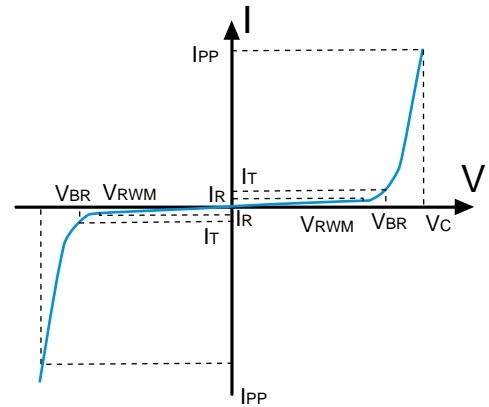
Parameters	Symbol	Value	Unit
ESD per IEC61000-4-2(Air) ESD per IEC61000-4-2(Contact)	V _{ESD}	± 30 ± 30	kV
Peak Pulse Current(t=8/20 μs) note1	IPP	20	A
Maximum Junction temperature	T _J	150	°C
Operating Temperature	T _{OPT}	-55-+150	°C
Storage Temperature Range	T _{STG}	-55-+150	°C
Lead Soldering Temperature-Maximum (10 second Duration)	T _L	260(10 sec.)	°C

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified).

Symbol	Parameter
IPP	Maximum Reverse Peak Pulse Current
VC	Clamping Voltage @ Ipp
VRWM	Working Peak Reverse Voltage
IR	Maximum Reverse Leakage Current @ VRWM
VBR	Breakdown Voltage@ IT
IT	Test Current



Electrical Characteristics

(Ta= 25°C unless otherwise noted, VF=0.9V Max. @ IF=10mA for all types).

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Stand-Off voltage	VRWM				3.3	V
Reverse Breakdown Voltage	VBR	IT=1mA	4.0			V
Reverse Leakage Current	IR	VRWM=3.3V, T=25°C			1.0	μA
Clamping Voltage	VC	IPP=20A, TP=8/20us			9.4	V
Junction Capacitance	Cj	VR=0V, f=1MHz		60	100	pF

Note: 8/20us pulse wave form

Characteristics Curves

Fig.1 Pulse Waveform

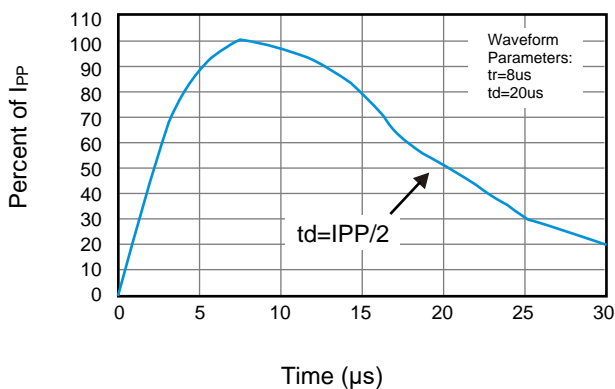
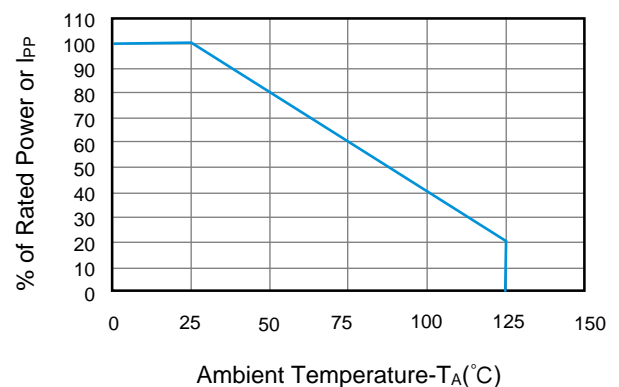


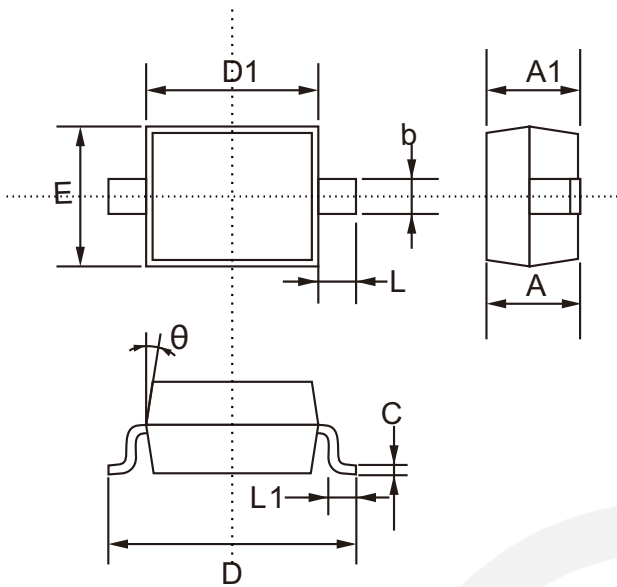
Fig.2 Power Derating Curve





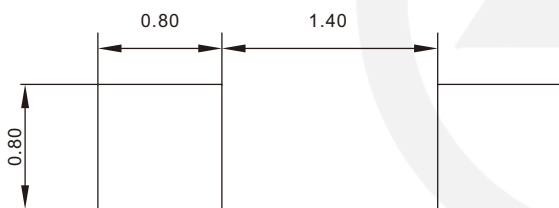
SOD-323 Package Outline

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

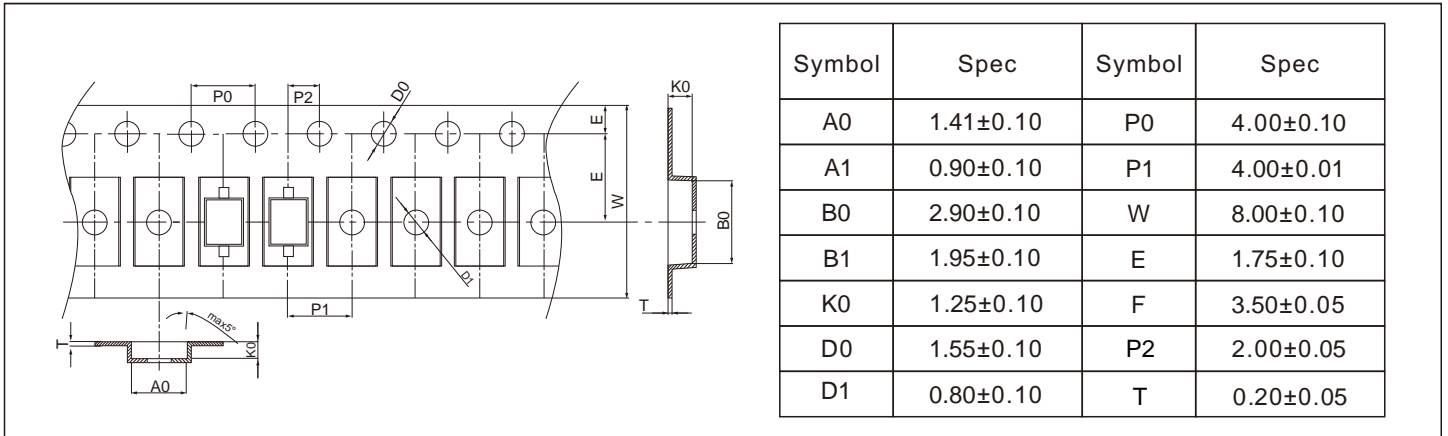


Note:

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

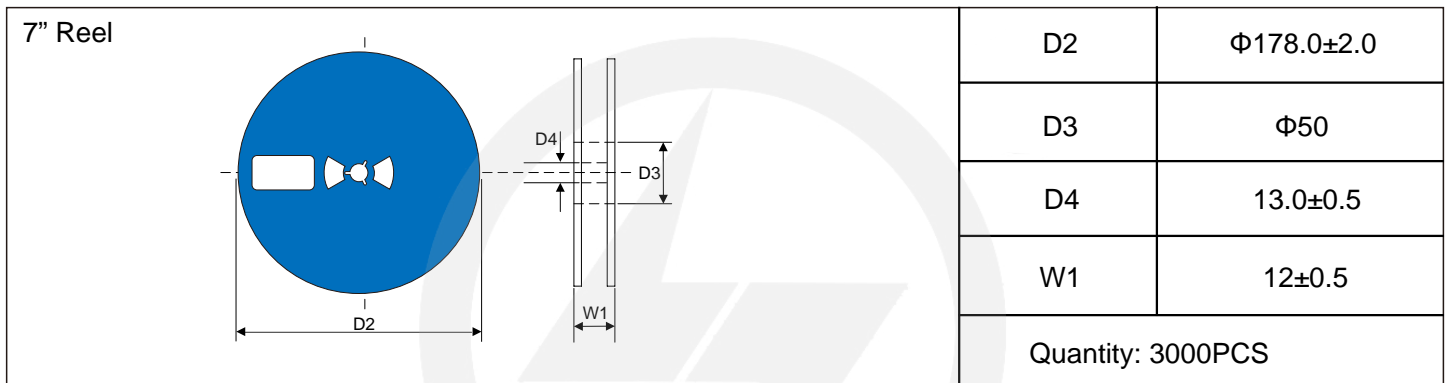
Carrier Tape Dimensions

Unit : mm



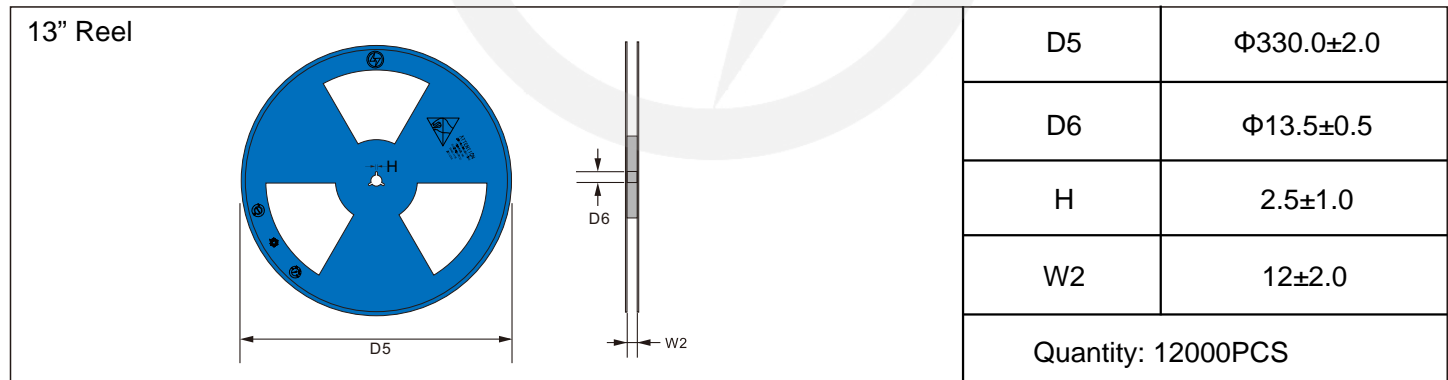
Reel Dimensions

Unit : mm

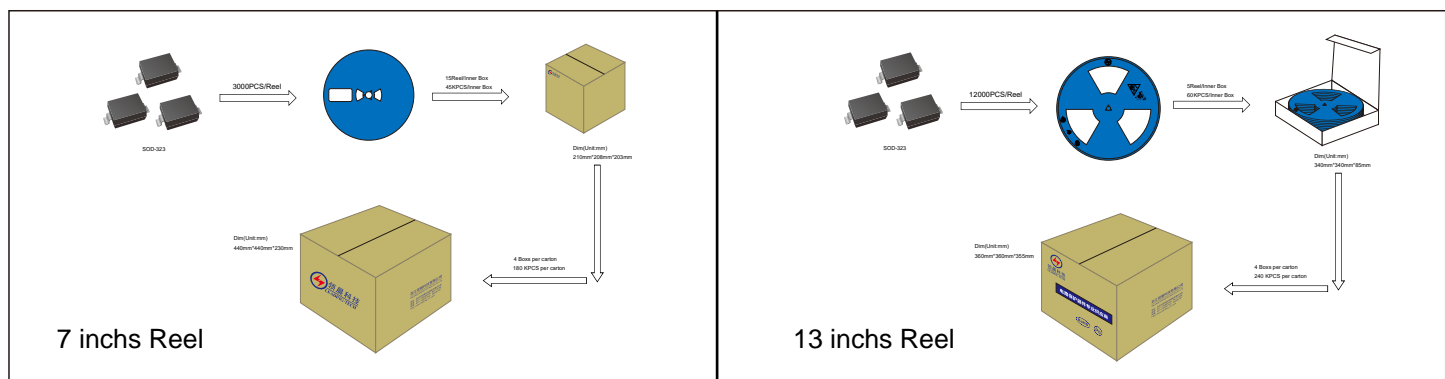


Reel Dimensions

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	2025.02.20	2025.02.20	3.0	New File	/	Ding	