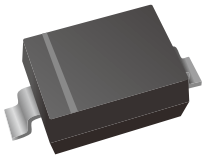
LTES4V5A01HG

Transient Voltage Suppressors for ESD Protection

Features



- Transient protection for high-speed data lines
  IEC 61000-4-2 (ESD) ±30kV (Contact)
  ±30kV (Air)
- Peak power dissipation: 1260W (8/20μs)
- Working voltages : 4.5V
- Low leakage current
- Low clamping voltage
- Solid-state silicon-avalanche technology
- Lead free in comply with EU RoHS 2011/65/EU directives

Machanical Data

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

Applications

- Power lines
- Personal digital assistants (PDA's)
- Microprocessors based equipment
- Notebooks, Desktops, and Servers
- Cell phone Handsets and Accessories
- Portable Electronics
- Peripherals

Ordering Information

Part Number	Marking	Shipping	Reel
LTES4V5A01HG-TR3	FS	3000PCS Tape&Reel	7 inchs
LTES4V5A01HG-TR12	FS	12000PCS Tape&Reel	13 inchs

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

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)	1260	W
I_{PP}	Peak Pulse Current (8/20μs)	90	A
T_{OPT}	Operating Temperature	-55~125	°C
T_{STG}	Storage Temperature	-55~150	°C
T_L	Lead Soldering Temperature	260(10sec)	°C

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

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				4.5	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	5.0		7.0	V
I_R	Reverse Leakage Current	V_{RWM} =4.5V			0.5	uA
V_C	Clamping Voltage	I_{PP} = 10A, t_p = 8/20μs			9	V
		I_{PP} = 90A, t_p = 8/20μs			14	V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz			850	pF

Characteristics Curve

Fig.1 8/20us Waveform per IEC61000-4-5

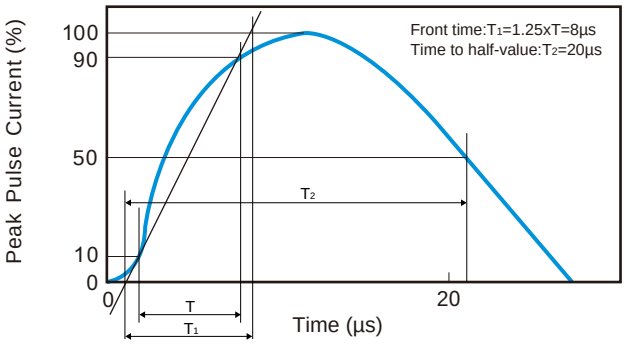


Fig.2 Contact Discharge Current Waveform per IEC 61000-4-2

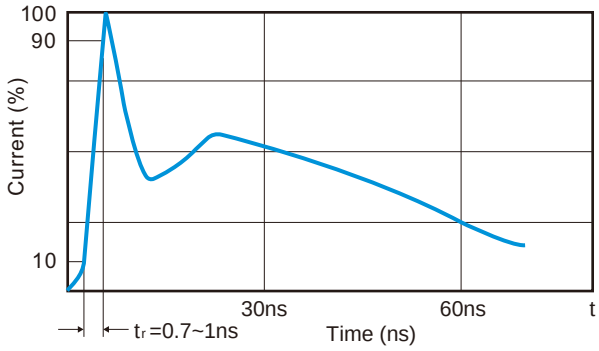


Fig.3 Power Derating Curve

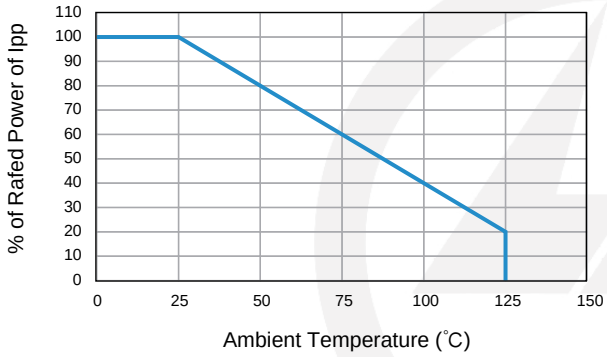
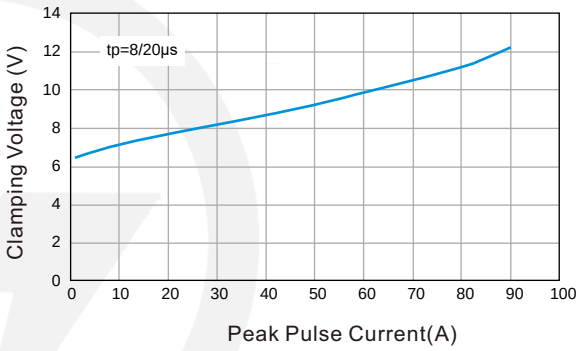
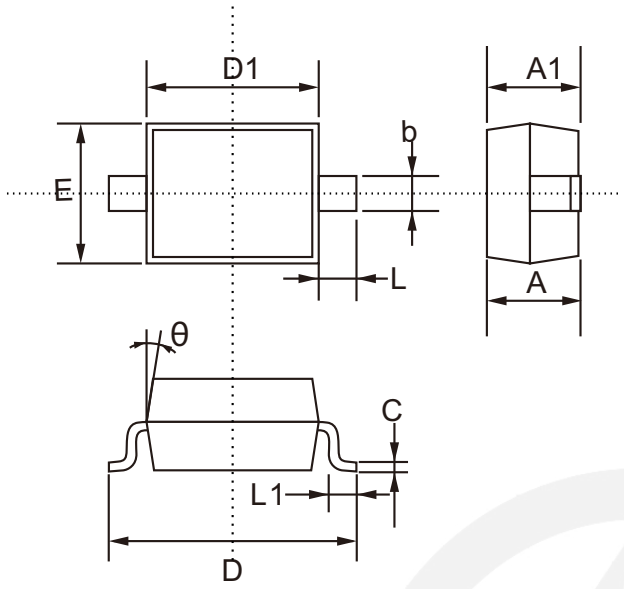


Fig.4 Clamping Voltage vs Peak Pulse Current



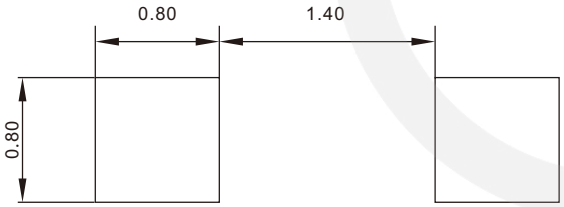
SOD-323 Package Outline



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.	
θ	8°	

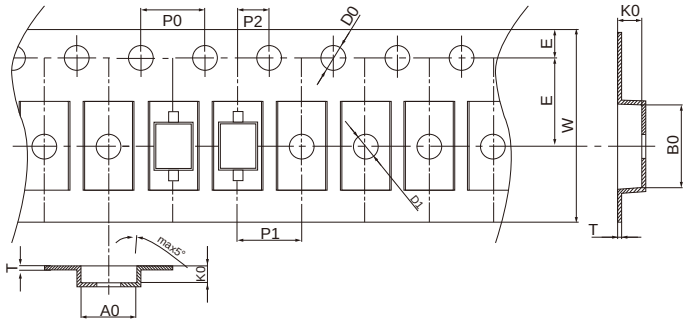
SOD-323 Suggested Pad Layout



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

Carrier Tape Dimensions

Unit：mm

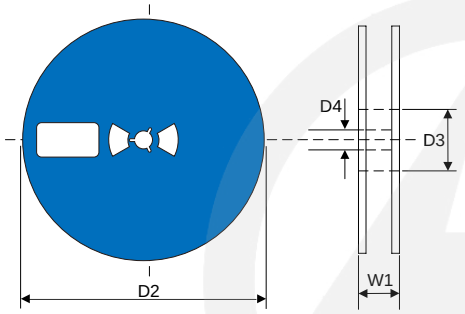


Symbol	Spec	Symbol	Spec
A0	1.41±0.10	P0	4.00±0.10
A1	0.90±0.10	P1	4.00±0.01
B0	2.90±0.10	W	8.00±0.10
B1	1.95±0.10	E	1.75±0.10
K0	1.25±0.10	F	3.50±0.05
D0	1.55±0.10	P2	2.00±0.05
D1	0.80±0.10	T	0.20±0.05

Reel Dimensions

Unit：mm

7” Reel

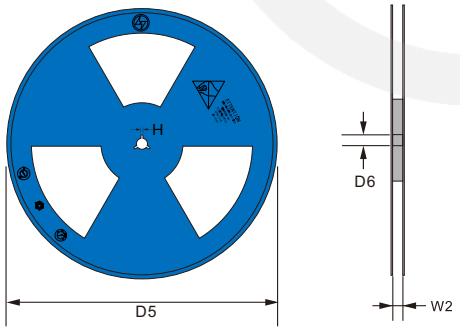


D2	Φ178.0±2.0
D3	Φ50
D4	13.0±0.5
W1	12±0.5
Quantity: 3000PCS	

Reel Dimensions

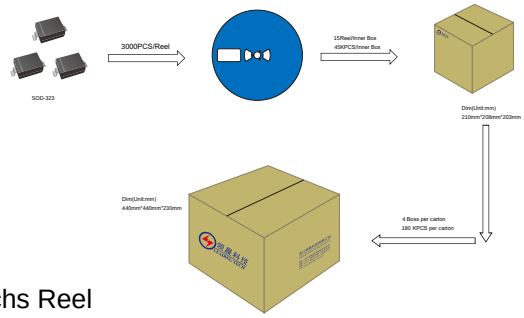
Unit：mm

13” Reel

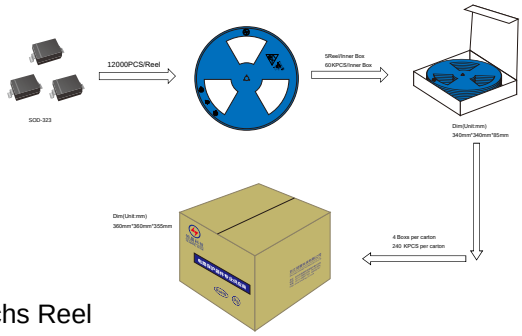


D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±2.0
Quantity: 12000PCS	

Packaging



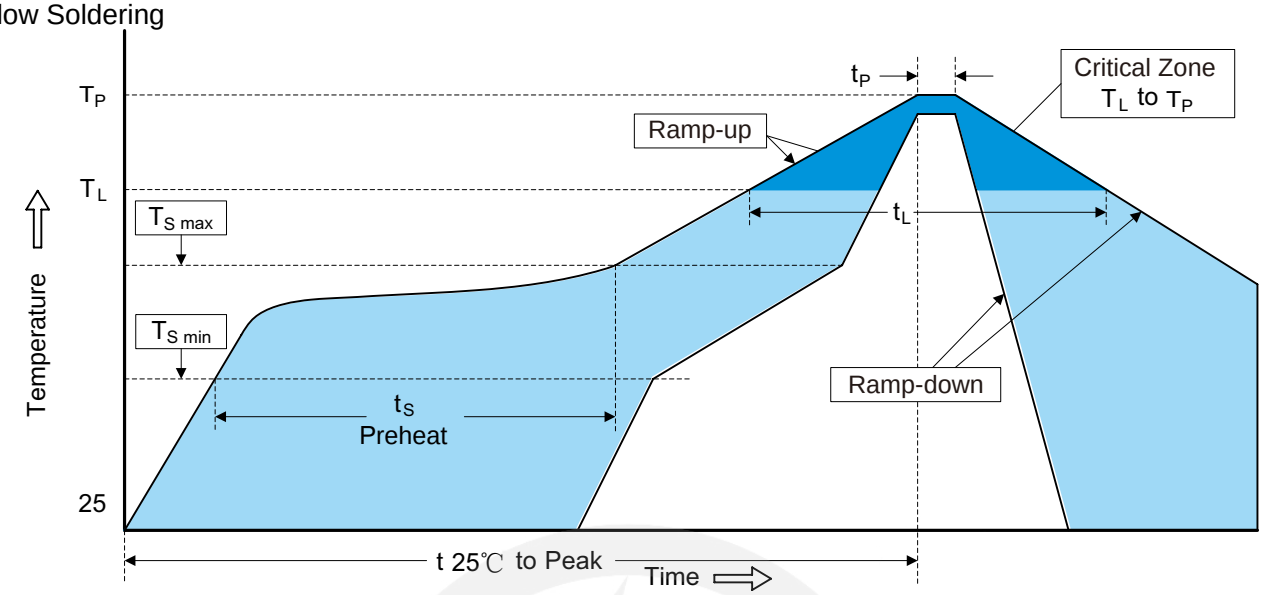
7 inchs Reel



13 inchs Reel

Recommended Soldering Conditions

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	2024.10.09	2024.10.09	3.0	New File	/	Ding	
02	2025.06.11	2025.06.11	3.1	Update packaging information	/	Ding	