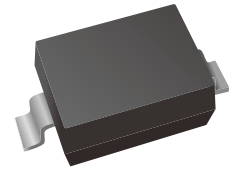


ESD Protection Diddes

Features

- IEC 61000-4-2 (ESD)
 - ±30kV Contact Discharge
 - ±30kV Air Discharge
- 450W Peak pulse Power (8/20us)
- IEC 61000-4-4 EFT Protection
 - 40A (5/50ns)
- Halogen free and RoHS compliant
- Protects one power or I/O Transient protection for high-speed data lines
- Low clamping voltage
- Low leakage current
- Lead free in comply with EU RoHS 2011/65/EU directives



Mechanical Data

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

Applications

- | | |
|--|---|
| <ul style="list-style-type: none"> ■ Interfaces <ul style="list-style-type: none"> - USB 2.0/1.1 - GPIO - Ethernet 10/100/1000 Mbps - Audio - Pushbuttons | <ul style="list-style-type: none"> ■ End Equipment <ul style="list-style-type: none"> - Industrial and Serve Robots - Laptops and Desktops - TV and Monitors - Wearables - Handheld-wireless Systems |
|--|---|

Ordering Information

Part Number	Marking	Shipping	Reel
LTES05C01CB-TR3	2B	3000PCS Tape&Reel	7 inchs
LTES05C01CB-TR12	2B	12000PCS Tape&Reel	13 inchs

Absolute Maximum Rating

Over operating free-air temperature range (unless otherwise noted)

Parameters	Symbol	Min	Max	Unit
Peak pulse power (tp=8/20us)@25°C	P _{pk}	-	450	W
Peak pulse current (tp=8/20us)@25°C	I _{PP}		30	A
ESD (IEC61000-4-2 air discharge) @25°C	V _{ESD}	-	±30	kV
ESD (IEC61000-4-2 contact discharge) @25°C	V _{ESD}	-	±30	kV
Junction temperature	T _J	-	150	°C
Operating temperature	T _{OP}	-40	125	°C
Storage temperature	T _{STG}	-55	150	°C
Lead temperature	T _L	-	260	°C

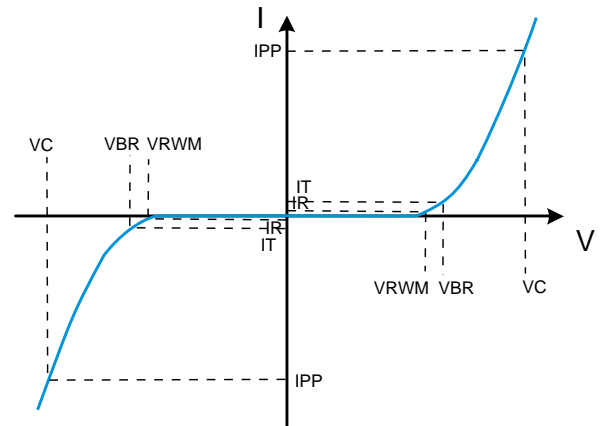
Electrical Characteristics

At TA = 25°C unless otherwise noted

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Stand-off Voltage	V _{RWM}				5.0	V
Reverse Breakdown Voltage	V _{BR}	I _T =1mA	5.5			V
Reverse Leakage Current	I _R	V _{RWM} =5V			0.1	μA
Clamping Voltage	V _C	I _{PP} =1A; tp=8/20μs		9		V
Clamping Voltage	V _C	I _{PP} =30A; tp=8/20μs		15		V
Junction Capacitance	C _J	I/O to GND; VR=0V; f=1MHz		70		pF



Symbol	Parameters
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}



Characteristic Curves

Figure 1. Pulse rating curve

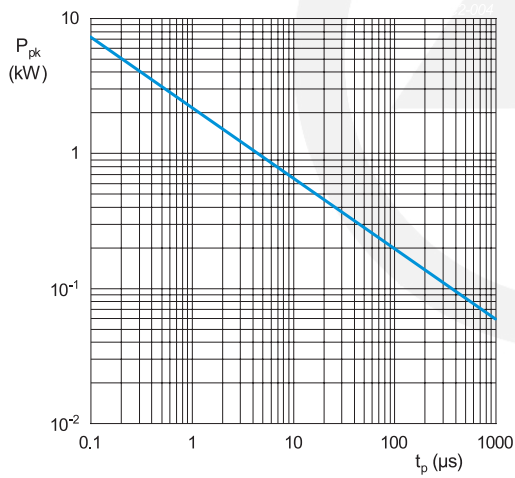


Figure 2 Peak pulse power derating curve

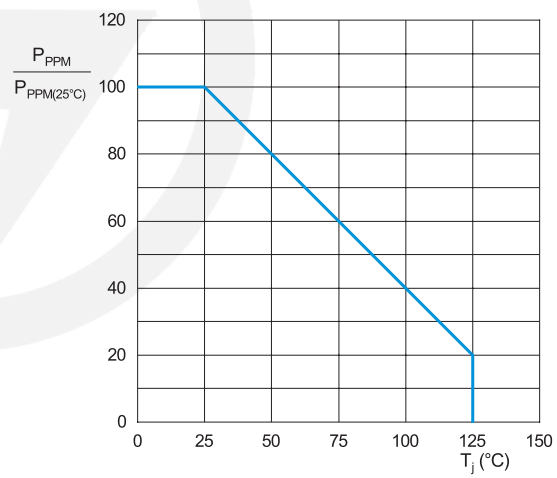
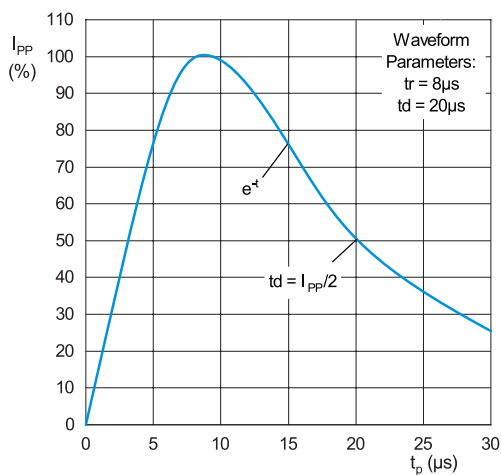
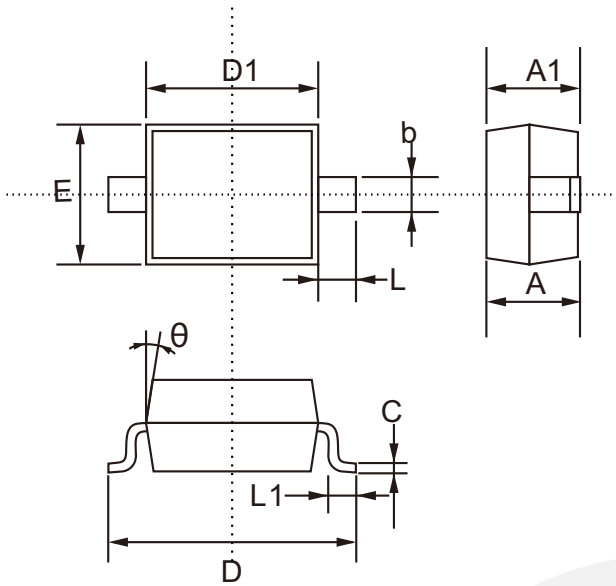


Figure 3 Pulse waveform



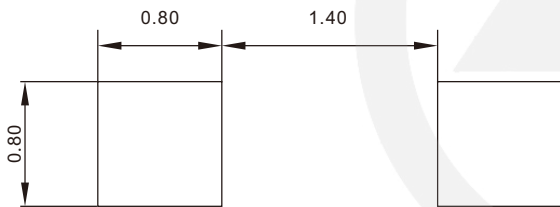
SOD-323 Package Outline

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
L	0.475 TYP.	
θ	8°	

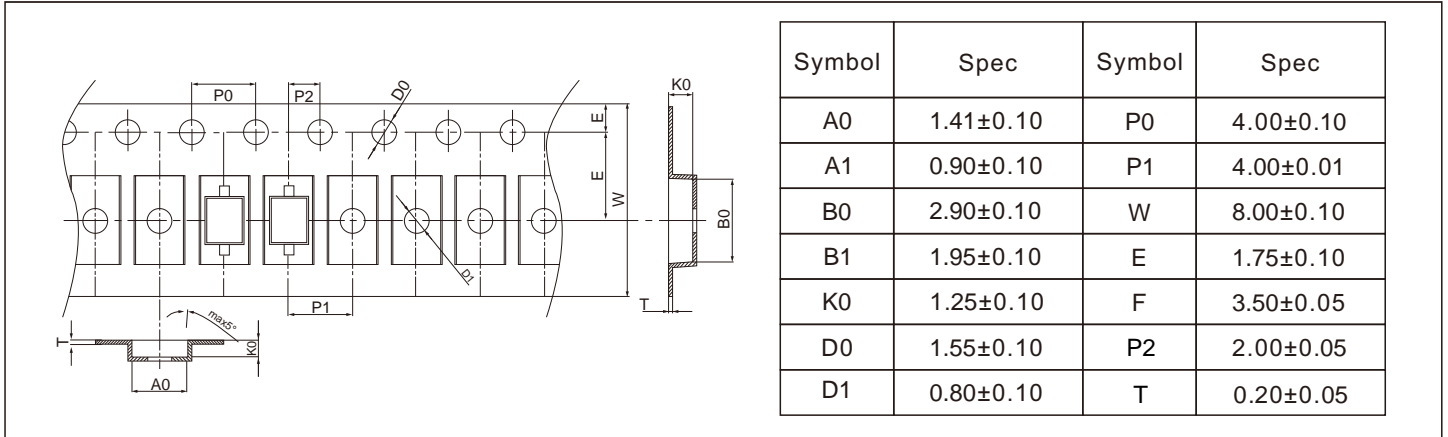
SOD-323 Suggested Pad Layout



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

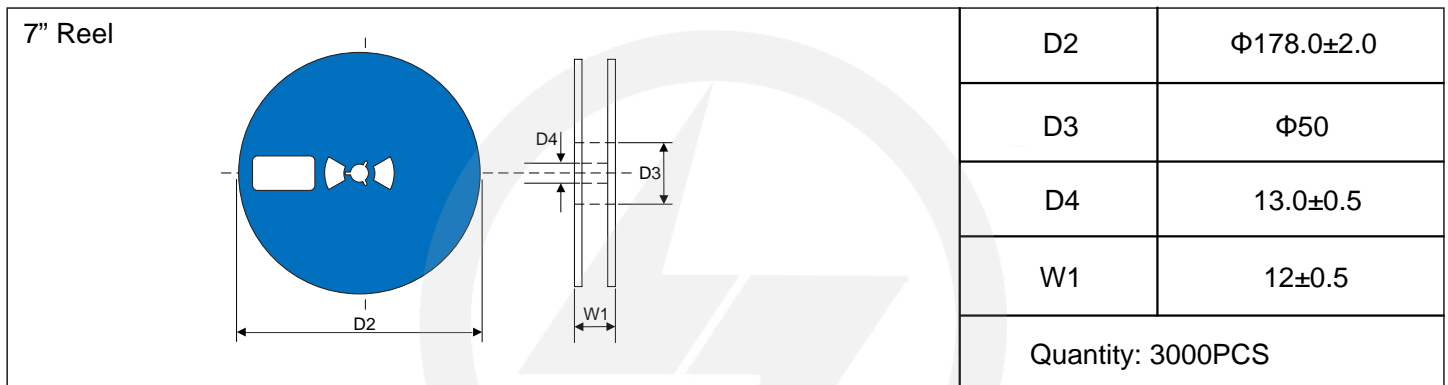
Carrier Tape Dimensions

Unit : mm



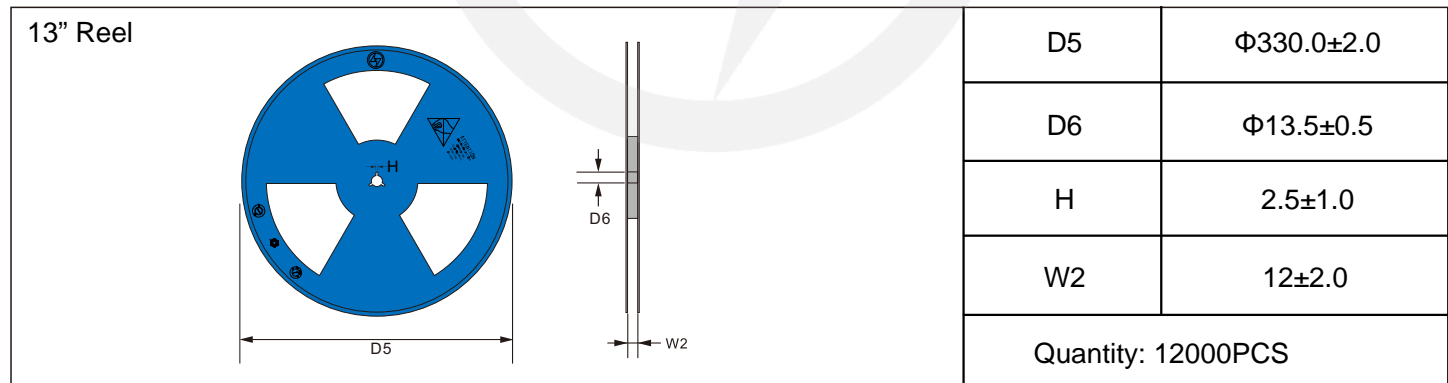
Reel Dimensions

Unit : mm

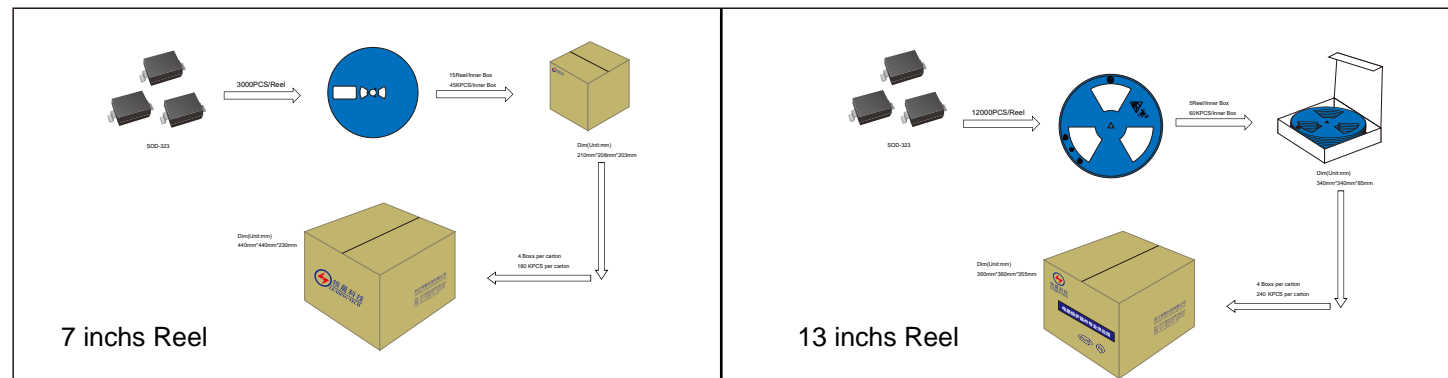


Reel Dimensions

Unit : mm

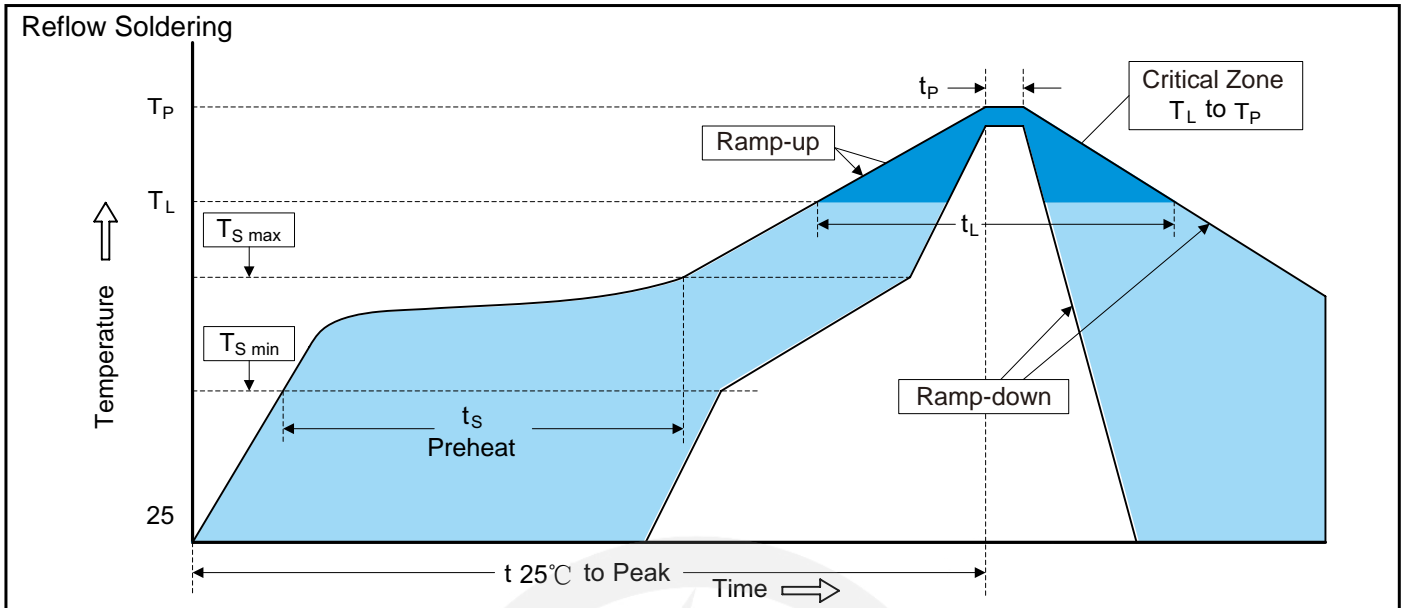


Packaging





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	2024.08.18	2024.08.18	3.0	New File	/	Ding	