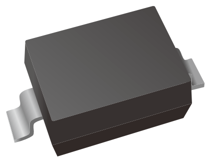
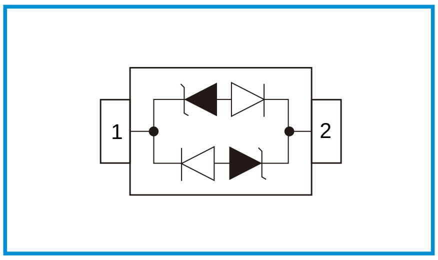
Bidirectional Ultra Low Capacitance TVS Array



Features

- IEC61000-4-2 (ESD) ±8kV (Contact), ±15kV (Air)
- IEC61000-4-4 (EFT) 40A (5/50ηs)
- Protects one I/O line (bidirectional)
- Low clamping voltage
- Working voltages: 3V, 5V, 8V, 12V, 15V, 24V
- Low leakage current
- Response Time is < 1 ns

Functional Diagram



Machanical Data

- SOD-323 package
- Flammability Rating: UL 94V-0
- Packaging: Tape and Reel
- High temperature soldering guaranted:260℃/10s
- Reel size: 7 inch

Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Peripherals
- USB Interface

Absolute Maximum Rating

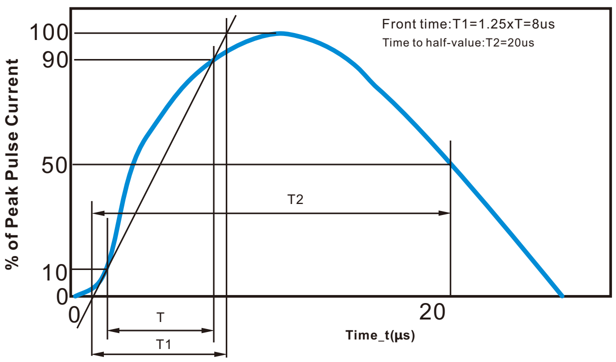
Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	±8 ±15	kV
P_{PP}	Peak Pulse Power (8/20μs)	300	W
T_{OPT}	Operating Temperature	-55/+150	°C
T_{STG}	Storage Temperature	-55/+150	°C
T_L	Lead Soldering Temperature	260	°C

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

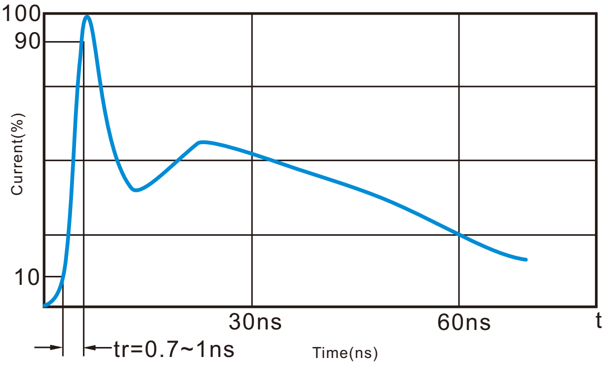
PART NUMBER	DEVICE MARKING	V_{RWM} (V) (max.)	V_B (V) (min.)	I_T (mA)	V_C@1A (V) (max.)	V_C (V)		I_R (μA) (max.)	C_T (pF) (typ.)
						(max.)	(@A)		
LTES03C01L	CC	3.0	4.0	1	7.0	13.9	8	2	0.8
LTES05C01L	AC	5.0	6.0	1	9.8	18.3	8	1	0.8
LTES08C01L	BC	8.0	8.5	1	13.4	18.5	8	1	0.8
LTES12C01L	DC	12.0	13.3	1	19.0	28.6	6	1	0.8
LTES15C01L	EC	15.0	16.7	1	24.0	31.8	5	1	0.8
LTES24C01L	HC	24.0	26.7	1	43.0	56.0	3	1	0.8

Characteristic Curves

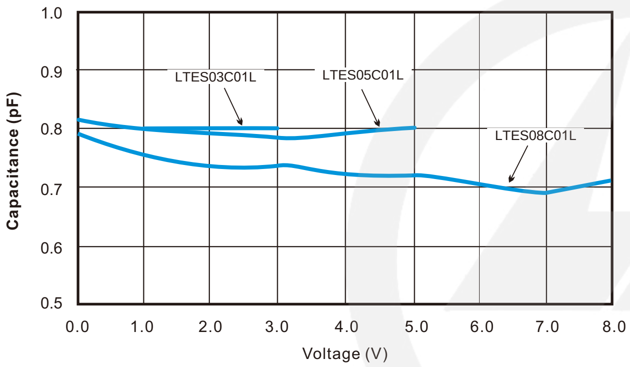
8x20µs Pulse Waveform per IEC 61000-4-5



Contact Discharge Current Waveform
per IEC 61000-4-2



Voltage vs Capacitance



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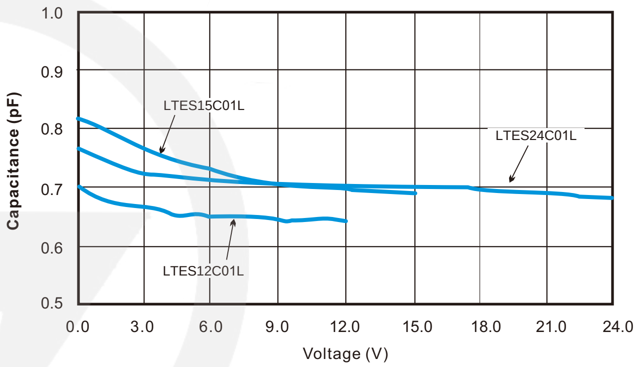
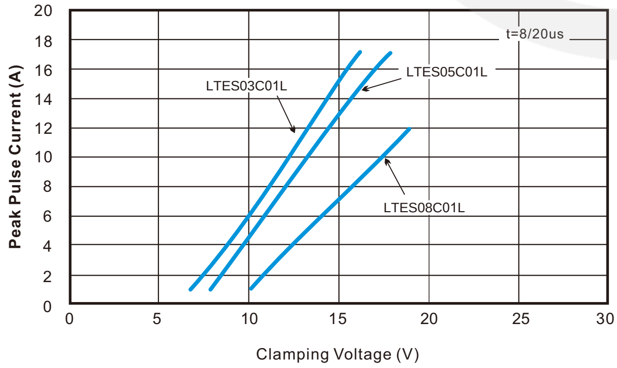
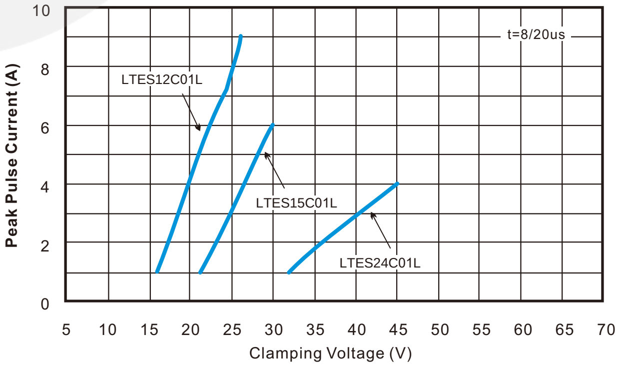


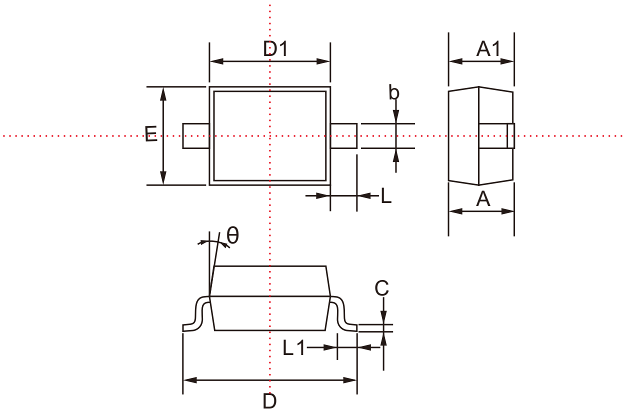
Clamping Voltage vs Peak Pulse Current



Clamping Voltage vs Peak Pulse Current



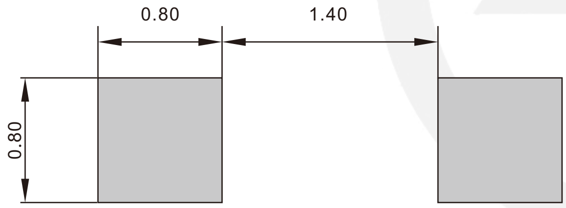
SOD-323 Package Outline



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	0.450
L	0.475 TYP.	
θ	8°	

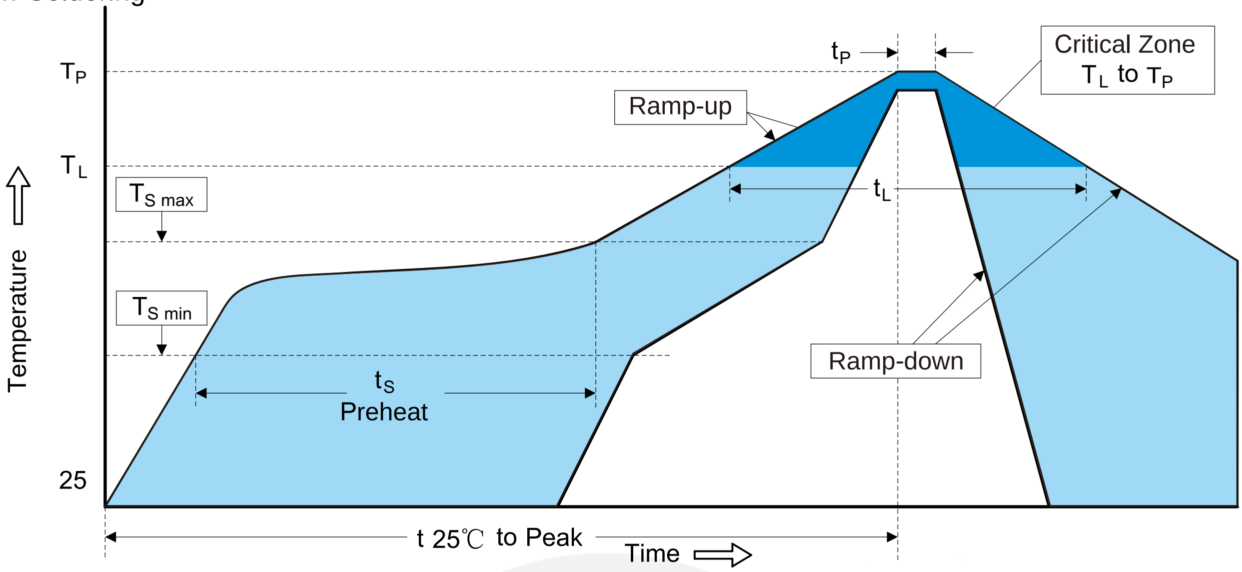
SOD-323 Suggested Pad Layout



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

Recommended Soldering Conditions

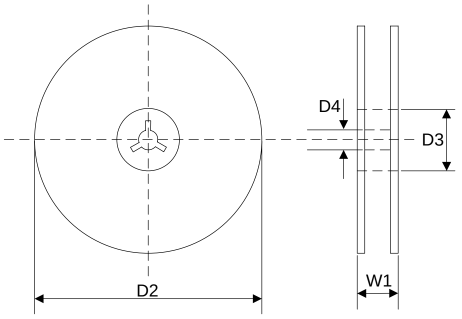
Reflow Soldering



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3℃/second max.
Preheat	
-Temperature Min ($T_{S\ min}$)	150℃
-Temperature Max ($T_{S\ max}$)	200℃
-Time (min to max) (t_S)	60-180 seconds
$T_{S\ max}$ to T_L	
-Ramp-up Rate	3℃/second max.
Time maintained above:	
-Temperature (T_L)	217℃
-Time (t_L)	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.

7” Reel



D2	Φ178.0±2.0
D3	Φ50.0Min.
D4	Φ13.0±0.5
W1	16.0±2.0
Quantity: 3000PCS	