

Features

- ❑ IEC61000-4-2 (ESD) +/-30kV (air),
 +/-30KV(contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (EOS) (1.2/50uS, 8/20uS)
- ❑ 350 Watts Peak Pulse Power per (tp=8/20us)
- ❑ Protects one I/O line (bidirectional)
- ❑ Working voltages : 5V,8V,12V,15V,18V,24V
 36V
- ❑ Low leakage current
- ❑ ROHS compliant

Description

The TSxx01LEX Series is designed for applications requiring transient overvoltage protection capability. They are intended for use in voltage and ESD sensitive equipment such as computers, printers, business machines , communication systems , medical equipment and other applications. These devices are ideal for situations where board space is at a premium. This series has been specifically designed to protect sensitive components which are connected to power data and transmission lines from overvoltage caused by ESD(electrostatic discharge), CDE (Cable Discharge Events) , and EFT (electrical fast transients).

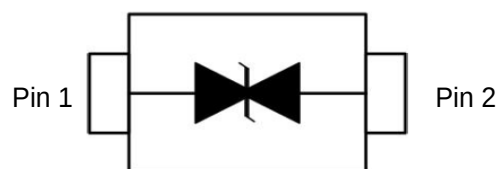
Applications

- ❑ Cell Phone Handsets and Accessories
- ❑ Microprocessor based equipment
- ❑ Personal Digital Assistants (PDA's)
- ❑ Notebooks, Desktops, and Servers
- ❑ Portable Instrumentation
- ❑ Networking and Telecom
- ❑ Serial and Parallel Ports.
- ❑ Peripherals

Mechanical Characteristics

- ❑ SOD-323 package
- ❑ Flammability Rating: UL 94V-0
- ❑ Packaging: Tape and Reel
- ❑ High temperature soldering guaranteed:260°C/10s
- ❑ Reel size: 7 inch
- ❑ MSL 3

Pin Configuration



SOD 323
(Top View)

Marking Codes



Note:

- (1) "2" is part number, fixed
- (2) "X" is internal code.

Absolute Maximum Rating

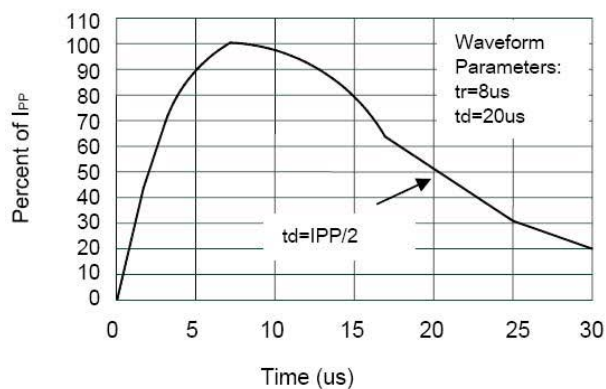
Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Air)	± 30	kV
	ESD per IEC 61000-4-2 (Contact)	± 30	
P_{PP}	Peak Pulse Power (8/20 μ s)	350	W
T_{OPT}	Operating Temperature	-55/+150	°C
T_{STG}	Storage Temperature	-55/+150	°C
T_L	Lead Soldering Temperature	260 (10 sec.)	°C

Electrical Characteristics (T = 25°C)

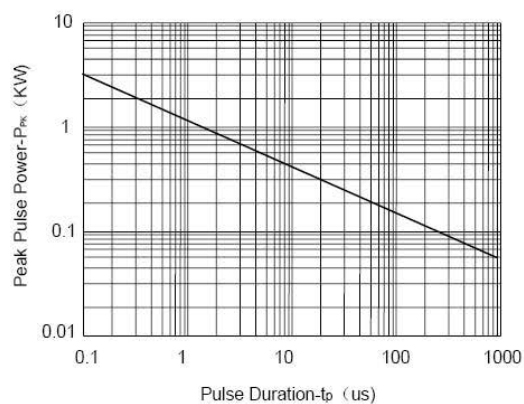
PART NUMBER	V_{RWM} (V) (max.)	V_B (V) (min.)	I_T (mA)	$V_C@1A$ (V) (max.)	V_C (V) (max.) (@A)		I_R (μ A) (max.)	C_T (pF) (max.)	DEVICE MARKING
TS0501LEX	5	6.0	1	10	24	19	0.1	80	2B
TS0801LEX	8	9.2	1	15	28	15	0.1	70	2C
TS1201LEX	12	13.3	1	19	32	13	0.1	60	2D
TS1501LEX	15	16.7	1	24	36	10	0.1	50	2J
TS1801LEX	18	20.4	1	28	45	8	0.1	40	2G
TS2401LEX	24	26.7	1	36	50	7	0.1	30	2H
TS3601LEX	36	40.0	1	50	68	6	0.1	20	2K

Note:

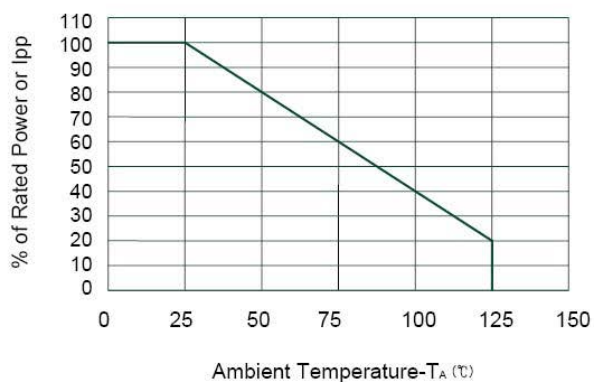
Device Marking (2B, 2C, 2D, 2J, 2G, 2H, 2K) is Part number, fixed.



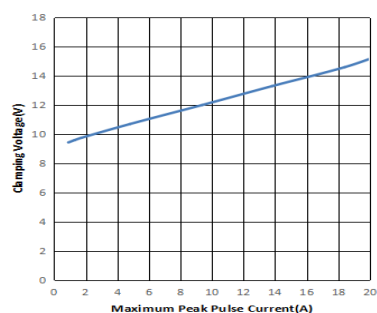
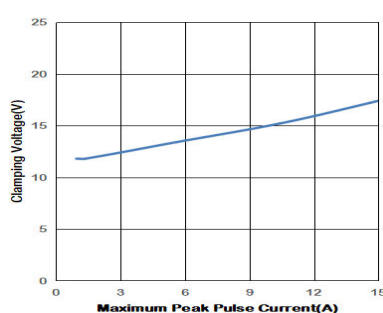
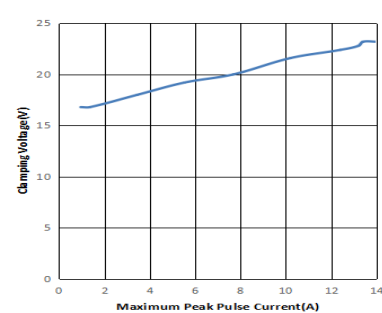
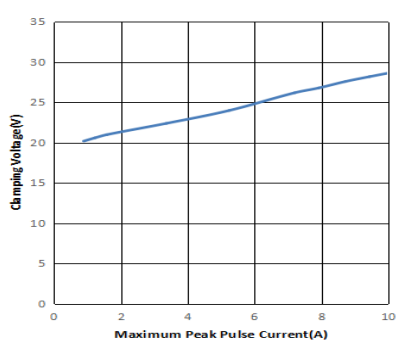
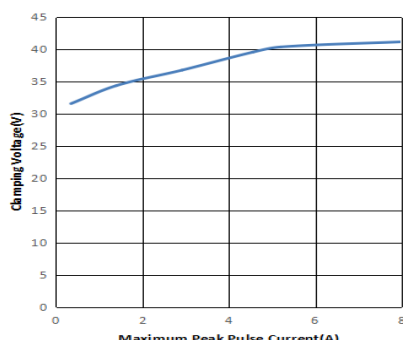
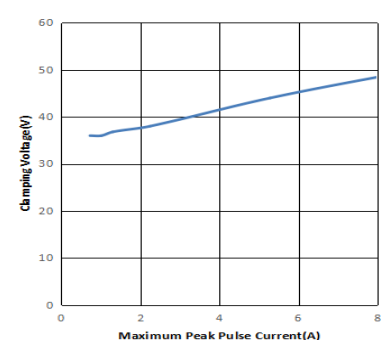
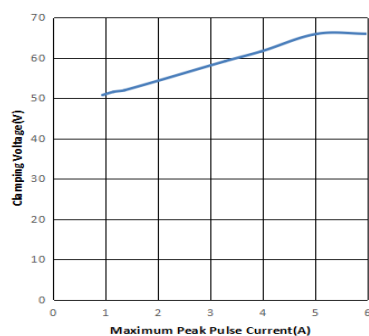
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time

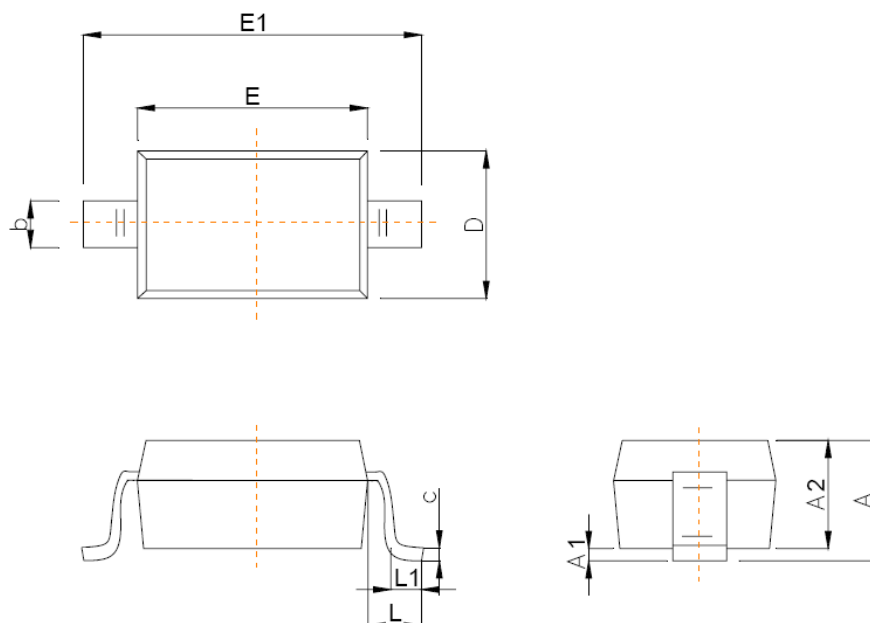


Power Derating Curve

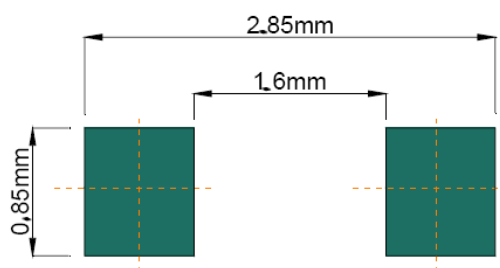
IEC61000-4-5 EOS Test (1.2/50uS, 8/20uS)
TS0501LEX

TS0801LEX

TS1201LEX

TS1501LEX

TS1801LEX

TS2401LEX

TS3601LEX


Package Outline Dimensions

□ SOD323 Package



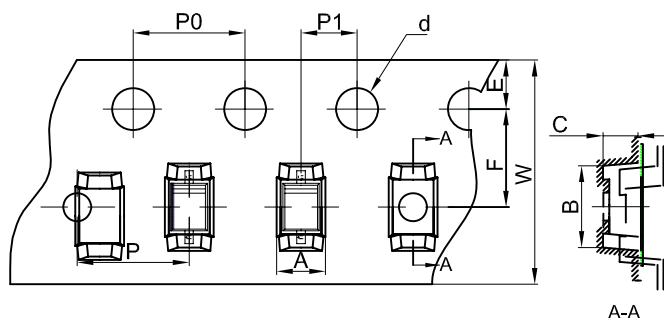
Symbol	Dimensions In Millimeters	
	Min	Max
A		1.00
A1	0.000	0.100
A2	0.800	0.900
b	0.250	0.350
c	0.080	0.150
D	1.200	1.400
E	1.600	1.800
E1	2.500	2.700
e	1.800	2.040
L	0.475 REF	
L1	0.250	0.400
θ	0°	8°



Recommended Pad outline

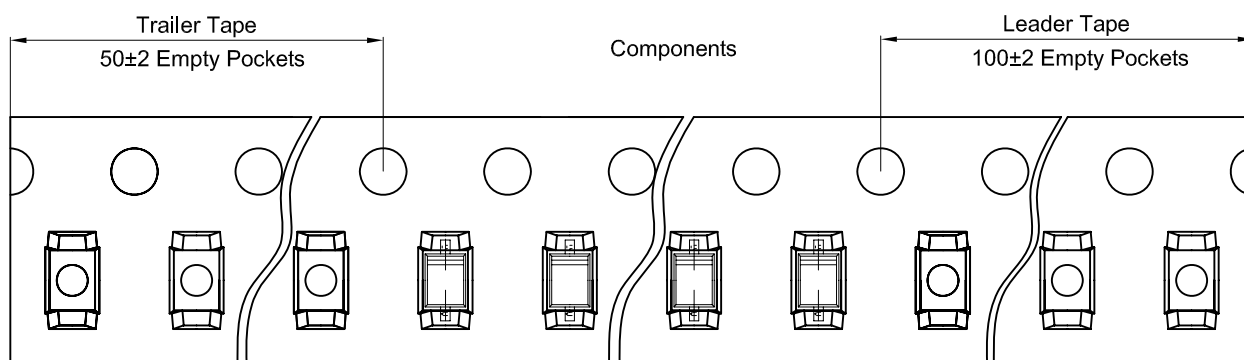
P.S. TSxx01LEX series are the bidirectional TVS. The device marking is directionless. Then the device orientation in tape is not requested.

Tape and Reel Specification

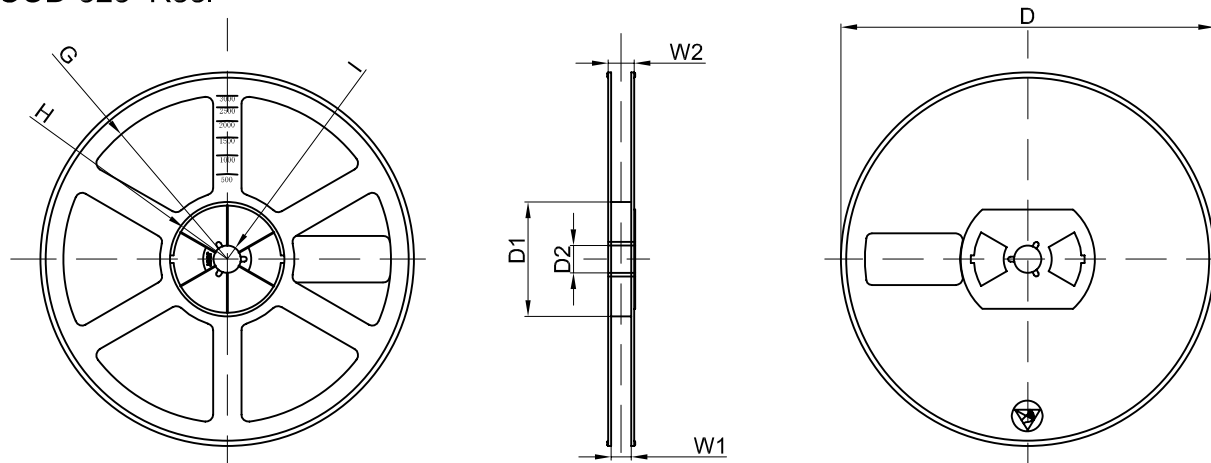


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOD-323	1.46	2.90	1.25	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
(Tolerance)	+/-0.05	+/-0.05	+/-0.05	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+0.3/-0.1

SOD-323 Tape Leader and Trailer



SOD-323 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30
Tolerance	+/-2	+/-1	+/-1	+/-1	+/-1	+/-1	+/-1	+/-1

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	

Ordering Information

Part Number	Qty per Reel	Reel Size
TSxx01LEX	3, 000	7 inch