



#### **Features**

- ☐ IEC61000-4-2 (ESD) +/-30kV (air),
  - +/-30KV(contact)
- ☐ Peak Pulse Current(tp=8/20us) 12A
- ☐ Protects one I/O line (bidirectional)
- □ Working voltages: 5.0V
- Low leakage current
- ROHS compliant

### **Description**

The TT0501LEX 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

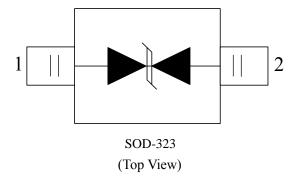
#### **Mechanical Characteristics**

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

#### **Circuit Diagram**



## **Pin Configuration**



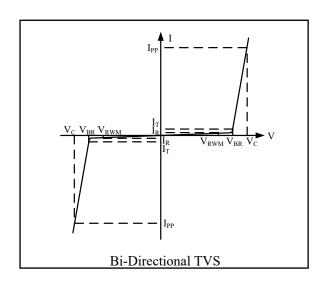


### **Absolute Maximum Rating**

Symbol	Parameter	Value	Units
V <sub>ESD</sub>	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	±30 ±30	kV
I <sub>PP</sub>	Peak Pulse Current(8/20us)	12	А
T <sub>OPT</sub>	Operating Temperature	-55/+150	°C
T <sub>STG</sub>	Storage Temperature	-55/+150	°C
TL	Lead Soldering Temperature	260 (10 sec.)	°C

# **Electrical Characteristics (T = 25°C)**

Symbol	Parameter
$V_{RWM}$	Nominal Reverse Working Voltage
$I_R$	Reverse Leakage Current @ V <sub>RWM</sub>
$V_{BR}$	Reverse Breakdown Voltage $@$ $I_T$
$I_T$	Test Current for Reverse Breakdown
$V_{\rm C}$	Clamping Voltage @ I <sub>PP</sub>
$I_{PP}$	Maximum Peak Pulse Current
$C_{ESD}$	Parasitic Capacitance
$V_R$	Reverse Voltage
f	Small Signal Frequency



Symbol	Test Condition	Minimum	Typical	Maximum	Units
$V_{RWM}$				5.0	V
$I_R$	$V_{RWM} = 5V, T = 25^{\circ}C$			0.1	μΑ
$V_{BR}$	$I_T = 1 \text{mA}$	6.0			V
$V_{\rm C}$	$I_{PP} = 1A, t_p = 8/20 \mu s$		6.0		V
$V_{\rm C}$	$I_{PP} = 12A, t_p = 8/20 \mu s$		9.5		V
$C_{ESD}$	$V_R = 0V$ , $f = 1MHz$		15		pF

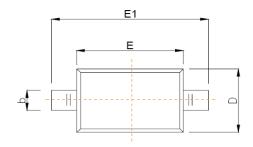


# **Package Outline**

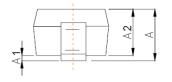
□ SOD-323 package



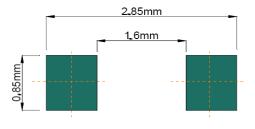
# **Package Outline Dimensions**







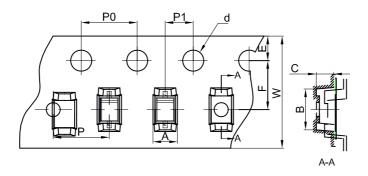
Symbol	Dimensions I	n Millimeters			
Syllibol	Min	Max			
Α		1.00			
A1	0.000	0.100			
A2	0.800	0.900			
b	0.250	0.350			
С	0.080	0.150			
D	1.200	1.400			
E	1.600	1.800			
E1	2.500	2.700			
е	1.800	2.040			
L	0.475 REF				
L1	0.250	0.400			
θ	0°	8°			



**Recommended Pad outline** 

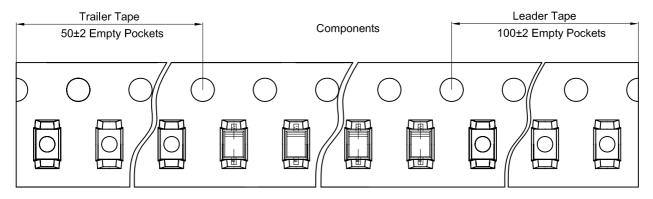


### **Tape and Reel Specification**

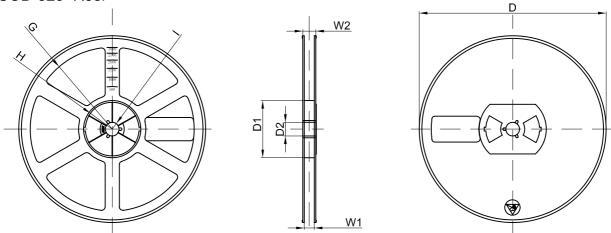


Dimensions are in millimeter										
Pkg type	Α	В	С	d	E	F	P0	Р	P1	W
SOD-323	1.46	2.90	1.25	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
(Tolerance)	+/-0.05	+/-0.05	+/-0.05	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+0.3/-0.1

### SOD-323 Tape Leader and Trailer







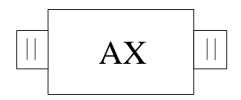
Dimensions are in millimeter								
Reel Option	D	D1	D2	G	Н	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30
Tolerance	+/-2	+/-1	+/-1	+/-1	+/-1	+/-1	+/-1	+/-1

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

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### **Marking Codes**



#### Note:

- (1) "A" is part number, fixed
- (2) "X" is the identification number.

# **Ordering Information**

Part Number	Working Voltage	Quantity Per Reel	Reel Size
TT0501LEX	5.0V	3,000	7 Inch