

### : YUhi fYg'

- IEC61000-4-2 (ESD) +/-30kV (air),  
+/-30KV(contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (EOS) (1.2/50uS, 8/20uS)
- Protects one I/O line (bidirectional)
- Working voltages : 3.3V,8V,12V,15V,18V,  
24V,36V
- Low leakage current
- ROHS compliant

### 8 YgW]dh]cb'

The TSxx01TEX Series are ultra low capacitance transient voltage suppressor arrays, designed to protect applications such as portable electronics and SMART phones. The TSxx01TEX and Series meets IEC 61000-4-2 (ESD) and IEC 61000-4-4 (EFT) requirements. At higher operating frequencies or faster edge rates, insertion loss and signal integrity are a major concern. This series offers a ultra low capacitance and low leakage current in a miniature SOD323 package.

### 5 dd`]WU]cbg

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

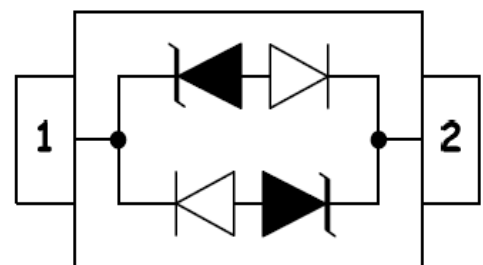
### A YW Ub]WU'7\ UFUWYf]gh]Vg

- SOD323 package
- Flammability Rating: UL 94V-0
- Packaging:Tape and Reel
- High temperature soldering guaranteed:260°C/10s
- Reel size: 7 inch

### CfXYf]b[ `bZcfa U]cb

- Device: TSxx01TEX
- Package: SOD323
- Material: Halogen free
- Packing: Tape & Reel
- Quantity per reel: 3,000pcs

### D]b'7 cbZ[ i fU]cb



(Top View)



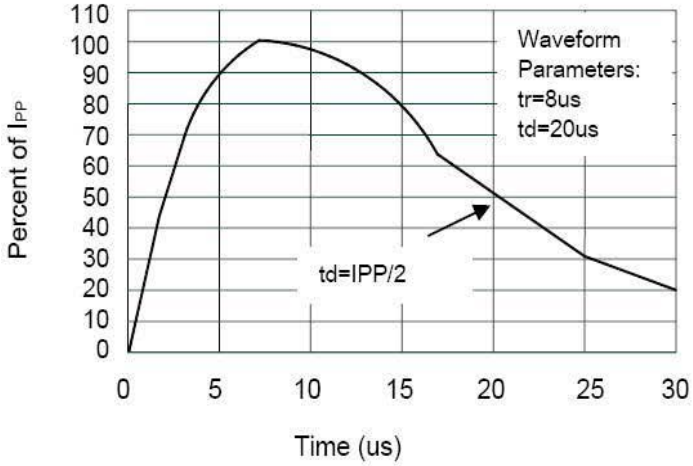
5 Vgc`i h'A U ]a i a 'FUhb[ '

Symbol	Parameter	Value	Units
V <sub>ESD</sub>	ESD per IEC 61000-4-2 (Air)	±30	kV
	ESD per IEC 61000-4-2 (Contact)	±30	
T <sub>OPT</sub>	Operating Temperature	-55 to +150	°C
T <sub>STG</sub>	Storage Temperature	-55 to +150	°C
T <sub>LST</sub>	Lead Soldering Temperature	260	°C

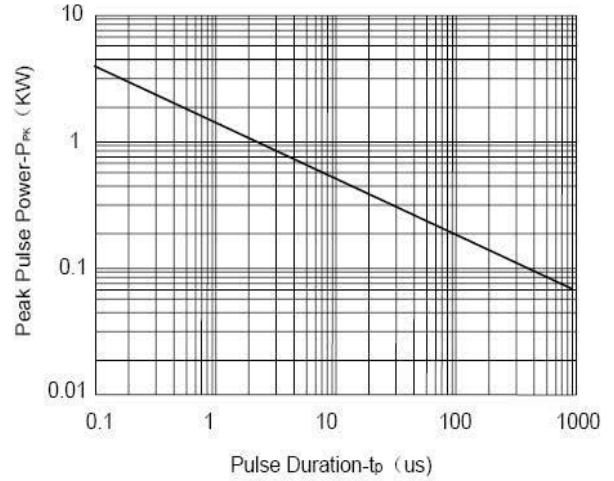
9`Ywf]WU'7\ UfUWYf]gh]Vg'fH'1'&)°7)

PART NUMBER	DEVICE MARKING	V <sub>RWM</sub>	V <sub>B</sub>	I <sub>pp</sub>	V <sub>C@1A</sub>	V <sub>C</sub>		I <sub>R</sub>	C <sub>T</sub>
		(V) (max.)	(V) (min.)	(A) (max.)	(V) (max.)	(V) (max.) (@A)	(nA) (max.)	(pF) (typ.)	
TS0301TEX	AC/CC	3.3	4.0	20	8.0	16	20	50	0.9
TS0801TEX	BC	8.0	9.2	15	15.0	28	15	50	0.9
TS1201TEX	DC	12.0	13.3	13	19.0	32	13	50	0.9
TS1501TEX	EC	15.0	16.7	10	24.0	36	10	50	0.9
TS1801TEX	GC	18.0	20.0	8	28.0	45	8	50	0.9
TS2401TEX	HC	24.0	26.7	7	36.0	50	7	50	0.9
TS3601TEX	KC	36.0	40.0	6	50.0	60	6	50	0.9

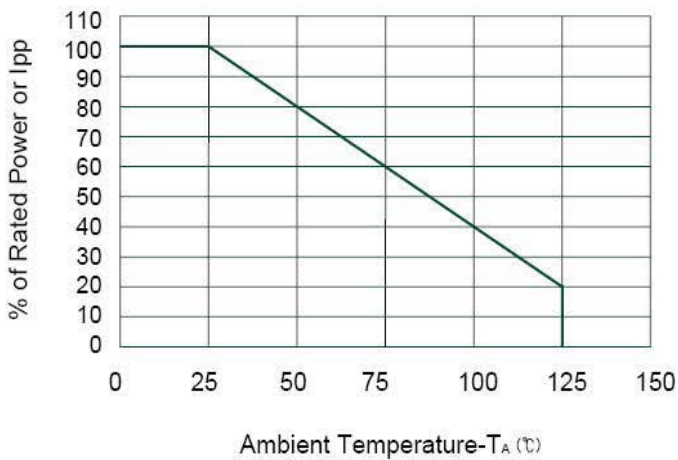
**9`YwfJWJ'7\ UfUMYf]ghjWg'7 i fj Y**



**Pulse Waveform**



**Non-Repetitive Peak Pulse Power vs. Pulse Time**



**Power Derating Curve**



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

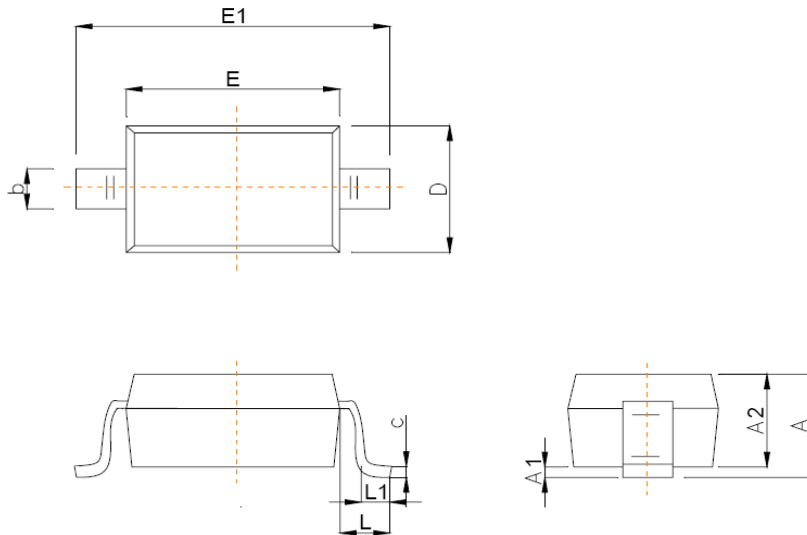
TS0301TEX	TS0801TEX	TS1201TEX																																												
<table border="1"> <caption>Approximate data for TS0301TEX</caption> <thead> <tr><th>Current (A)</th><th>Clamping Voltage (V)</th></tr> </thead> <tbody> <tr><td>0</td><td>5.5</td></tr> <tr><td>4</td><td>7.5</td></tr> <tr><td>8</td><td>9.5</td></tr> <tr><td>12</td><td>11.5</td></tr> <tr><td>16</td><td>13.5</td></tr> <tr><td>20</td><td>18.0</td></tr> </tbody> </table>	Current (A)	Clamping Voltage (V)	0	5.5	4	7.5	8	9.5	12	11.5	16	13.5	20	18.0	<table border="1"> <caption>Approximate data for TS0801TEX</caption> <thead> <tr><th>Current (A)</th><th>Clamping Voltage (V)</th></tr> </thead> <tbody> <tr><td>0</td><td>12.0</td></tr> <tr><td>3</td><td>13.5</td></tr> <tr><td>6</td><td>15.0</td></tr> <tr><td>9</td><td>16.5</td></tr> <tr><td>12</td><td>18.0</td></tr> <tr><td>15</td><td>19.0</td></tr> </tbody> </table>	Current (A)	Clamping Voltage (V)	0	12.0	3	13.5	6	15.0	9	16.5	12	18.0	15	19.0	<table border="1"> <caption>Approximate data for TS1201TEX</caption> <thead> <tr><th>Current (A)</th><th>Clamping Voltage (V)</th></tr> </thead> <tbody> <tr><td>0</td><td>17.0</td></tr> <tr><td>4</td><td>18.5</td></tr> <tr><td>8</td><td>20.0</td></tr> <tr><td>12</td><td>22.0</td></tr> <tr><td>14</td><td>24.0</td></tr> </tbody> </table>	Current (A)	Clamping Voltage (V)	0	17.0	4	18.5	8	20.0	12	22.0	14	24.0				
Current (A)	Clamping Voltage (V)																																													
0	5.5																																													
4	7.5																																													
8	9.5																																													
12	11.5																																													
16	13.5																																													
20	18.0																																													
Current (A)	Clamping Voltage (V)																																													
0	12.0																																													
3	13.5																																													
6	15.0																																													
9	16.5																																													
12	18.0																																													
15	19.0																																													
Current (A)	Clamping Voltage (V)																																													
0	17.0																																													
4	18.5																																													
8	20.0																																													
12	22.0																																													
14	24.0																																													
<table border="1"> <caption>Approximate data for TS1501TEX</caption> <thead> <tr><th>Current (A)</th><th>Clamping Voltage (V)</th></tr> </thead> <tbody> <tr><td>0</td><td>20.0</td></tr> <tr><td>2</td><td>21.5</td></tr> <tr><td>4</td><td>23.0</td></tr> <tr><td>6</td><td>24.5</td></tr> <tr><td>8</td><td>26.0</td></tr> <tr><td>10</td><td>28.0</td></tr> </tbody> </table>	Current (A)	Clamping Voltage (V)	0	20.0	2	21.5	4	23.0	6	24.5	8	26.0	10	28.0	<table border="1"> <caption>Approximate data for TS1801TEX</caption> <thead> <tr><th>Current (A)</th><th>Clamping Voltage (V)</th></tr> </thead> <tbody> <tr><td>0</td><td>26.0</td></tr> <tr><td>2</td><td>28.0</td></tr> <tr><td>4</td><td>30.0</td></tr> <tr><td>6</td><td>33.0</td></tr> <tr><td>8</td><td>35.0</td></tr> </tbody> </table>	Current (A)	Clamping Voltage (V)	0	26.0	2	28.0	4	30.0	6	33.0	8	35.0	<table border="1"> <caption>Approximate data for TS2401TEX</caption> <thead> <tr><th>Current (A)</th><th>Clamping Voltage (V)</th></tr> </thead> <tbody> <tr><td>0</td><td>33.0</td></tr> <tr><td>1</td><td>34.5</td></tr> <tr><td>2</td><td>36.0</td></tr> <tr><td>3</td><td>37.5</td></tr> <tr><td>4</td><td>39.0</td></tr> <tr><td>5</td><td>41.0</td></tr> <tr><td>6</td><td>43.0</td></tr> <tr><td>7</td><td>45.0</td></tr> </tbody> </table>	Current (A)	Clamping Voltage (V)	0	33.0	1	34.5	2	36.0	3	37.5	4	39.0	5	41.0	6	43.0	7	45.0
Current (A)	Clamping Voltage (V)																																													
0	20.0																																													
2	21.5																																													
4	23.0																																													
6	24.5																																													
8	26.0																																													
10	28.0																																													
Current (A)	Clamping Voltage (V)																																													
0	26.0																																													
2	28.0																																													
4	30.0																																													
6	33.0																																													
8	35.0																																													
Current (A)	Clamping Voltage (V)																																													
0	33.0																																													
1	34.5																																													
2	36.0																																													
3	37.5																																													
4	39.0																																													
5	41.0																																													
6	43.0																																													
7	45.0																																													
<p>TS3601TEX</p>																																														
<table border="1"> <caption>Approximate data for TS3601TEX</caption> <thead> <tr><th>Current (A)</th><th>Clamping Voltage (V)</th></tr> </thead> <tbody> <tr><td>0</td><td>45.0</td></tr> <tr><td>1</td><td>46.5</td></tr> <tr><td>2</td><td>48.0</td></tr> <tr><td>3</td><td>49.5</td></tr> <tr><td>4</td><td>51.0</td></tr> <tr><td>5</td><td>53.0</td></tr> <tr><td>6</td><td>55.0</td></tr> </tbody> </table>	Current (A)	Clamping Voltage (V)	0	45.0	1	46.5	2	48.0	3	49.5	4	51.0	5	53.0	6	55.0																														
Current (A)	Clamping Voltage (V)																																													
0	45.0																																													
1	46.5																																													
2	48.0																																													
3	49.5																																													
4	51.0																																													
5	53.0																																													
6	55.0																																													

## Package Outline

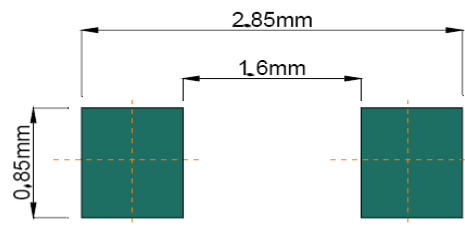
- SOD323 package



## Package Outline Dimensions



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°

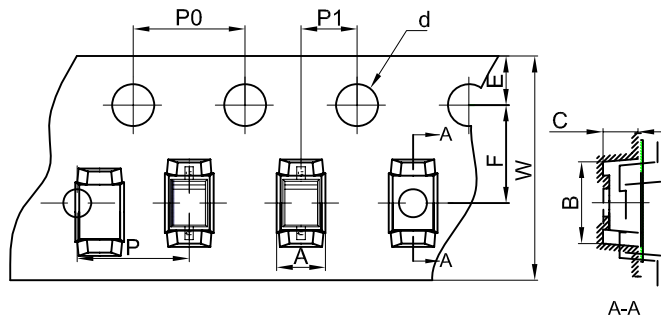


**Recommended Pad outline**

P.S. TSxx01TEX series are the bidirectional TVS. The device marking is directionless. Then the device orientation in tape is not requested.

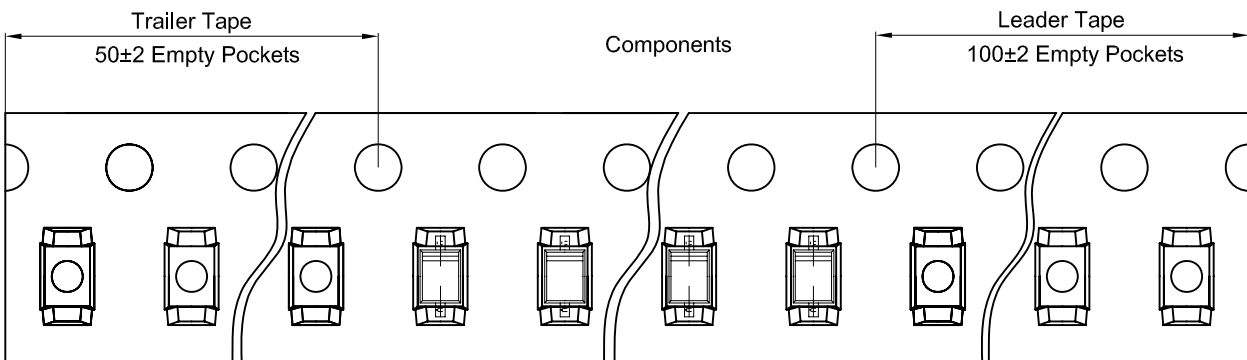


**Tape and Reel Specification**

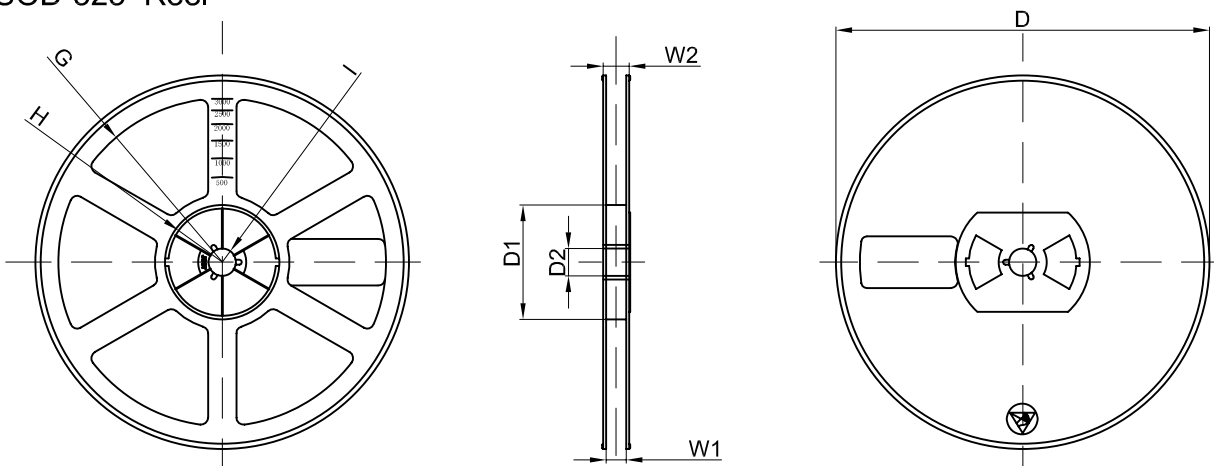


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOD-323	1.46	2.90	1.25	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
(Tolerance)	+/-0.05	+/-0.05	+/-0.05	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+0.3/-0.1

**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	

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [ESD Suppressors / TVS Diodes](#) category:*

*Click to view products by [Shenzhen JingYang](#) manufacturer:*

Other Similar products are found below :

[60KS200C](#) [D18V0L1B2LP-7B](#) [D5V0F4U5P5-7](#) [NTE4902](#) [P4KE27CA](#) [P6KE11CA](#) [P6KE8.2A](#) [SA60CA](#) [SA64CA](#) [SMBJ12CATR](#)  
[SMBJ33CATR](#) [SMBJ6.5A](#) [SMBJ8.0A](#) [ESD101-B1-02ELS E6327](#) [ESD112-B1-02EL E6327](#) [ESD7451N2T5G](#) [19180-510](#) [CPDT-5V0USP-](#)  
[HF](#) [3.0SMCJ33CA-F](#) [3.0SMCJ36A-F](#) [HSPC16701B02TP](#) [JANTX1N6126A](#) [D3V3Q1B2DLP3-7](#) [D55V0M1B2WS-7](#) [SCM1293A-04SO](#)  
[ESD200-B1-CSP0201 E6327](#) [SM12-7](#) [CEN955 W/DATA](#) [VESD12A1A-HD1-GS08](#) [CPDQC5V0-HF](#) [D1213A-01LP4-7B](#) [ESD101-B1-02EL](#)  
[E6327](#) [AOZ8808DI-03](#) [5KP15A](#) [5KP48A](#) [5KP90A](#) [ESD3V3D7-TP](#) [15KPA36A-LF](#) [P4KE56CA](#) [P4KE68A](#) [P4KE91CATR](#) [P6KE120A](#)  
[P6KE13CA](#) [P6KE43CA](#) [P6KE6.8CA](#) [P6KE8.2](#) [P6SMBJ20CA](#) [JANTX1N6072A](#) [SR2835ESKG](#) [SA90CA](#)