

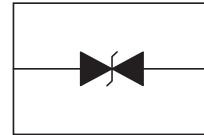
Description

■ This device is an ultra low capacitance ESD product designed to protect very high speed data interfaces .
TE1201SBX has a typical capacitance of only 0.5pf (I/O to GND), and it can be used to meet the ESD immunity requirements of IEC61000-4-2 (15KV air, 8KV contact discharge).

Feature

- ESD protection for high speed data lines to IEC61000-4-2
- ESD contact discharge typical 8KV, max 15KV
- ESD air discharge typical 15KV, max 25KV
- Surface mount
- Extremely low capacitance
- Very low leakage current
- Fast response time
- Bi-directional ESD protection
- Lead free solder termination
- The best ESD protection for high frequency, low voltage applications

TE1201SBX



Schematic Diagram

Application

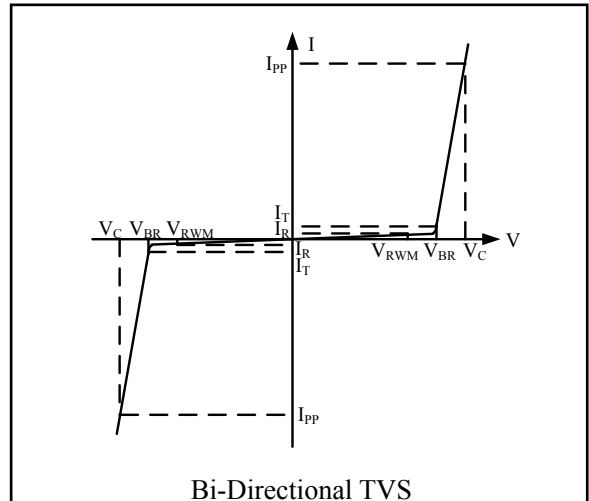
- High Definition Multi-Media Interface (HDMI)
- Digital Visual Interface (DVI)
- Display Port Interface (DP)
- Unified Display Interface (UDI)
- Mobile Display Digital Interface (MDDI)
- Gigabit Ethernet
- USB2.0 and USB3.0
- IEEE1394 interface

**Absolute Maximum Ratings**

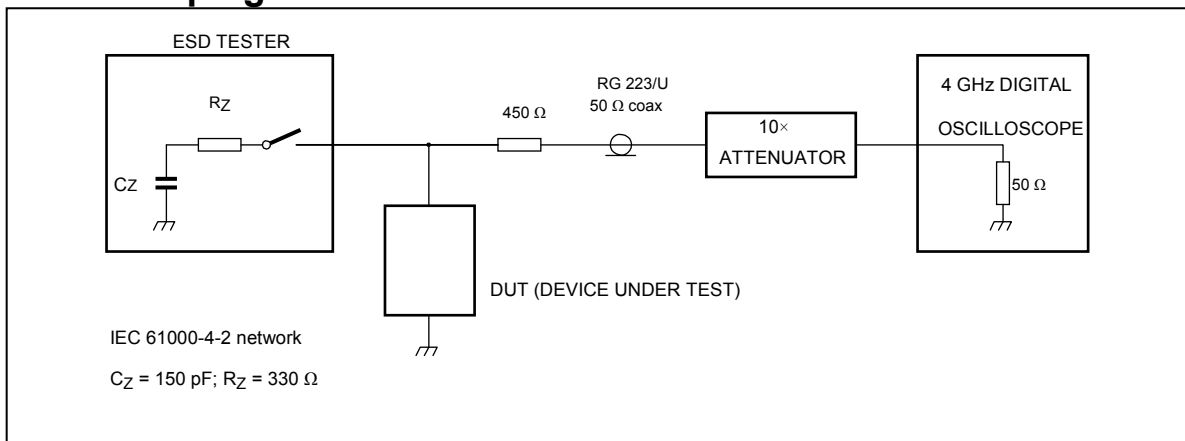
Parameter	Symbol	Value	Unit
Maximum Contact discharge voltage Per IEC61000-4-2	---	15KV	V
Maximum Air discharge voltage Per IEC61000-4-2	---	25KV	V
Maximum Operating temperature	T _{OPER}	-40 to +90	°C
Maximum Storage temperature	T _{STG}	-55 to +125	°C
Maximum lead temperature for soldering during 10s	T _L	260	°C

Electrical Characteristics (T = 25°C)

Symbol	Parameter
V _{RWM}	Nominal Reverse Working Voltage
I _R	Reverse Leakage Current @ V _{RWM}
V _{BR}	Reverse Breakdown Voltage @ I _T
I _T	Test Current for Reverse Breakdown
V _C	Clamping Voltage @ I _{PP}
I _{PP}	Peak Pulse Current
C _{ESD}	Parasitic Capacitance
V _R	Reverse Voltage
f	Small Signal Frequency

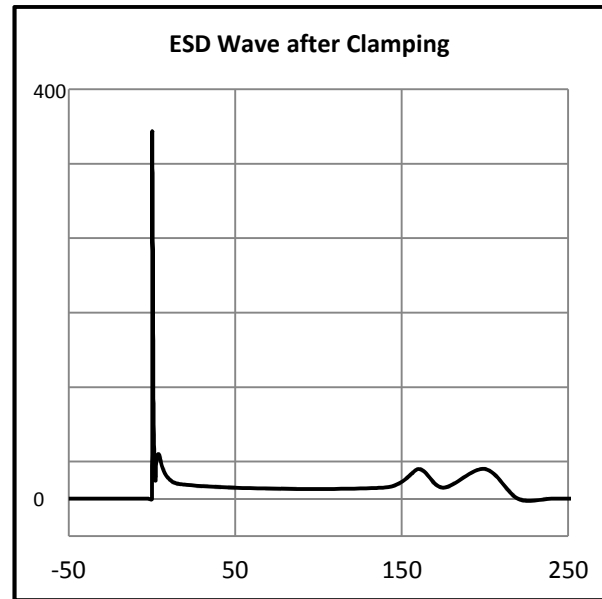
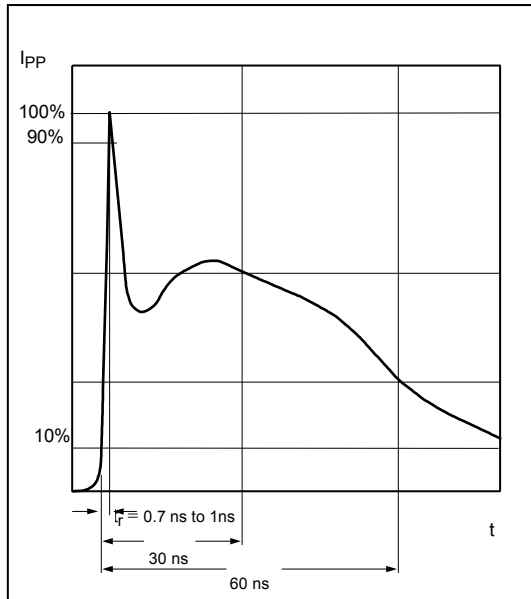


Symbol	Test Condition	Minimum	Typical	Maximum	Units
V _{RWM}				12.0	V
I _R	V _{RWM} = 12V, T = 25°C Between I/O and I/O			0.1	μA
V _{BR}	I _T = 1mA Between I/O and I/O	13		17	V
V _C	I _{PP} = 1A, t _p = 8/20μs Between I/O and I/O			19	V
V _C	I _{PP} = 3A, t _p = 8/20μs Between I/O and I/O			22	V
C _{ESD}	V _R = 0V, f = 1MHz Between I/O and I/O		0.50		pF

ESD Clamping Test

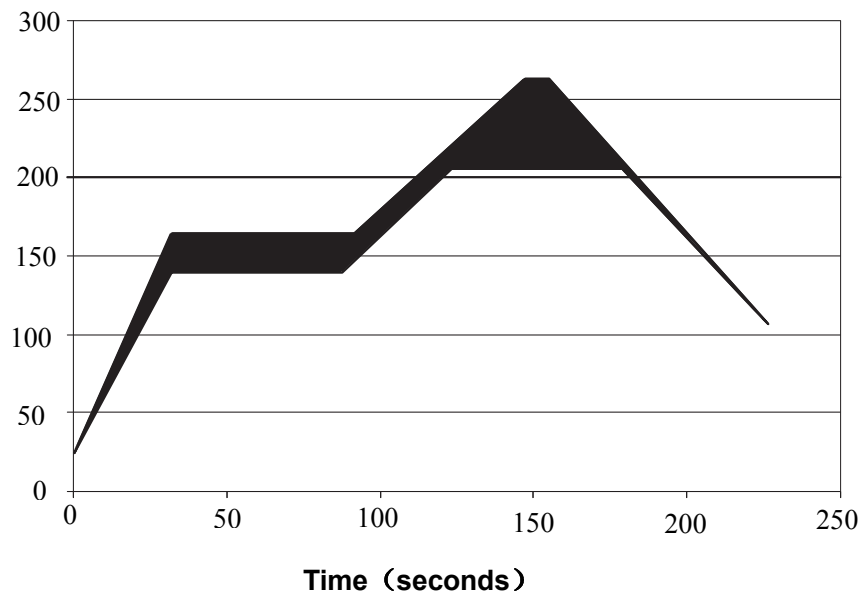


ESD Clamping Test Waveforms

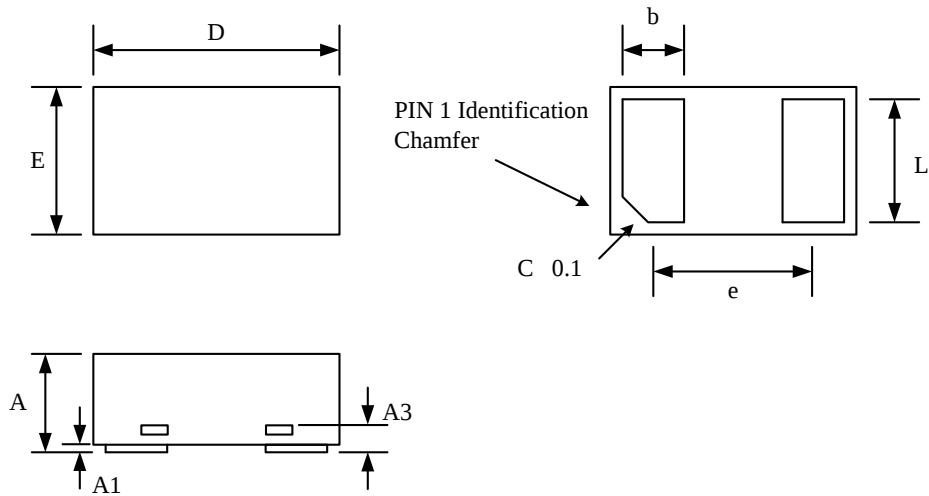


Solder Reflow Recommendations

Temperatures (°C)



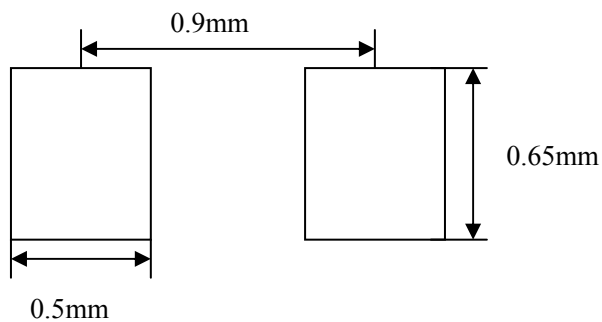
Product Dimension



Package Dimensions (Controlling dimensions are in millimeters)

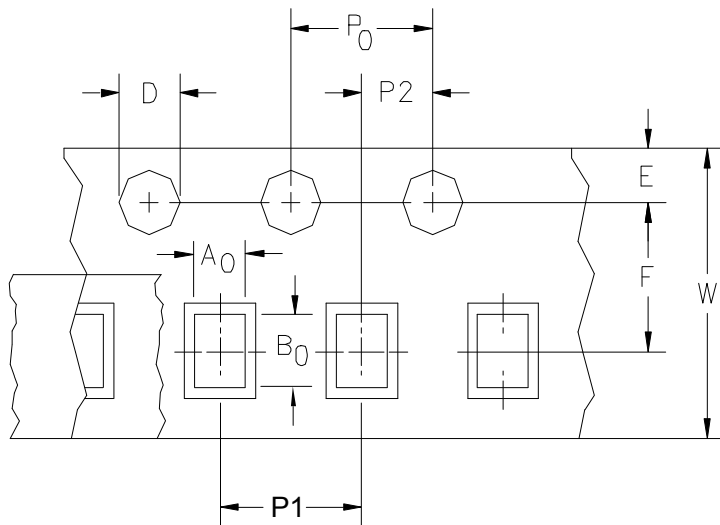
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Minimum	Maximum	Minimum	Maximum
A	0.400	0.550	0.016	0.022
A1	0.000	0.050	0.000	0.002
A3	0.125 REF		0.005 REF	
D	0.950	1.050	0.037	0.041
E	0.550	0.650	0.022	0.026
b	0.200	0.350	0.008	0.014
e	0.650 BSC		0.026 BSC	
L	0.450	0.550	0.018	0.022

PAD Dimension

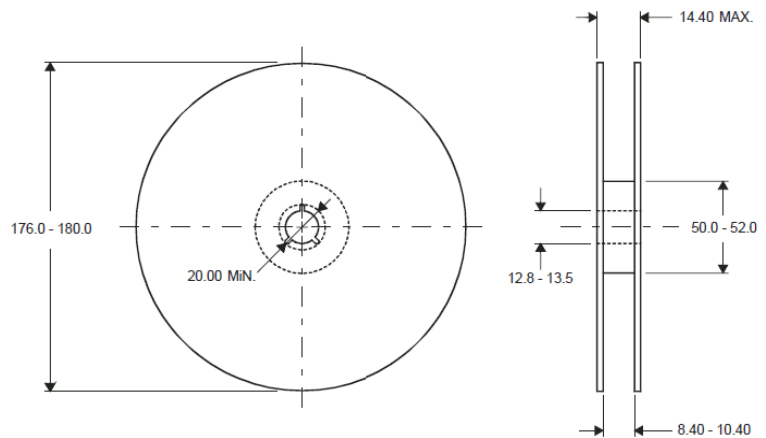


Solder thickness 0.15 to 0.2mm

Package Information



Dimension	Typical	Unit
A0	0.75	mm
B0	1.22	
D	1.55	
P0	4.00	
P1	2.00	
P2	2.00	
E	1.75	
F	3.50	
W	8.00	



DIMENSIONS ARE: MILLIMETERS

Order Information

Device	Package	Net Weight	Carrier	Quantity	HSF Status
TE1201SBX	0402	0.44 mg	Tape & Reel	10,000pcs/reel	RoHS compliant

Marking Codes



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