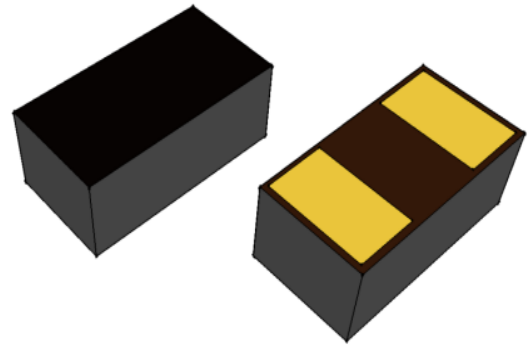


Features

- The best ESD protection for high speed, low voltage applications
- RoHS compliant and halogen free
- Ultra low capacitance, 0.05 pF (typ.)
- Low leakage current (<10nA)
- Fast response time (<1ns)
- Bi-directional, single line protection
- Surface mount
- MSL 1



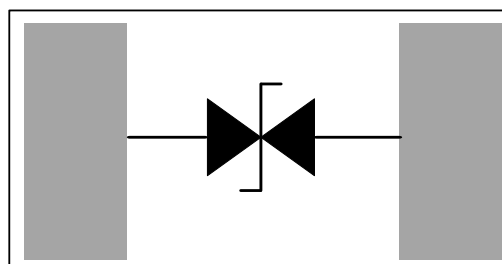
Applications

- Smart Phone/Mobile Internet Device
- Laptop/Desktop Computer
- Antennas
- High Speed Ethernet
- USB 2.0 and USB 3.0
- Lightning and Thunder Bolt Interface

Mechanical Data

- Surface mount
- RoHS Compliant
- Halogen Free

Schematic & PIN Configuration



Absolute Maximum Rating

Rating	Symbol	Conditions	Value	Units
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}		8 15	kV
Lead Soldering Temperature	T_L		260(10seconds)	°C
Operating Temperature	T_O		-55 to + 125	°C
Storage Temperature	T_{stg}		-40 to + 125	°C

Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Continuous Operating Voltage	V_{DC}				5.0	V
Trigger Voltage	V_T	IEC61000-4-2 8KV contact discharge		450		V
Leakage Current	I_L	$V_{DC}=5V, T=25^{\circ}C$			10	nA
Clamping Voltage	V_C	IEC61000-4-2 8KV contact discharge		40		V
Capacitance	C_P	Measured at 10MHz		0.05		pF
ESD Pulse Withstand	Pulses	IEC61000-4-2 8KV contact discharge	1000			

ESD Clamping Test

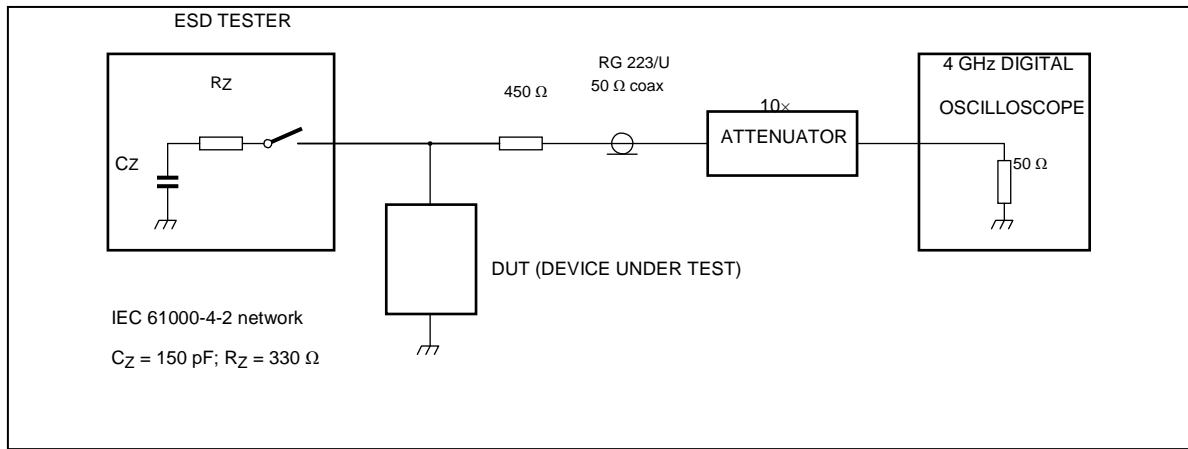


Fig.1 ESD Clamping Test Waveform

Fig.2 ESD Waveform after Clamping

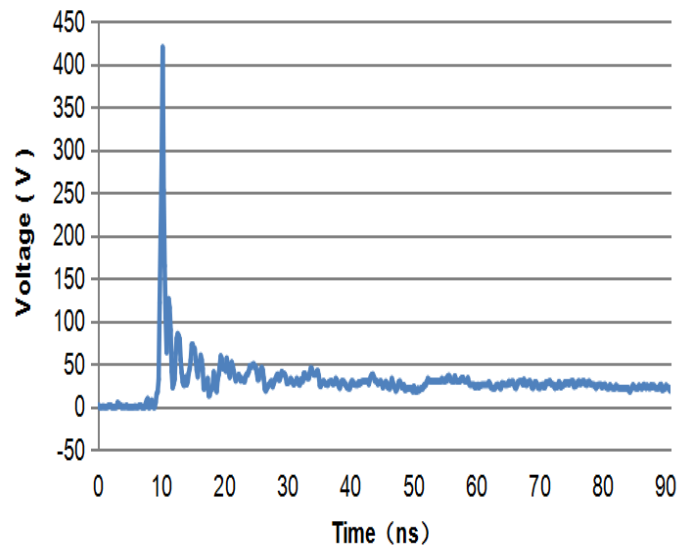
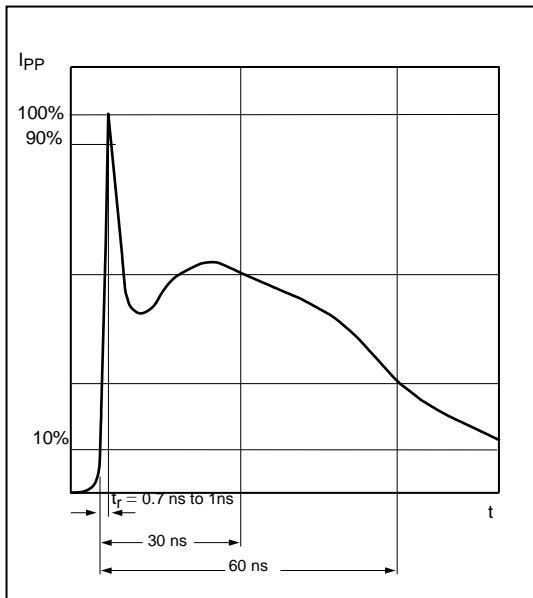
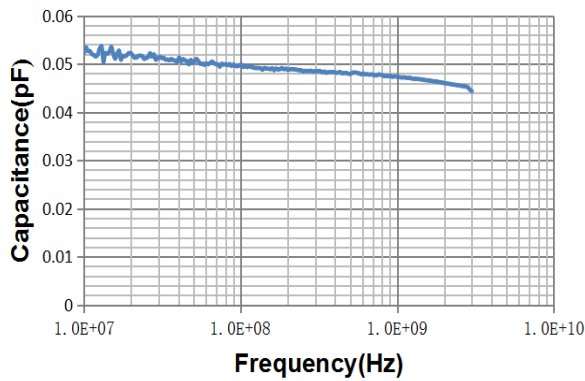
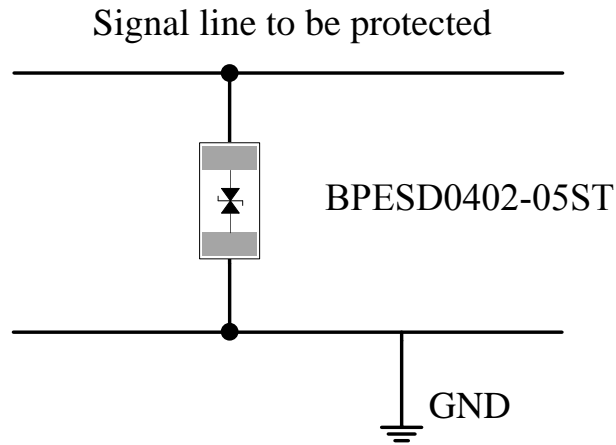


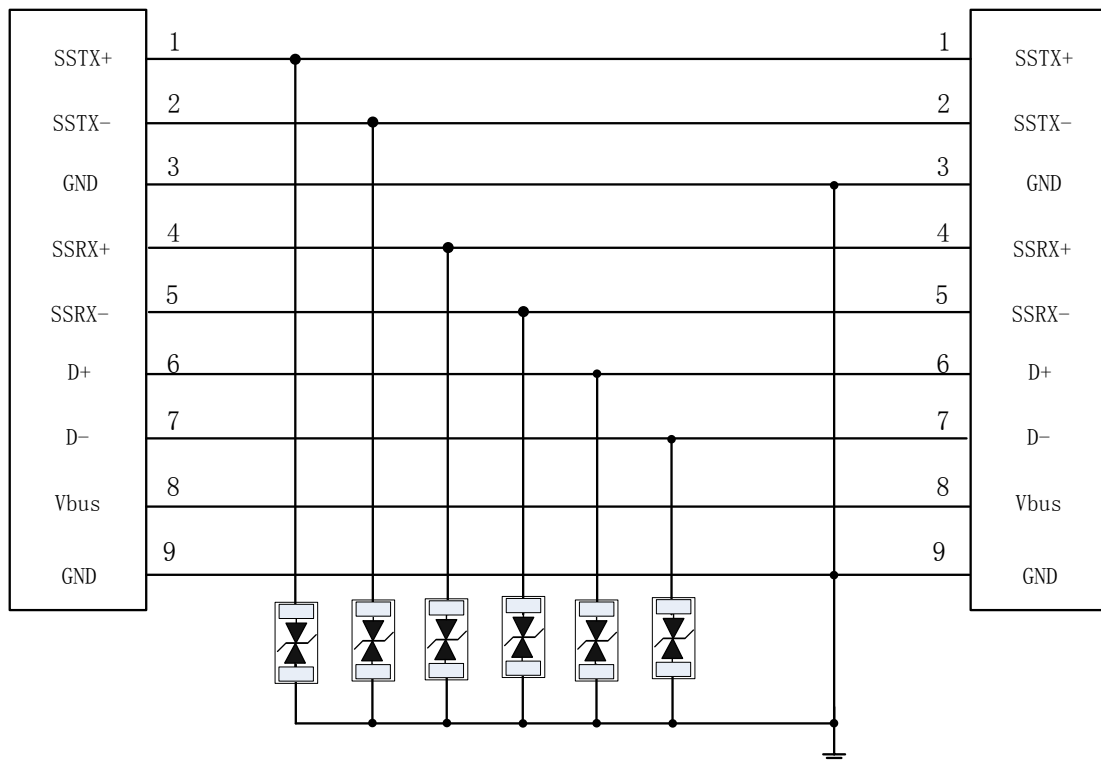
Fig.3 Capacitance VS Frequency



Application Information

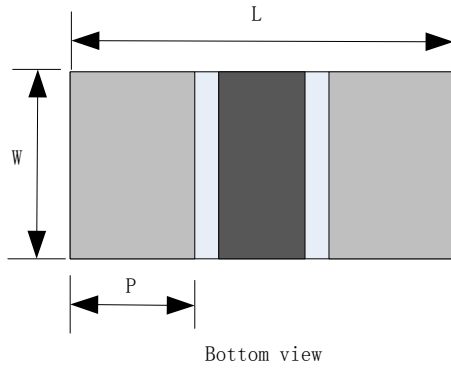


BPESD0402-05ST in Signal line protected

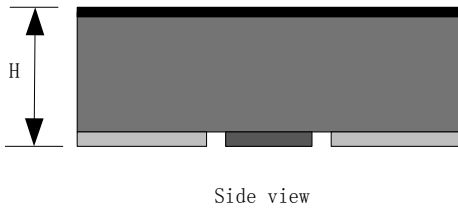


BPESD0402-05ST in USB3.0 application

Outline Drawing



Dimension	Unit: Millimeters		
	Min.	Typ.	Max.
L	0.90	1.00	1.10
W	0.42	0.52	0.62
P	0.15	0.25	0.35
H	0.25	0.38	0.45



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