PESD0402V05 ESD Protection Diode

Feature

- The best ESD protection for high speed, low voltage applications
- RoHS compliant and halogen free
- Ultra-low capacitance : C_J=0.05pF (typ)
- Low clamping voltage according to IEC61000-4-2
- Low leakage current
- Fast response time
- Surface mount
- IEC 61000-4-2 ±8kV contact ±15kV air

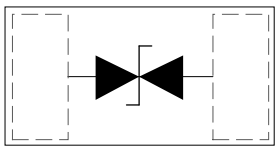
Application

- 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

- Package: 0402
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Circuit Diagram



Ordering Information

Part Number	Package	QTY per Reel	Reel Size
PESD0402V05	0402	10000 pcs	7 inches

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

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

Electrical Characteristics (T_A=25°C unless otherwise specified)

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℃			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

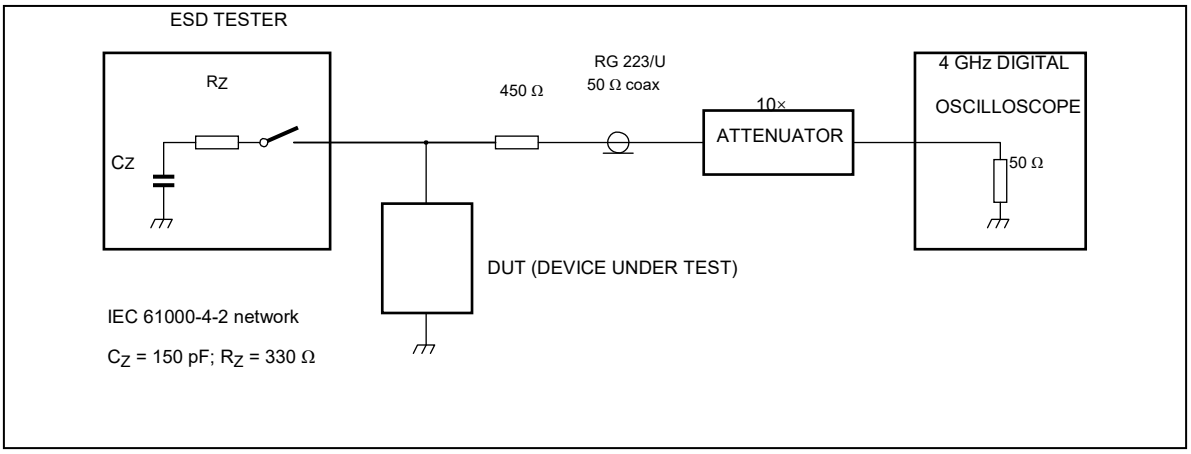


Fig.1 ESD Clamping Test Waveform

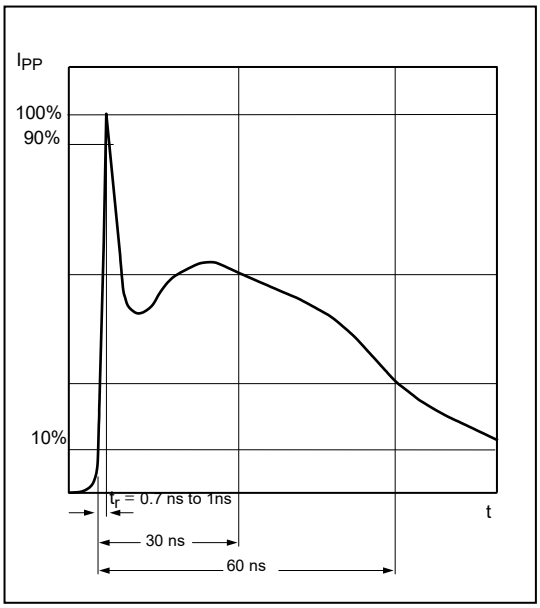


Fig.2 ESD Waveform after Clamping

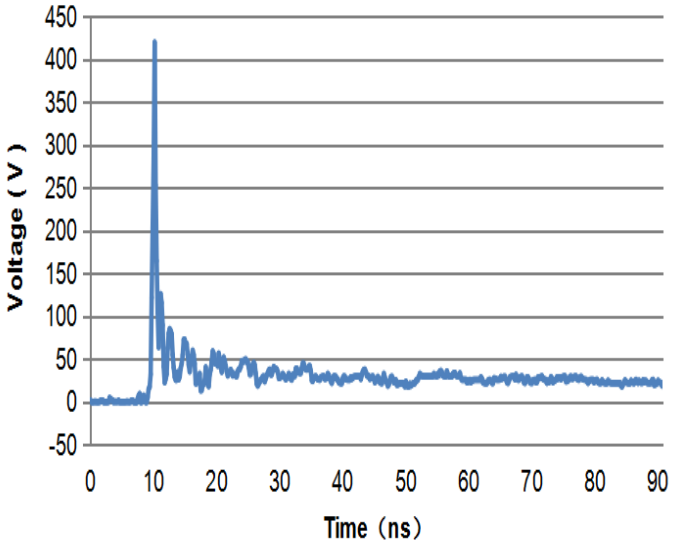
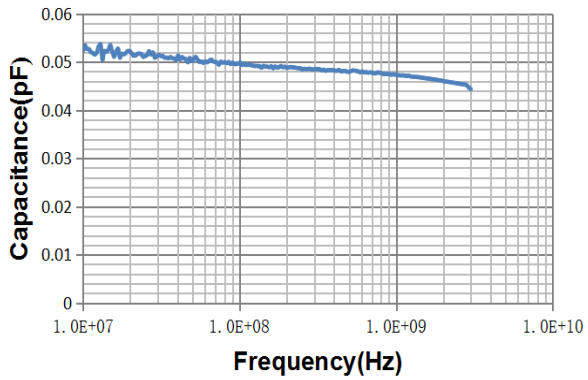
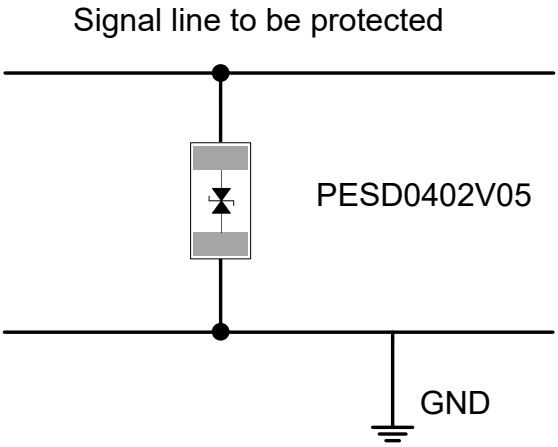


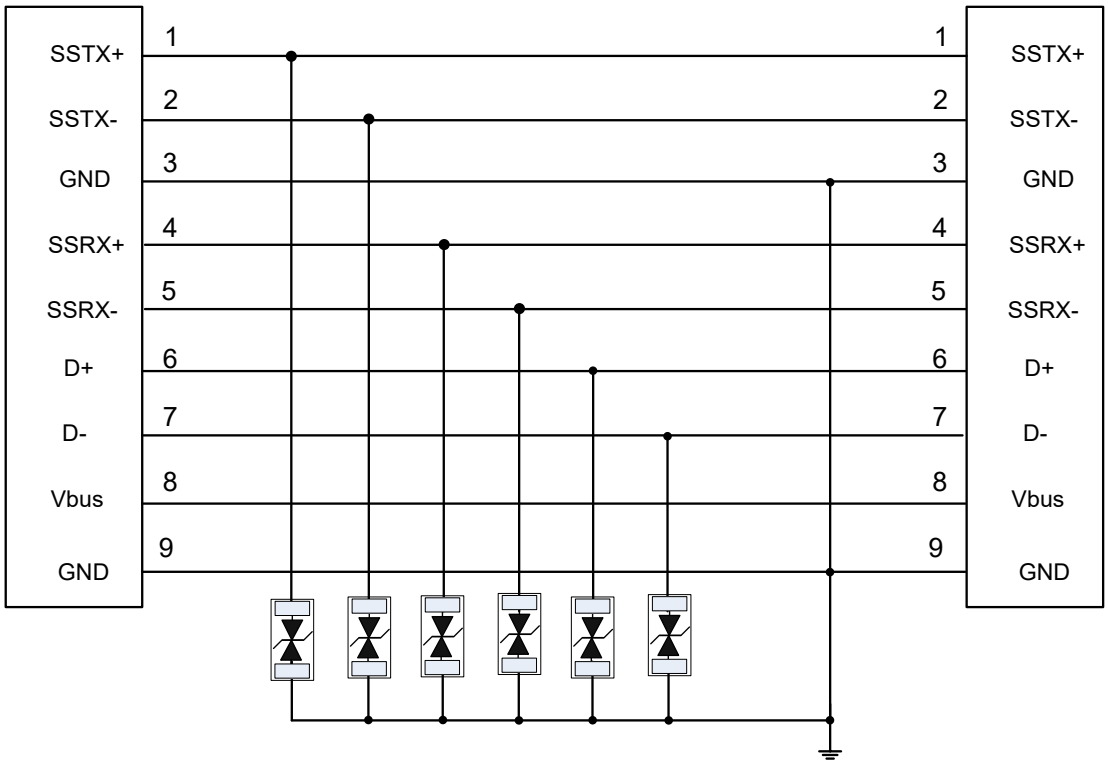
Fig.3 Capacitance VS Frequency



Application Information

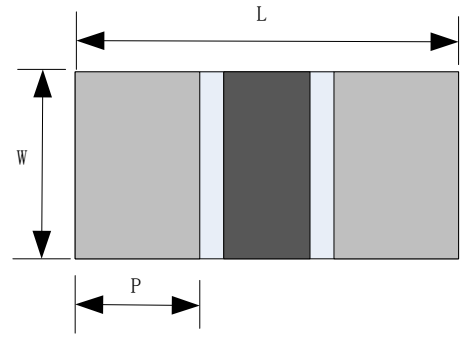


PESD0402V05 in Signal line protected



PESD0402V05 in USB3.0 application

0402 Outline Drawing



Bottom view



Side view

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