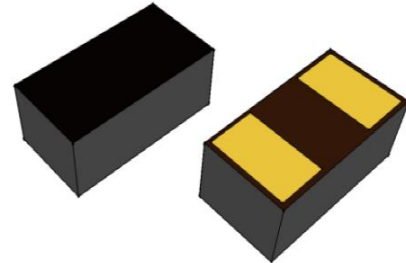




## Features

- The best ESD protection for high speed ,high frequency and low voltage applications
- RoHS compliant and halogen free
- Ultra-low capacitance :  $C_j=0.05\text{pF}$  (typ.)
- Low clamping voltage according to IEC61000-4-2
- Low leakage current
- Fast Response time
- IEC61000-4-2 (ESD) contact: 8kV (typ.),15kV(max.)
- IEC61000-4-2 (ESD) Air: 15kV (typ.),25kV(max.)
- Surface mount



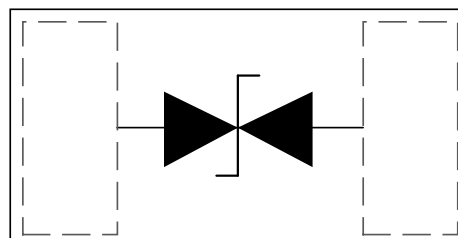
## Applications

- USB2.0 and USB3.0
- Ultra-high-speed data line
- IEEE 1394 Interface
- High Definition Multi-media Interface(HDMI)
- Display Port Interface(DP)
- Unified Display Interface
- 10/100/1000Mbit/s Ethernet

## Mechanical Data

- Molding compound flammability rating: UL94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

## Schematic & PIN Configuration





### Absolute Maximum Rating

Rating	Symbol	Value	Units
Maximum Contact discharge voltage per IEC 61000-4-2	$V_{ESD}$	15	kV
Maximum Air discharge voltage per IEC 61000-4-2	$V_{ESD}$	25	kV
Lead Soldering Temperature	$T_L$	260(10seconds)	°C
Operating Temperature	$T_{OPER}$	-55 to + 125	°C
Storage Temperature	$T_{STG}$	-55 to + 125	°C

### Electrical Characteristics

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Continuous Operating Voltage	$V_{DC}$				12	V
Leakage Current	$I_L$	$V_{DC}=12V, T=25^{\circ}C$		0.01	0.1	$\mu A$
Trigger Voltage	$V_T$	IEC61000-4-2 8kVcontact discharge		300		V
Clamping Voltage	$V_C$	IEC61000-4-2 8kVcontact discharge		35		V
Capacitance	$C_P$	$V_R = 0V, f = 1MHz$		0.05		pF



## Typical Characteristics

Figure1: ESD pulse waveform according to IEC 61000-4-2

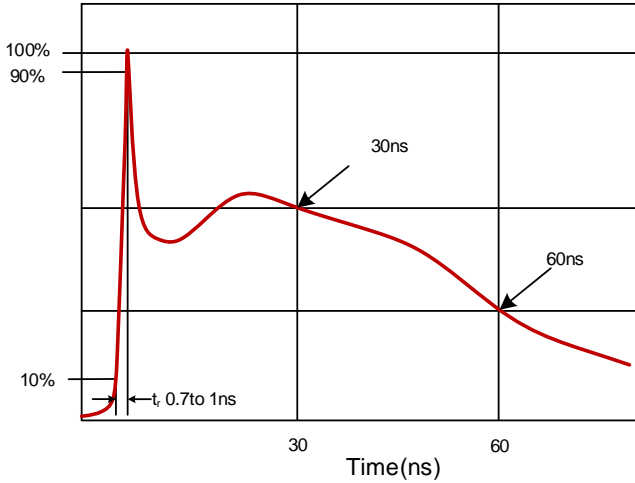
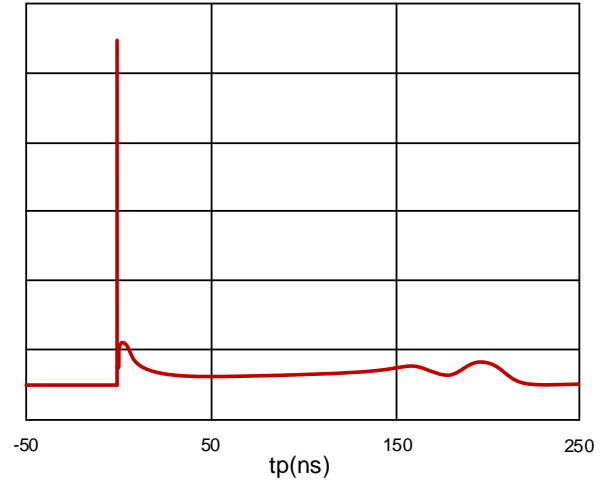
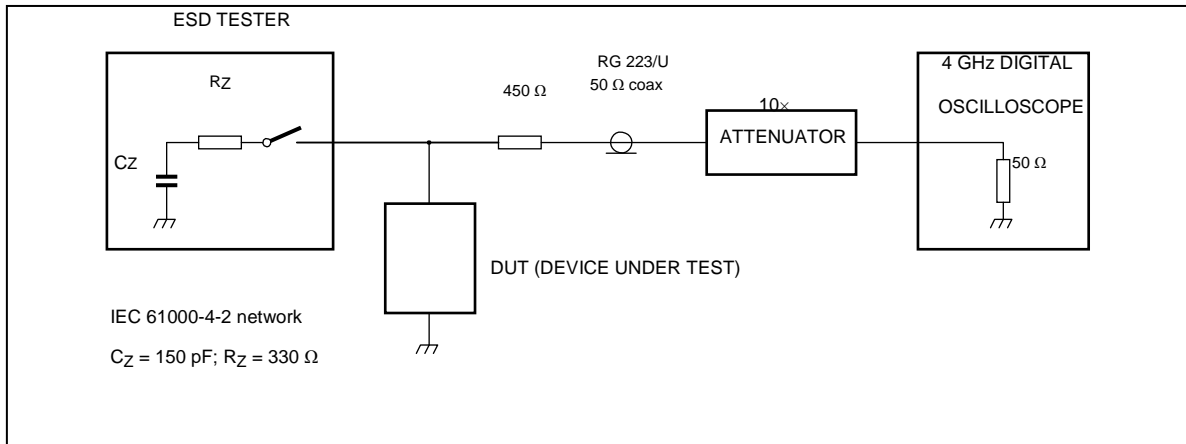


Figure 2: 8kV Contact ESD pulse clamping per IEC61000-4-2

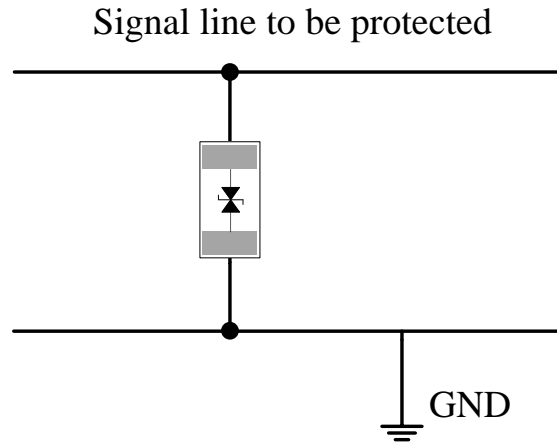


## ESD Clamping Test

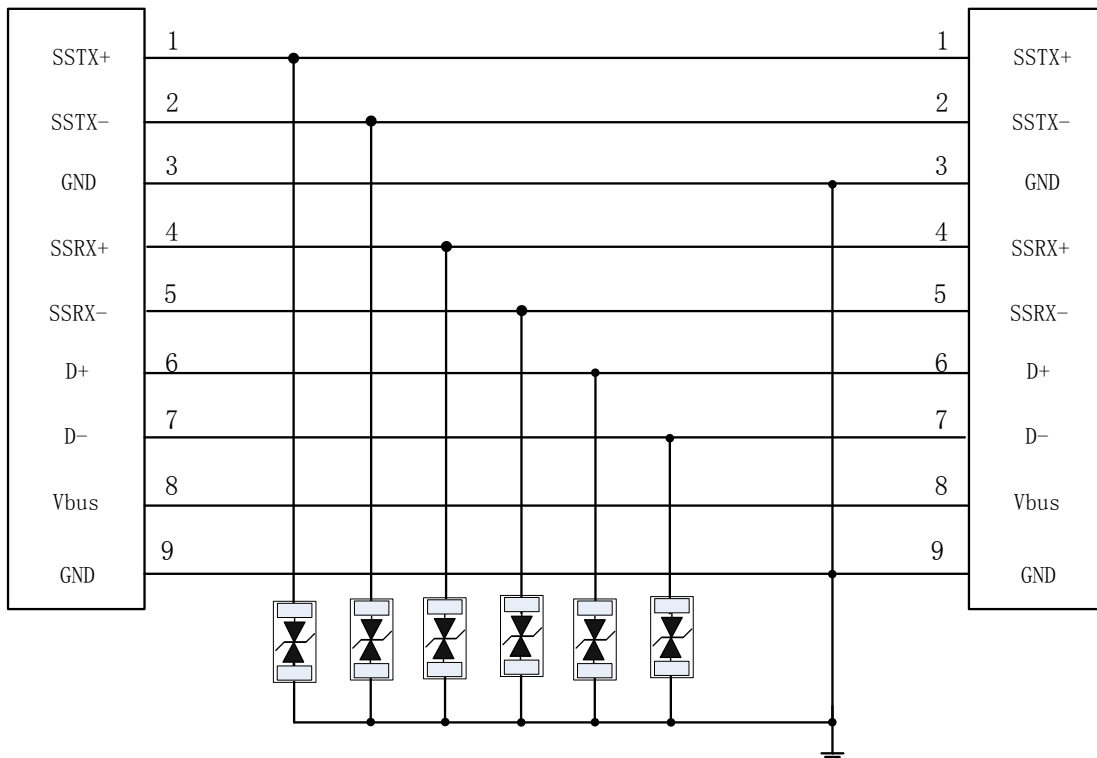




### Application Information



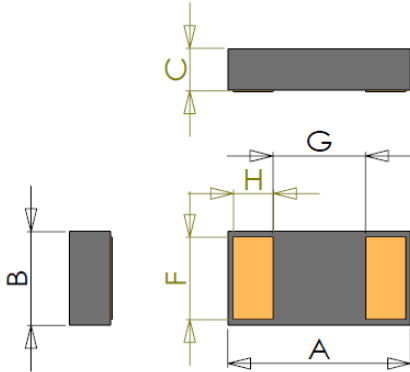
PESD0603V12 in Signal line protected



PESD0603V12 in USB3.0 application

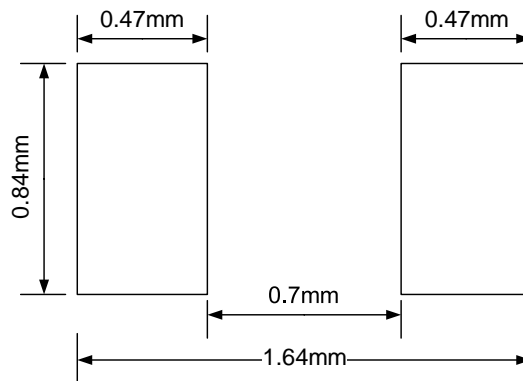


### Outline Drawing-0603



Symbol	Dimension			Unit
	Min	Typ	Max	
A	1.50	1.60	1.70	mm
B	0.70	0.80	0.90	
C	0.32	0.36	0.4	
H	0.345	0.365	0.385	
F	0.715	0.735	0.755	
G	0.78	0.80	0.82	

### Land Pattern \*



\* This Land Pattern is For Reference Purposes Only

### Ordering Information

Part number	Package	Type	Reel size	MOQ
PESD0603V12	0603	T/R	7 inch	5k/reel

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