

### 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

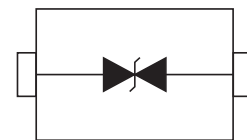
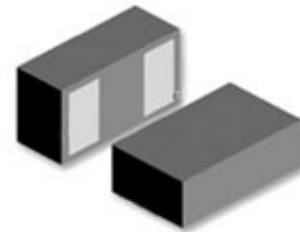
### Description

This device is an ultra low capacitance ESD product designed to protect very high speed data interfaces. PESD3042U005 has a typical capacitance of only 0.05pf (I/O to GND), and it can be used to meet the ESD immunity requirements of IEC61000-4-2 (15KV air, 8KV contact discharge).

### 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

**0402**



Schematic Diagram

### 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 <sub>OPER</sub>	-55 to +125	°C
Maximum Storage temperature	T <sub>STG</sub>	-55 to +125	°C
Maximum lead temperature for soldering during 10s	T <sub>L</sub>	260	°C

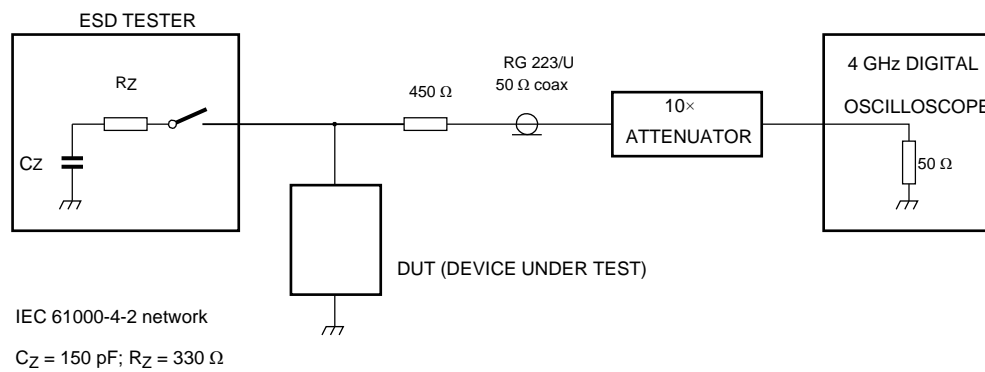
## Electrical Characteristics( $T_A=25^\circ\text{C}$ )

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Rated Voltage	$V_R$	---	---	---	30	V
Trigger voltage	$V_T$	IEC61000-4-2 8KV contact discharge	---	300	---	V
Clamping voltage	$V_C$	IEC61000-4-2 8KV contact discharge	---	35	---	V
Leakage current	$I_L$	DC 30V shall be applied on component	---	0.01	0.10	$\mu\text{A}$
Capacitance	$C_P$	$V_R = 0\text{V}$ , $f = 1\text{MHz}$	---	0.05		pF

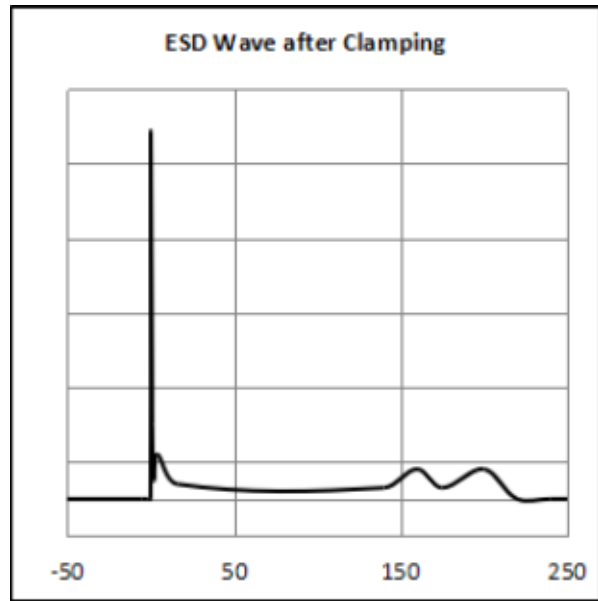
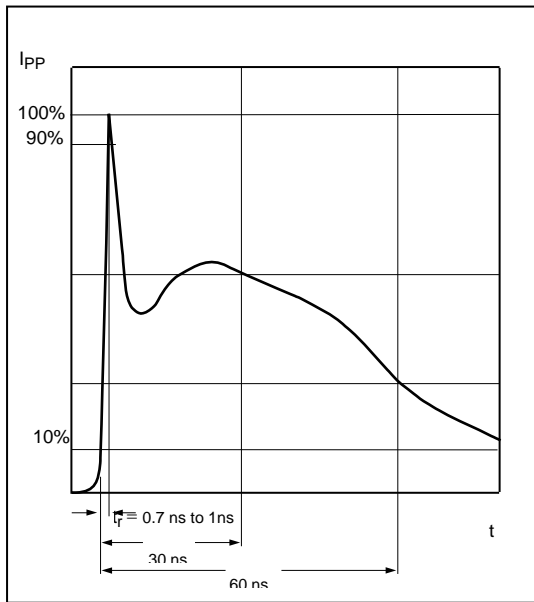
**Note:** 1 Trigger and clamping voltage are measured per IEC 61000-4-2, 8KV contact discharge method.

2 After reliability tests such as high temp storage, temp cycles, continuous ESD strike etc, the maximum leakage current is less than 10 $\mu\text{A}$ .

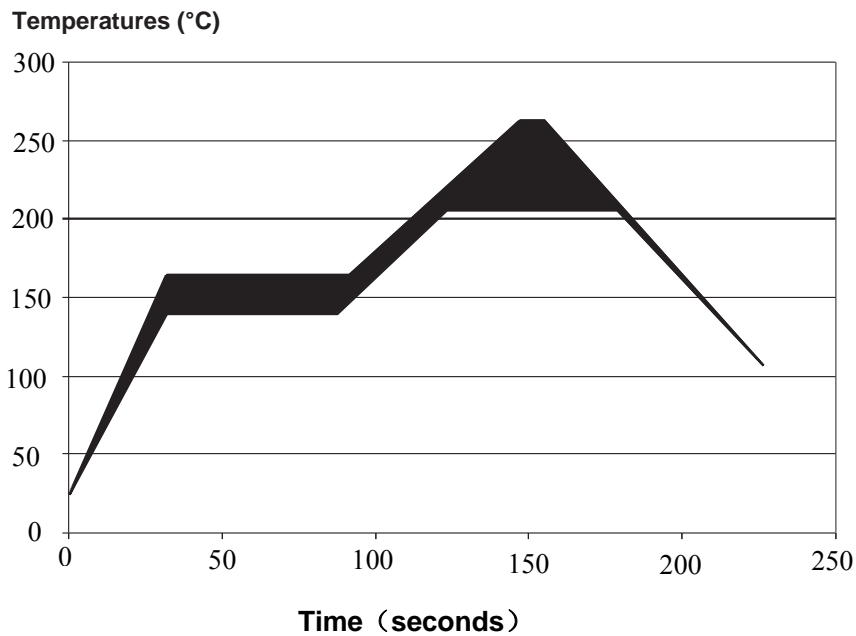
## ESD Clamping Test



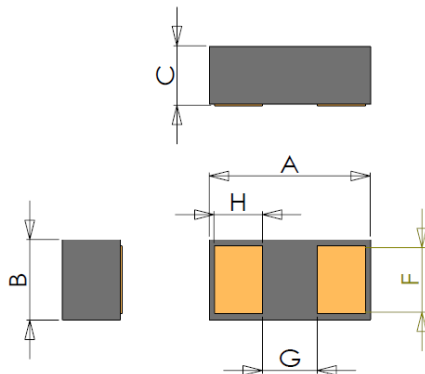
### ESD Clamping Test Waveforms



### Solder Reflow Recommendations

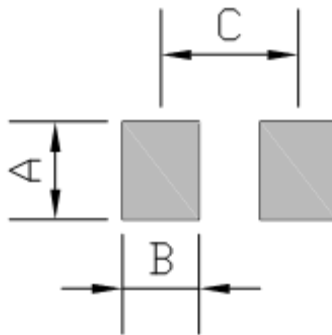


### Product Dimension



Symbol	Dimension			Unit
	Min	Typ	Max	
A	0.95	1.0	1.05	mm
B	0.45	0.50	0.55	
C	0.32	0.36	0.40	
H	0.28	0.30	0.32	
F	0.41	0.43	0.45	
G	0.32	0.34	0.36	

### PAD Dimension



Symbol	Dimension	Unit
A	0.65	mm
B	0.50	
C	0.90	

Solder thickness 0.08 to 0.12mm

### Order Information

Device	Package	Net Weight	Carrier	Quantity	HSF Status
PESD3042U005	0402	0.44 mg	Tape & Reel	10,000pcs/reel	RoHS compliant

#### NOTICE

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