

Feature

- ESD protection for high speed data lines to IEC61000-4-2
- ESD contact discharge max 30KV
- ESD air discharge max 30KV
- Multilayer structure
- 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

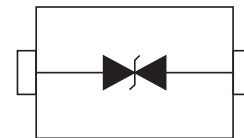
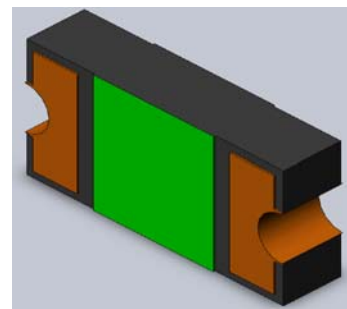
Application

- 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

Description

This device is an ultra low capacitance PESD product designed to protect very high speed data interfaces. PESD1863U005 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 (30KV air, 30KV contact discharge).

0603



Schematic Diagram

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Maximum Contact discharge voltage Per IEC61000-4-2	---	30KV	V
Maximum Air discharge voltage Per IEC61000-4-2	---	30KV	V
Maximum Operating temperature	T _{OPER}	-55 to +125	°C
Maximum Storage temperature	T _{STG}	-55 to +125	°C
Maximum lead temperature for soldering during 10s	T _L	260	°C

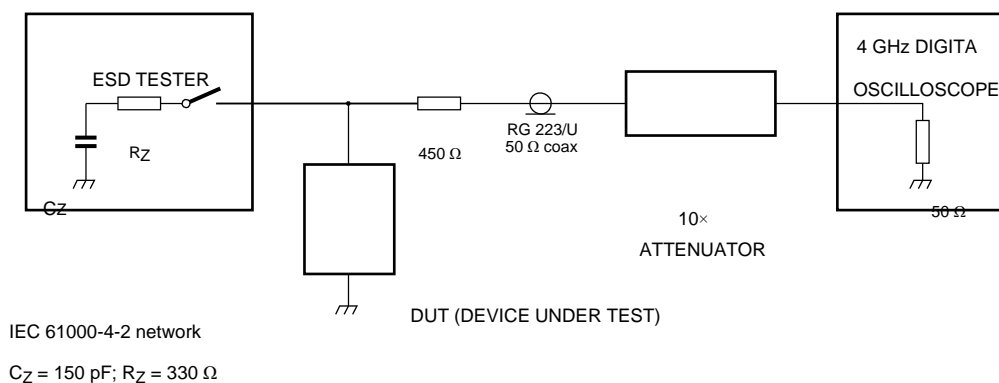
Electrical Characteristics($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Rated Voltage	V_R	---	---	---	18	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 5V shall be applied on component	---	0.01	0.1	μA
Capacitance	C_P	$V_R = 0\text{V}$, $f = 1\text{MHz}$	---	0.05		pF

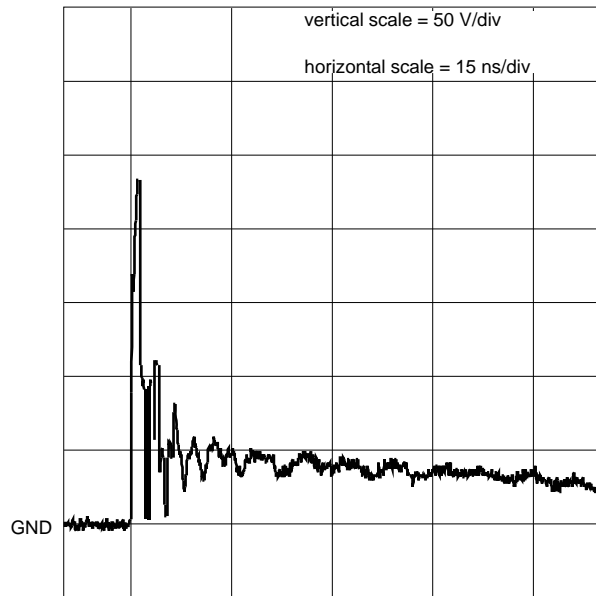
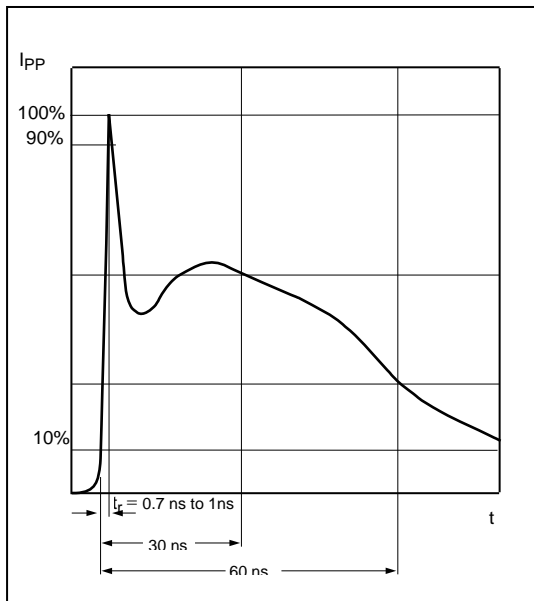
Notes: 1, Trigger and clamping voltage are measured per IEC 61000-4-2, 8KV contact discharge method.

2, After reliability tests such as high Temp storage, Temp cycles, continuous ESD strike etc, the maximum leakage current is less than 10uA.

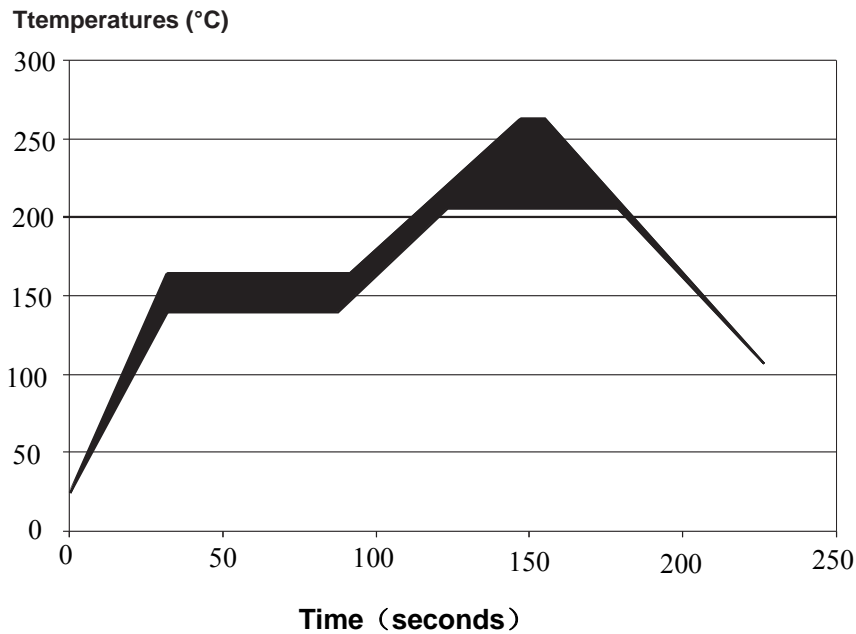
ESD Clamping Test



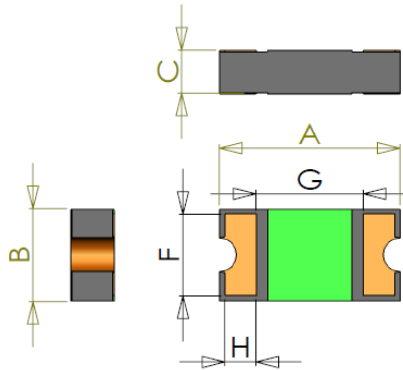
ESD Clamping Test Waveforms



Solder Reflow Recommendations

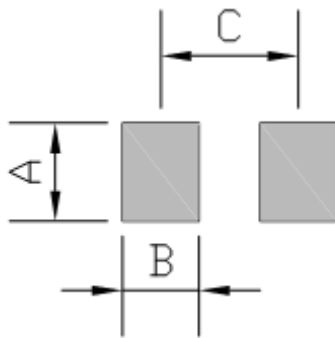


Product Dimension



Symbol	Dimension			Unit
	Min	Typ	Max	
A	1.50	1.60	1.70	mm
B	0.74	0.82	0.90	
C	0.32	0.36	0.40	
H	0.265	0.285	0.305	
F	0.70	0.72	0.74	
G	0.93	0.95	0.97	

PAD Dimension



Symbol	Dimension	Unit
A	0.95	mm
B	0.65	
C	1.35	

Order Information

Device	Package	Net Weight	Carrier	Quantity	HSF Status
PESD1863U005	0603	1.00 mg	Tape & Reel	5,000pcs/reel	RoHS compliant

NOTICE

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