

Features

- ESD protection for high speed data lines to **IEC61000-4-2 ESD contact discharge typical 8KV, max 15KV**
IEC61000-4-2 ESD air discharge typical 15KV, max 25KV
- 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

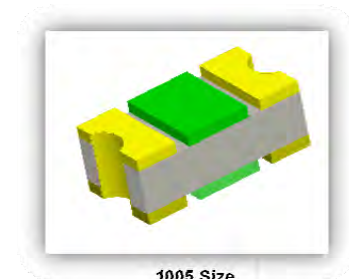
Description

This device is an ultra low capacitance PESD product designed to protect very high speed data interfaces. PESD12112 has a typical capacitance of only 0.05pf (I/O to GND), and it can be used to meet the ESD immunity requirements of IEC 61000-4-2 (15KV air, 8KV contact discharge).

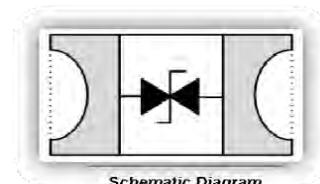
Applications

- 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

Caution: This component is designed for signal line protection only, not intended to be used under bias, not for application with a power line.



1005 Size



Schematic Diagram

Part Number Code

P	E	S	D	0	5	1	2	2
1	2	3	4	5	6	7	8	9

Product Type	
PESD	TSK Multilayer Polymer ESD

Reverse Working Voltage (V)	
05	5V
12	12V
24	24V

Trigger voltage	
2	200V
3	300V

Line	
1	1-Line
2	2-Line
3	3-Line

Size	
2	0402
3	0603

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)

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_{OPER}	-40 to +90	$^\circ\text{C}$
Maximum Storage temperature	T_{STG}	-55 to +125	$^\circ\text{C}$
Maximum lead temperature for soldering during 10s	T_L	260	$^\circ\text{C}$

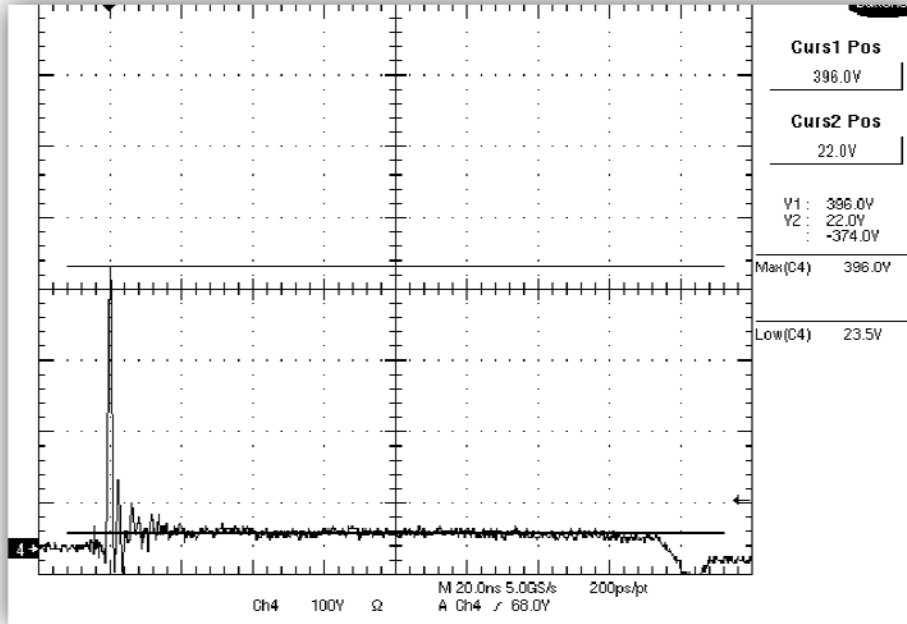
Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

Electrical Characteristics						
Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Continuous operating voltage	V_{DC}	---	---	---	12	V
Trigger voltage	V_T	IEC61000-4-2 8KV contact discharge	---	300	---	V
Clamping voltage	V_C	IEC61000-4-2 8KV contact discharge	---	20	---	V
Leakage current	I_L	DC 12V shall be applied on component	---	0.10	100	nA
Capacitance	C_P	$V_R = 0\text{V}$, $f = 1\text{MHz}$	---	0.05	0.15	pF
ESD pulse withstand	Pulses	IEC61000-4-2 8KV contact discharge	100	---	---	---

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.

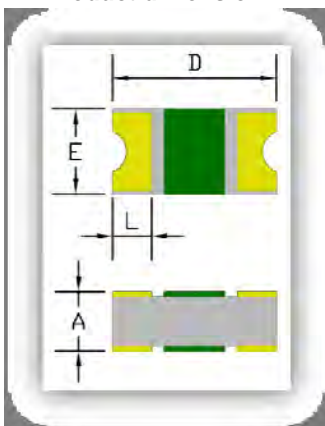
Typical PESD clamping for +8KV pulse per IEC61000-4-2



Product & PAD Dimension

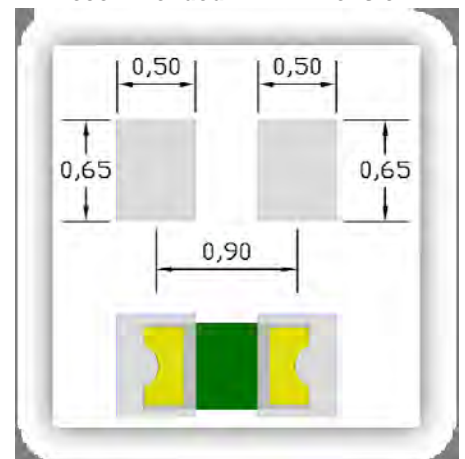
Product & PAD Dimension

Product dimension



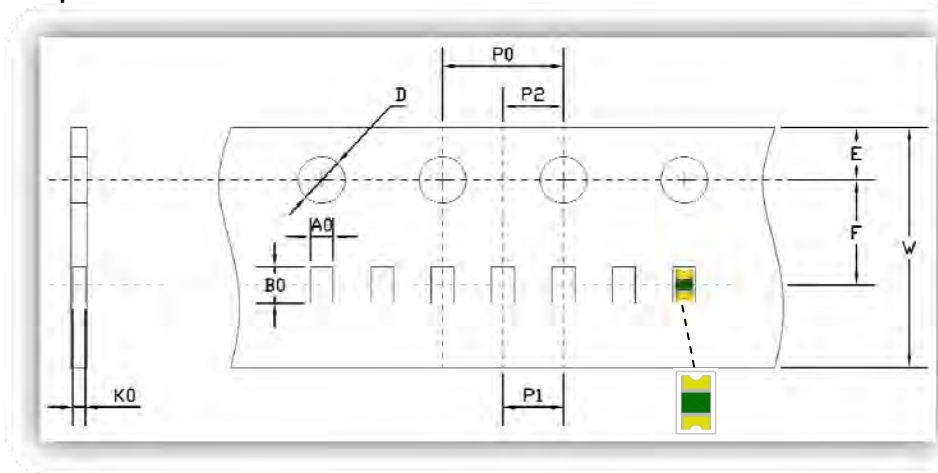
Dimension	Unit: Millimeters		
	Min	Typ	Max
D	0.90	1.05	1.20
E	0.45	0.55	0.65
L	0.15	0.25	0.35
A	0.25	0.36	0.45

Recommended PAD Dimension



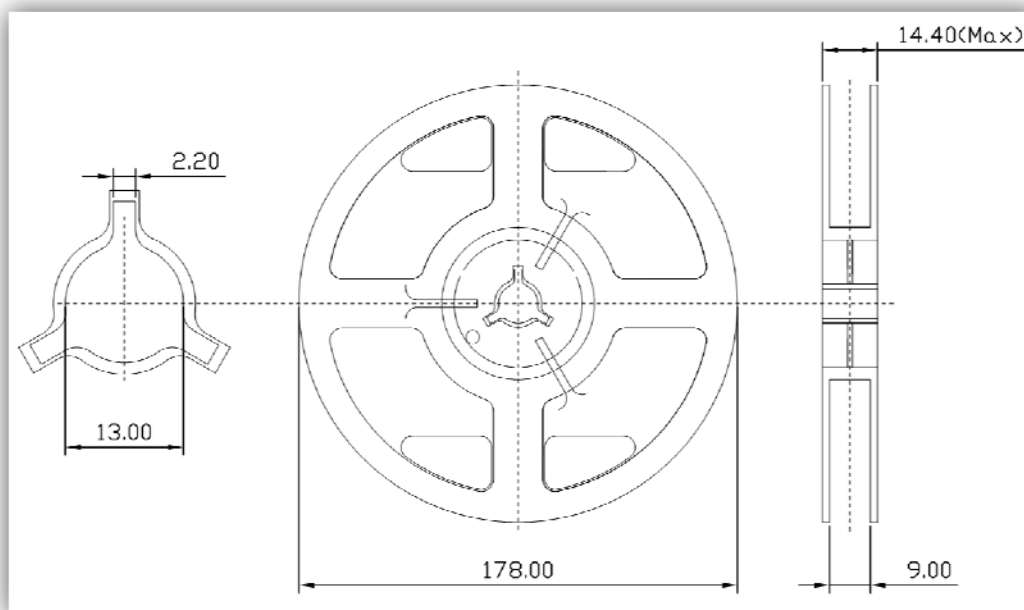
Package Information

Tape Dimension



Dimension	Typical	Unit
A0	0.75	mm
B0	1.22	
K0	0.43	
D	1.55	
P0	4.00	
P1	2.00	
P2	2.00	
E	1.75	
F	3.50	
W	8.00	

Reel Dimension



Order Information

Device	Package	Net Weight	Carrier	Quantity	HSF Status
PESD12132	1005	0.44 mg	Tape & Reel	10,000pcs/reel	RoHS compliant