

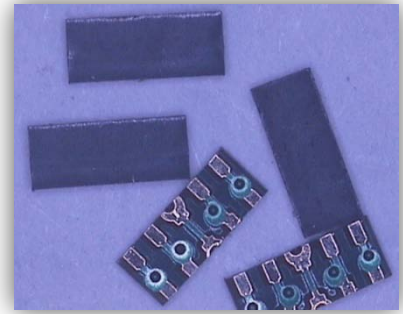
Double Sides Polymer ESD Suppressor

Description

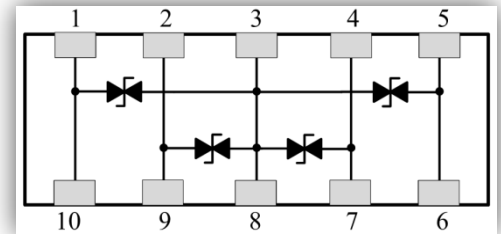
This device is a very low capacitance PESD product array designed to protect very high speed data interfaces. PE05A-2510 has a typical capacitance of only 0.15pf (I/O to GND), and it can be used to meet the ESD immunity requirements of IEC 61000-4-2 (15KV air, 8KV contact discharge).

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
- Protect four data lines
- Double layer structure
- Surface mount
- Very 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



Product Pictures



Schematic Diagram

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.

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 _{OPER}	-40 to +90	°C
Maximum Storage temperature	T _{STG}	-55 to +125	°C
Maximum lead temperature for soldering during 10s	T _L	260	°C

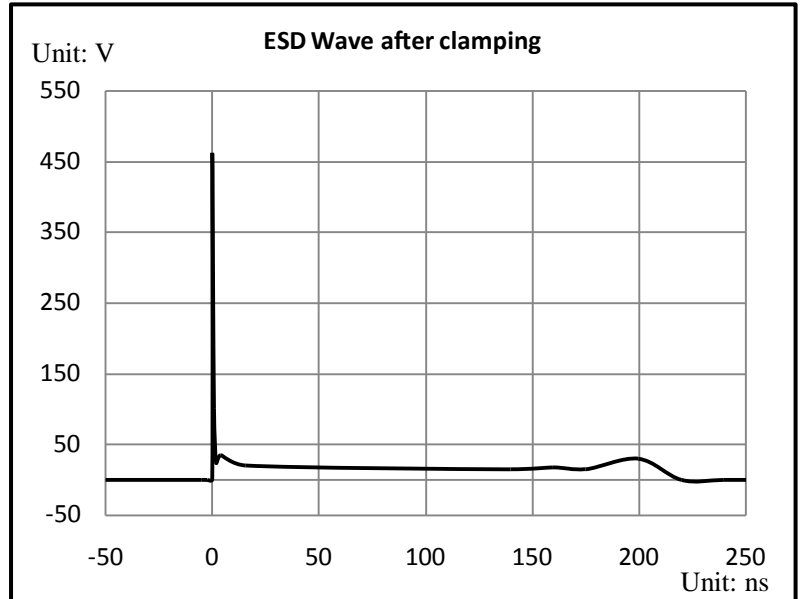
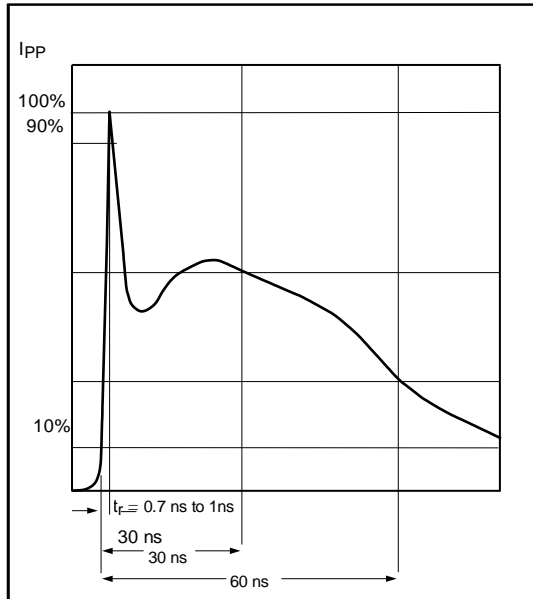
Electrical characteristics (T_A =25°C)

Electrical Characteristics						
Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Continuous operating voltage	V _{DC}	---	---	---	5	V
Trigger voltage	V _T	IEC61000-4-2 8KV contact discharge	---	500	---	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	1	uA
Capacitance	C _P	V _R = 0V, f = 1MHz	---	0.15	0.25	pF

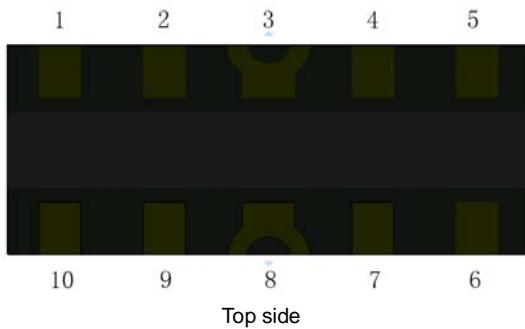
Notes: 1, Trigger and clamping voltage are measured per IEC 61000-4-2, 8KV contact discharge method.

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

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



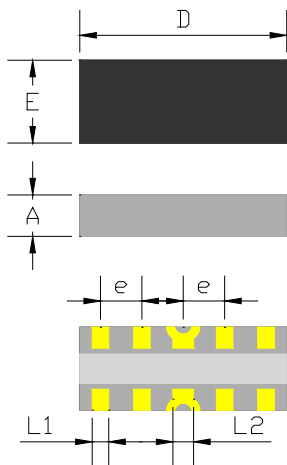
Pin configuration



Pin	Identification
1, 10	Channe 1
2, 9	Channe 2
4, 7	Channe 3
5, 6	Channe 4
3, 8	Ground

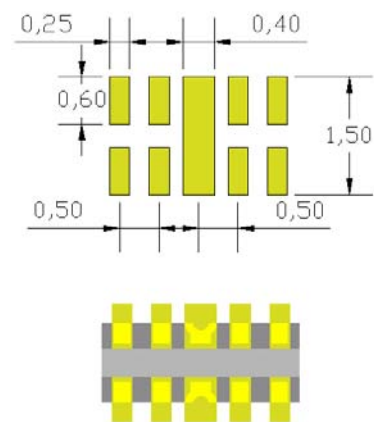
Product & PAD Dimension

Product dimension



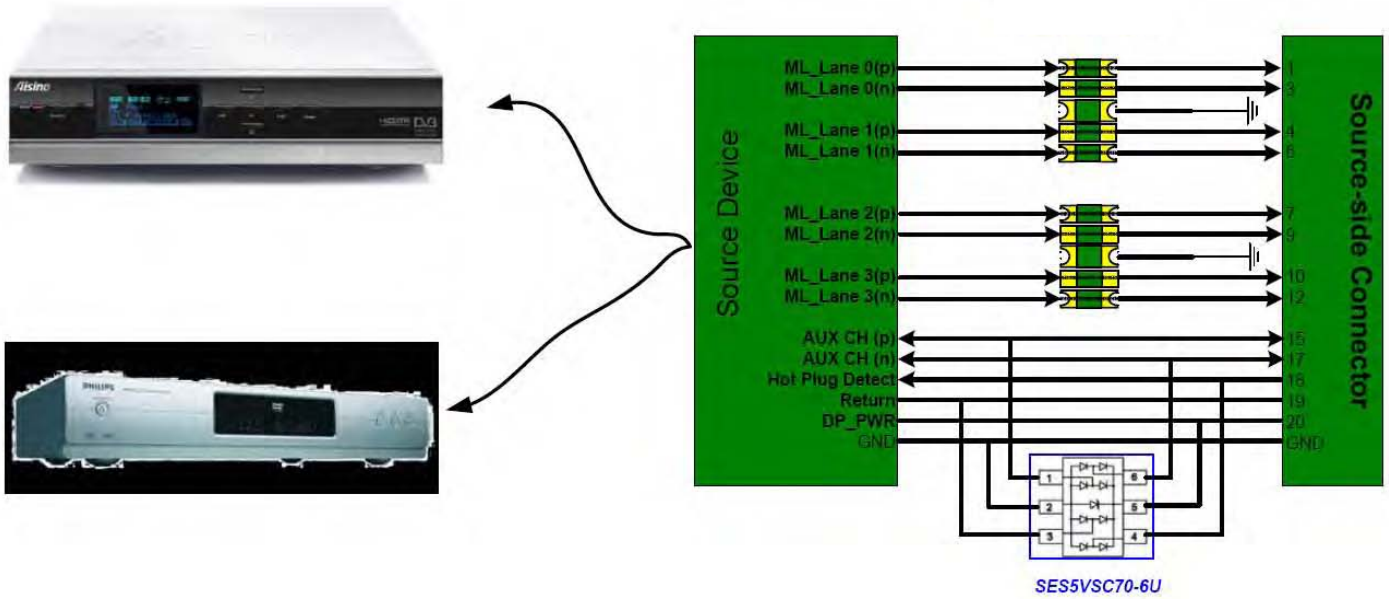
Dimension	Unit: Millimeters		
	Min	Typ	Max
D	2.35	2.50	2.65
E	0.90	1.00	1.10
e	0.40	0.50	0.60
A	0.43	0.53	0.63
L1	0.10	0.20	0.30
L2	0.15	0.25	0.35

Recommended PAD Dimension

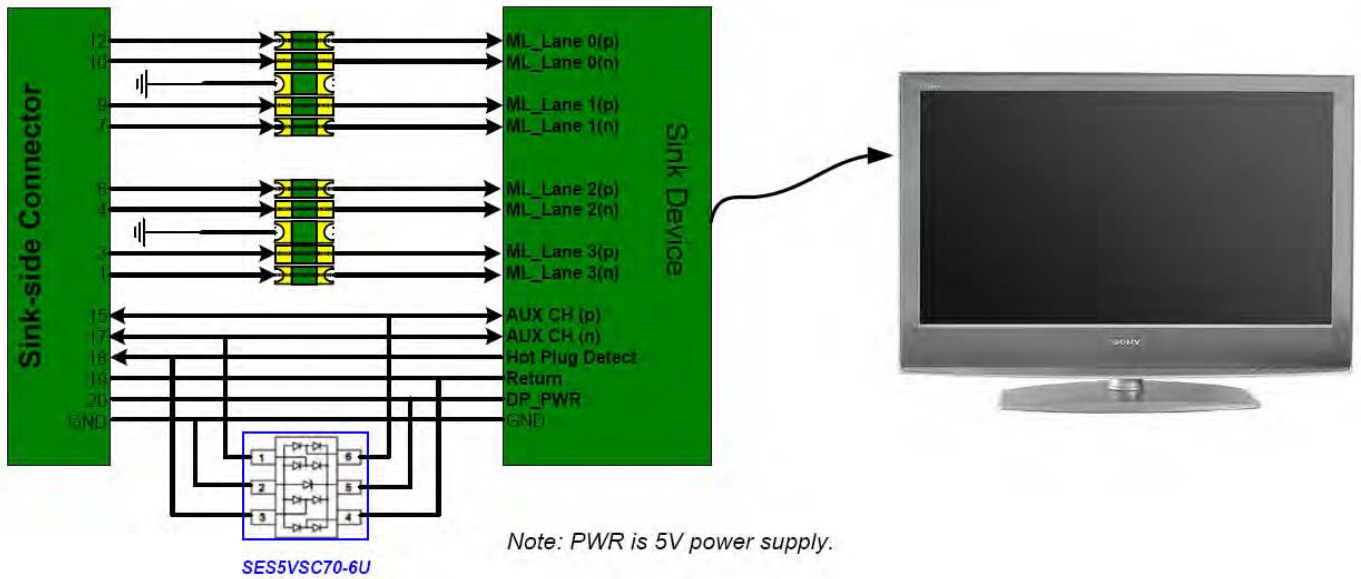


Design Recommendations for Display Port

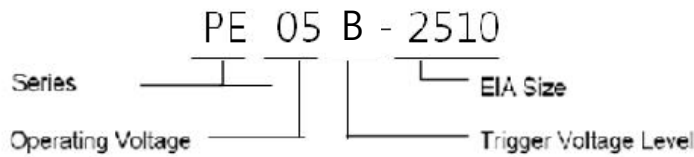
For Display Port Source Device



For Display Port Sink Device



Part Numbering

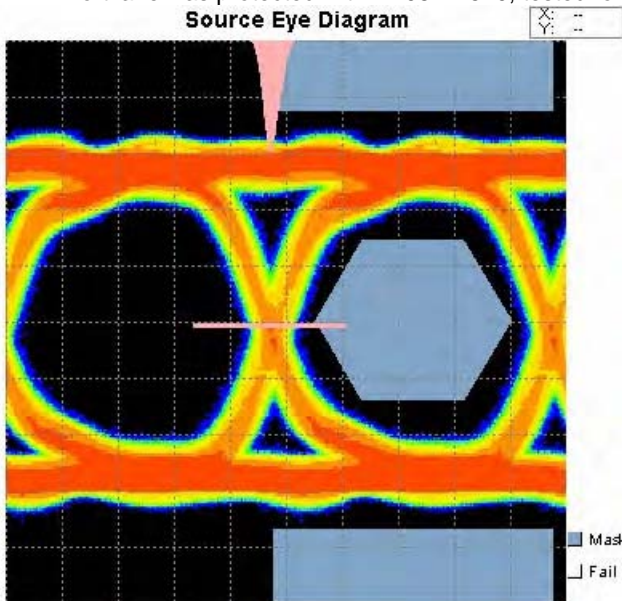


Order Information

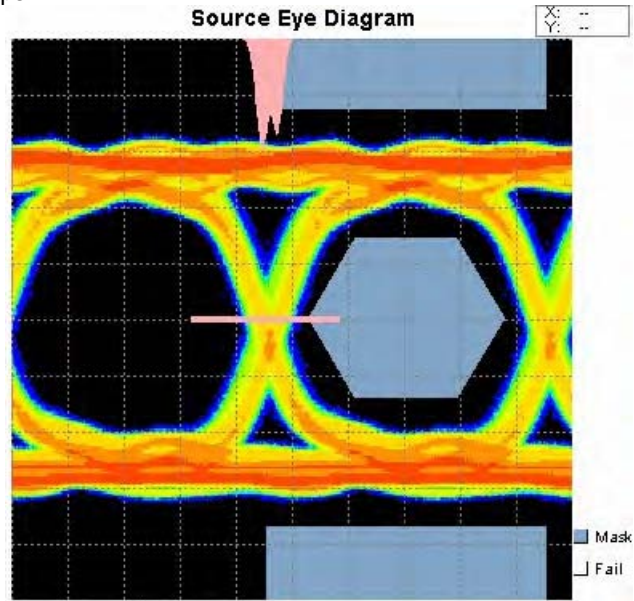
Device	Package	Carrier	Quantity	HSF Status
PE05B-2510	2510	Tape & Reel	3,000pcs/reel	RoHS compliant

Eye Pattern Test

HDMI Port lane was protected with PE08A-2510, tested for 2.25G bps



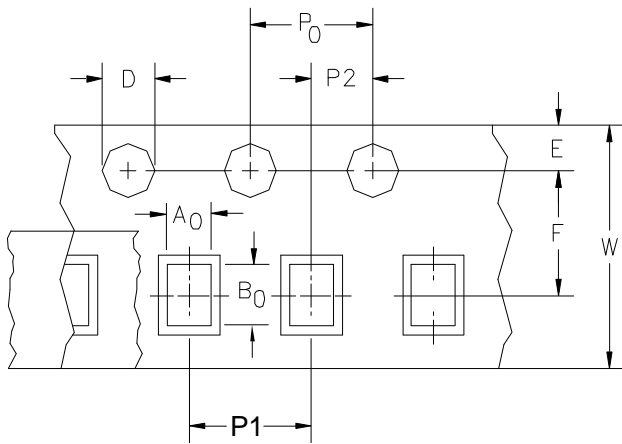
HDMI Port without PE05B-2510



HDMI Port with PE05B-2510

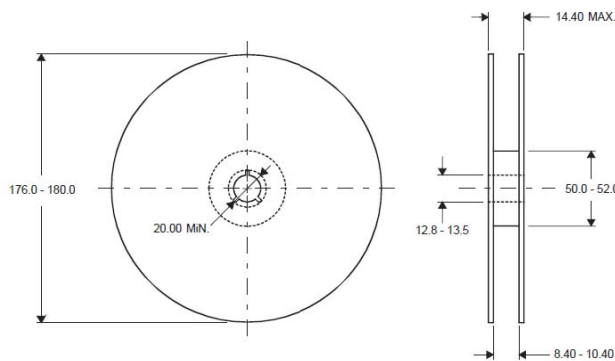
Package Information

Tape Dimension



Dimension	Typical	Unit
A0	1.15	mm
B0	2.65	
D	1.55	
P0	4.00	
P1	4.00	
P2	2.00	
E	1.75	
F	3.50	
W	8.00	

Reel Dimension



DIMENSIONS ARE: MILLIMETERS