

Obsolete

M.C.C.

Micro Commercial Components



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MLESD08A-2510

Multilayer Polymer ESD Suppressor

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

Application

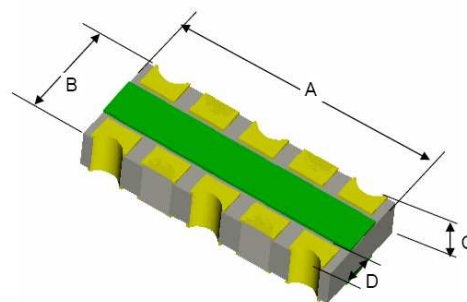
- High Definition Multi-Media Interface (HDMI)
- Digital Visual Interface (DVI)
- Display Port Interface
- Unified Display Interface (UDI)
- MDDI Ports
- Gigabit Ethernet
- USB2.0 and IEEE1394 interface

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

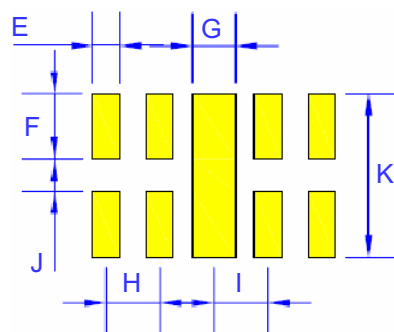
Environmental Specifications

- Operation temperature: -40~90
- Moisture Resistance, Steady state: MIL-STD-883C, Method 1004.7, 85% RH, 85 , 1000hrs
- Thermal Shock: MIL-STD-202, Method 107G, -55 to 150 , 30 min cycle, 10 cycles.
- Vibration: MIL-STD-202F, Method 201A, (10 to 55 to 10HZ, 1 min. cycle, 2hrs each in X-Y-Z)
- Chemical Resistance: ASTM D-543, 4hrs @40 , 3 solutions(H₂O, detergent solution, deluxer)
- Solder leach resistance and terminal adhesion: Per EIA-576 test

2510



Suggested Solder
Pad Layout



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.096	.100	2.45	2.55	
B	.035	.043	0.90	1.10	
C	.013	.017	0.33	0.43	
D	.008	.018	0.20	0.45	
E	.008	.012	0.20	0.30	
F	.022	.026	0.55	0.65	
G	.014	.018	0.35	0.45	
H	.018	.022	0.45	0.55	
I	.018	.022	0.45	0.55	
J	.010	.014	0.25	0.35	
K	.055	.063	1.40	1.60	

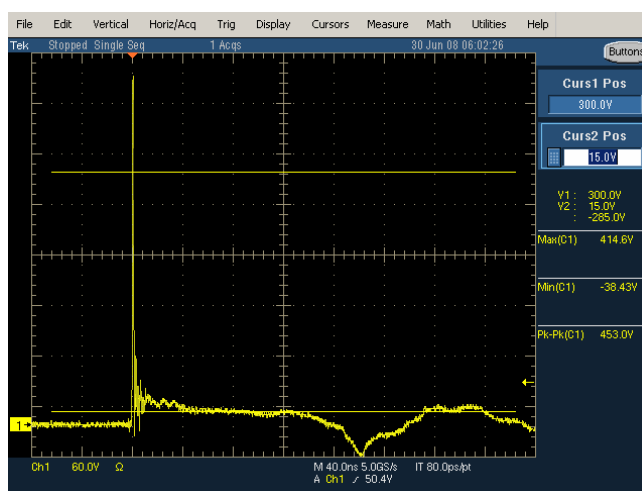
Electrical Characteristics

Electrical Characteristics						
Parameter	Symbol	Conditions	Min	Typ	Max	Units
Continuous operating voltage	V_{DC}	---	---	---	8	V
Trigger voltage	V_T	IEC61000-4-2 8KV contact discharge	---	300	---	V
Clamping voltage	V_C	IEC61000-4-2 8KV contact discharge	---	15	---	V
Leakage current	I_L	8V V_{DC}	---	0.10	10	nA
Capacitance	C_P	VR = 0V, f = 1MHz	---	0.15	0.3	pF
Operating Temperature	---	---	-40	---	90	°C
Storage Temperature	---	---	-55	---	150	°C
ESD pulse withstand	Pulses	IEC61000-4-2 8KV contact discharge	2000	---	---	---

Notes:

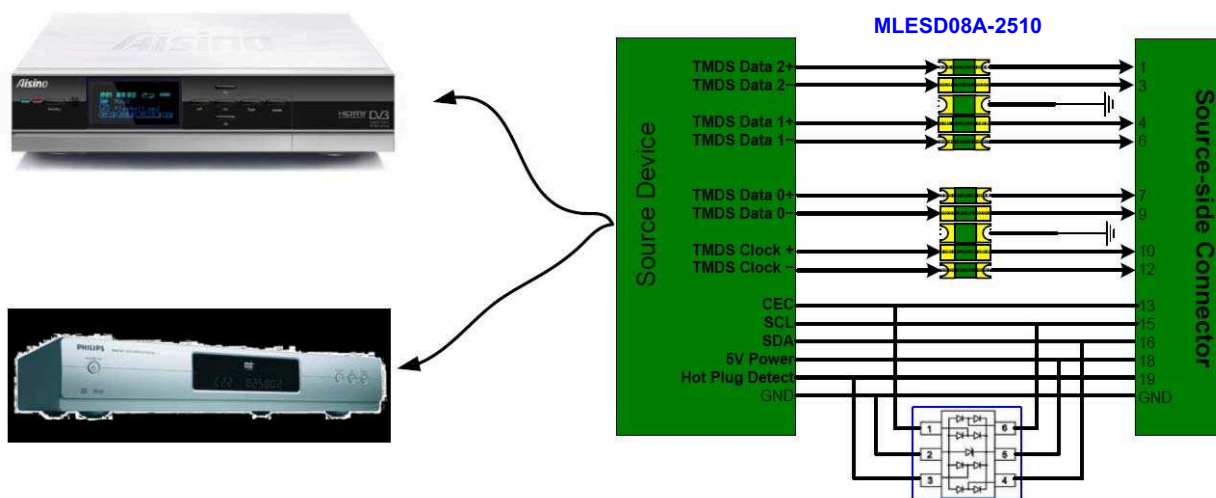
1, Trigger and clamping voltage measure per IEC 61000-4-2, 8KV contact discharge method

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

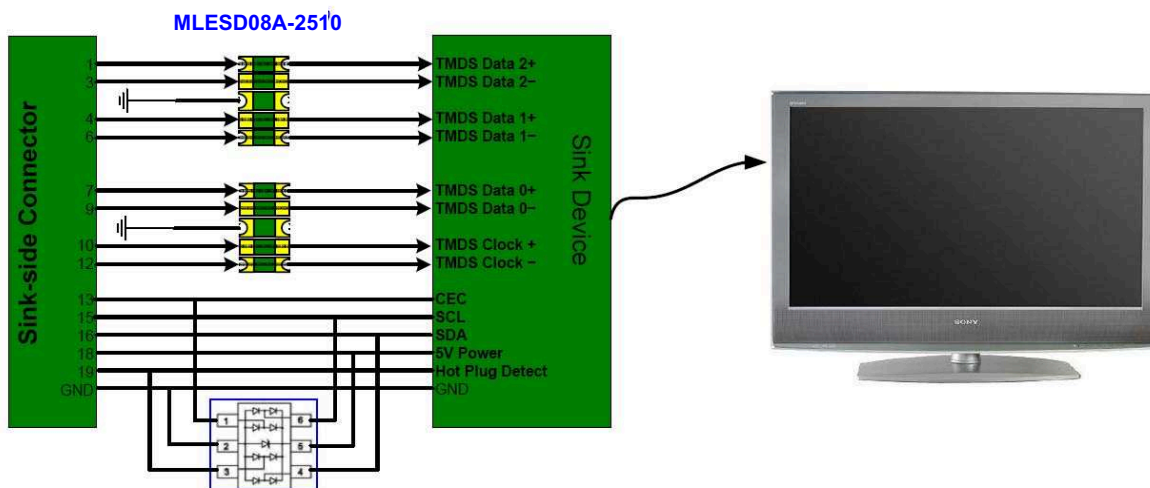


Design Recommendations for HDMI

For HDMI Source Device



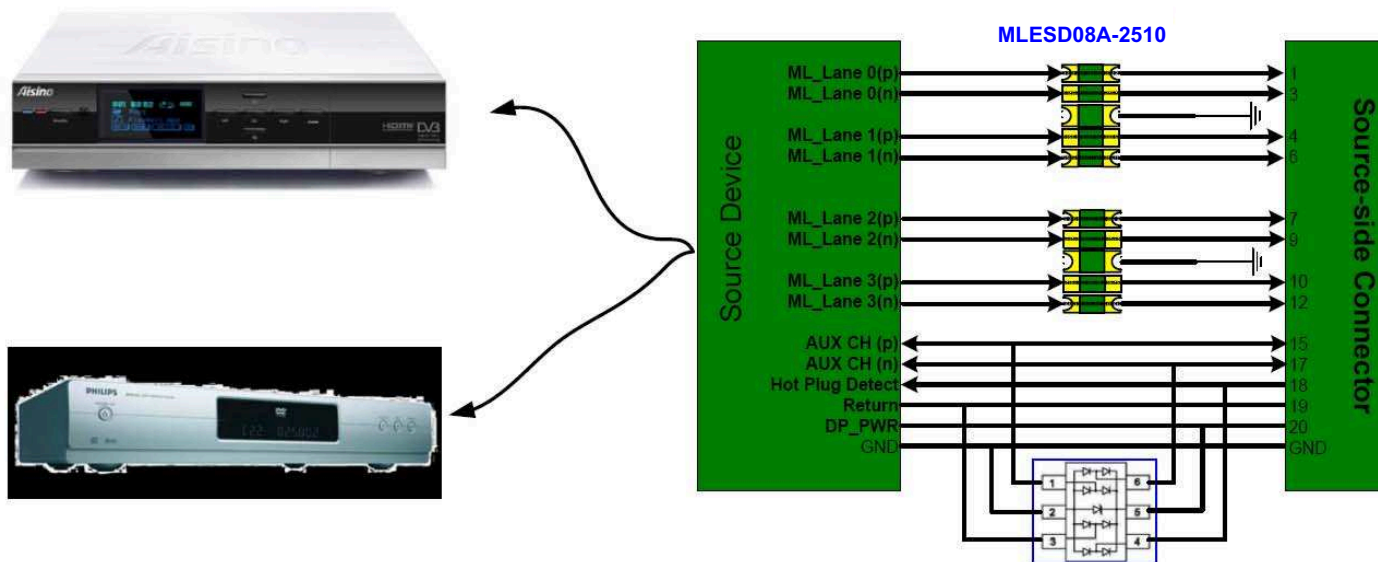
For HDMI Sink Device



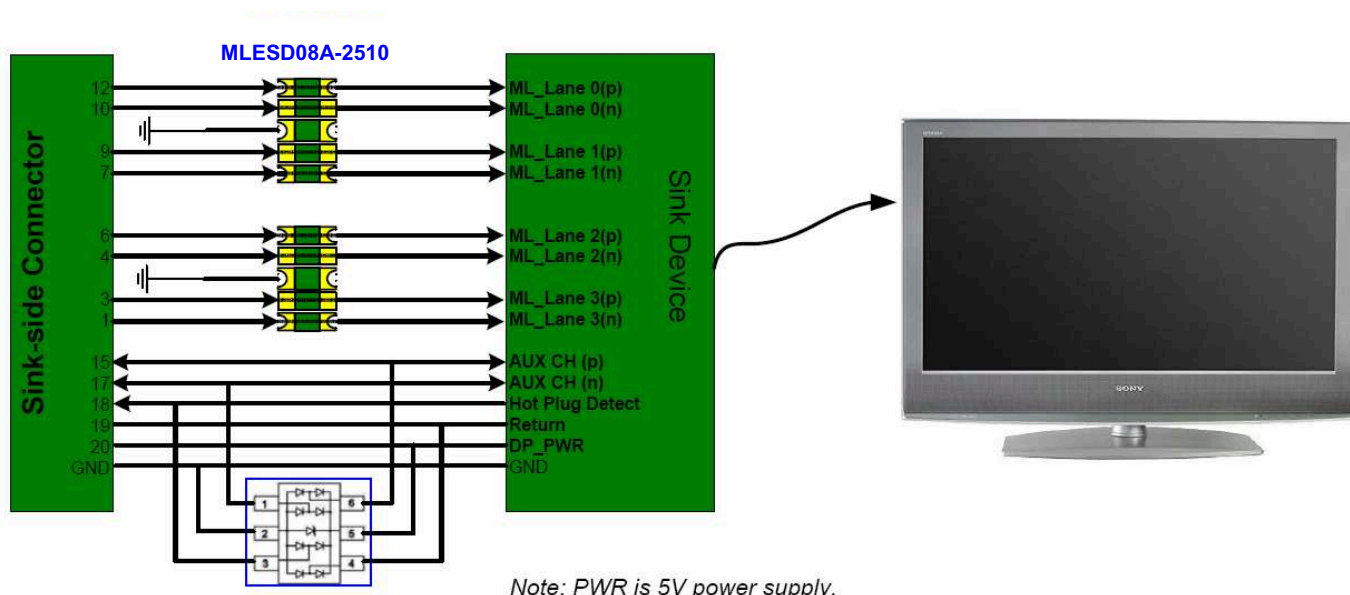
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Design Recommendations for Display Port

For Display Port Source Device



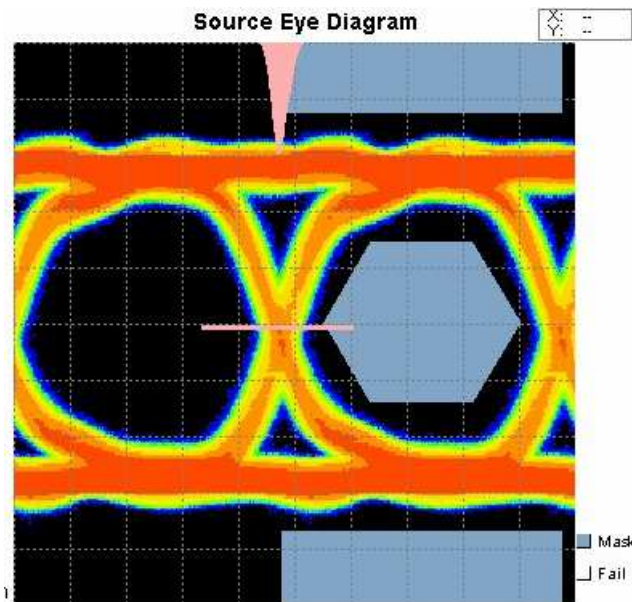
For Display Port Sink Device



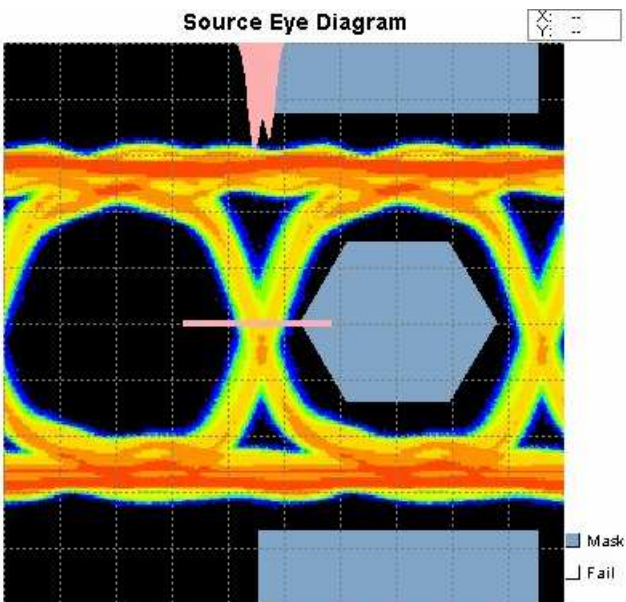
MLESD08A-2510

Eye Pattern Test

HDMI Port lane was protected with MLESD08A-2510, tested for 2.25G bps

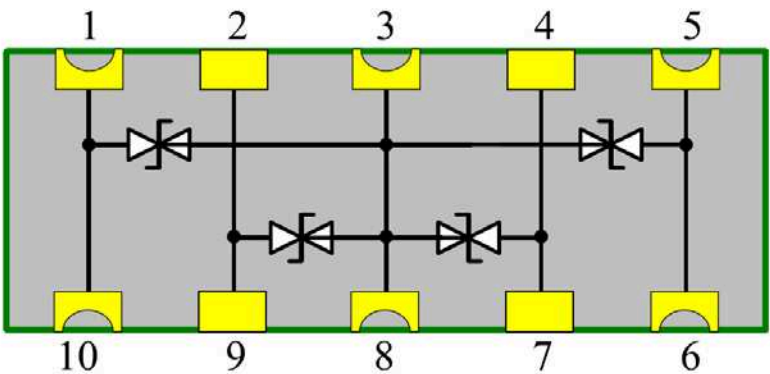


HDMI Port without MLESD08A-2510



HDMI Port with MLESD08A-2510

Circuit diagram



Pin configuration

Pin	Identification
1, 2, 4, 5	Input lines
6, 7, 9,10	Output lines
3, 8	Ground

Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel;3Kpcs/Reel

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