

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

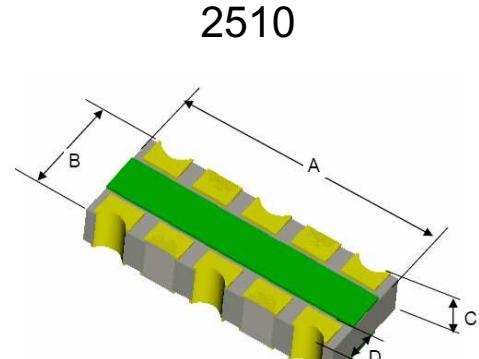
Application

- 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

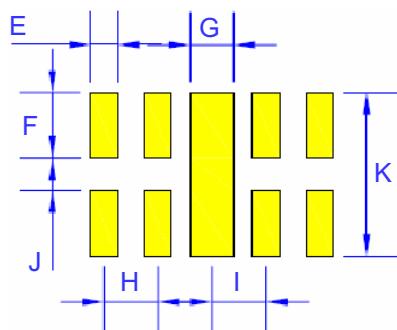
* Caution: This component is designed for signal line protection only, not intended to be used under bias, not for application with a power line.

Environmental Specifications

- Operation temperature: -40~90
- Moisture Resistance, Steady state: MIL-STD-833, 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



Suggested Solder
Pad Layout



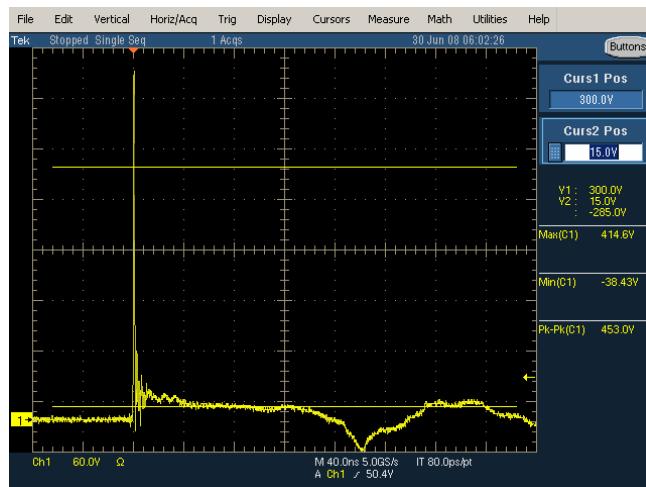
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.096	.100	2.45	2.55	
B	.035	.043	0.90	1.10	
C	.013	.017	0.33	0.43	
D	.008	.018	0.20	0.45	
E	.008	.012	0.20	0.30	
F	.022	.026	0.55	0.65	
G	.014	.018	0.35	0.45	
H	.018	.022	0.45	0.55	
I	.018	.022	0.45	0.55	
J	.010	.014	0.25	0.35	
K	.055	.063	1.40	1.60	

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	---	---	---

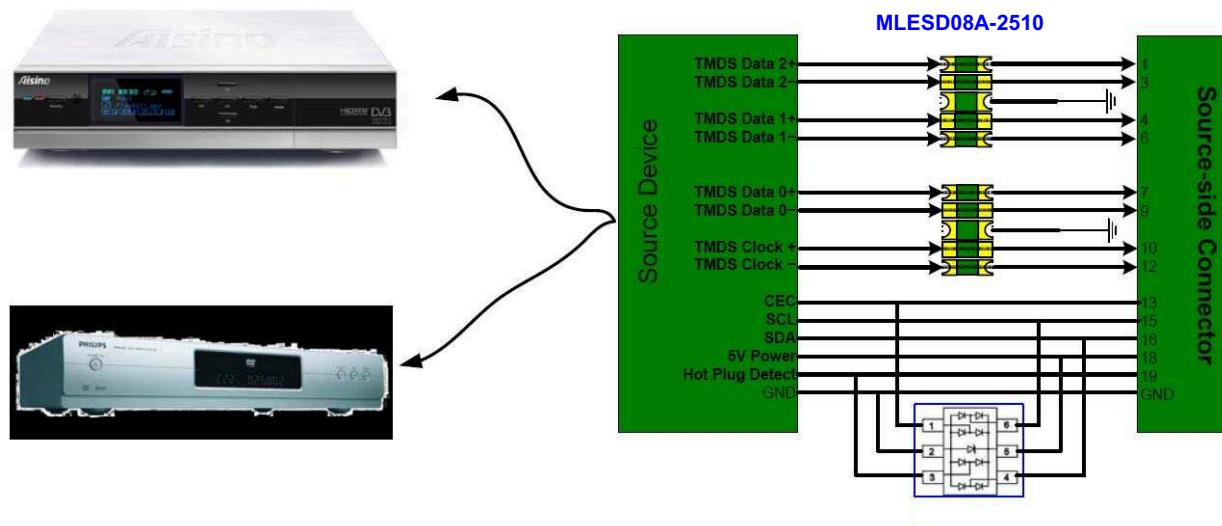
Notes:

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

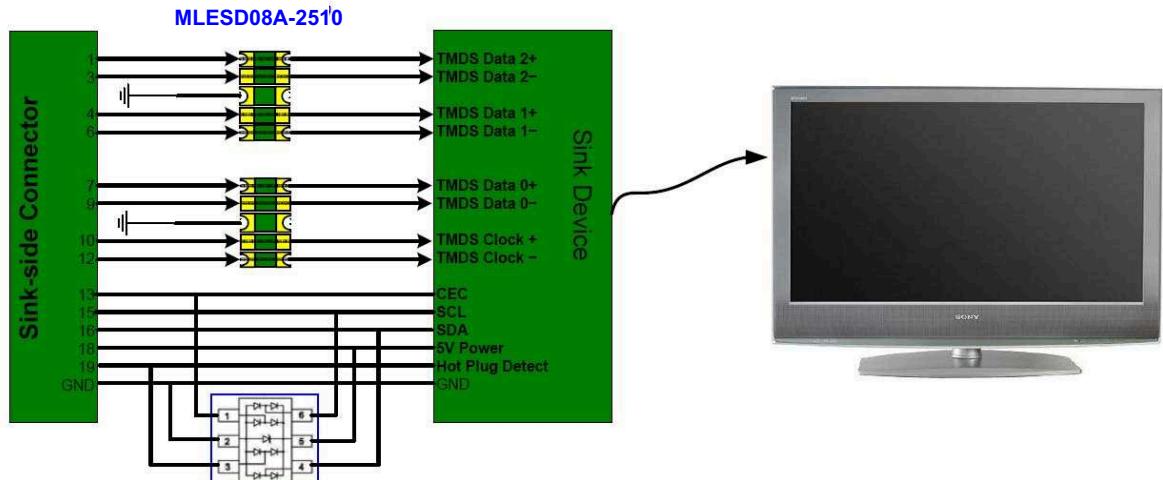
Typical MLESD clamping for +8KV pulse per IEC61000-4-2

Design Recommendations for HDMI

For HDMI Source Device

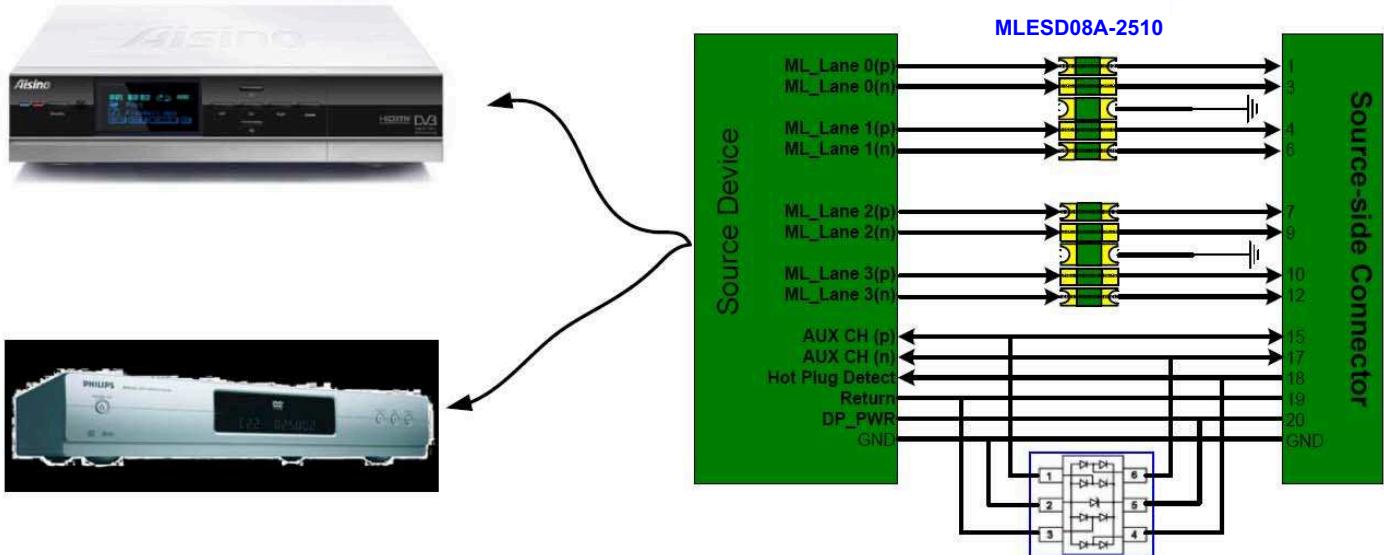


For HDMI Sink Device

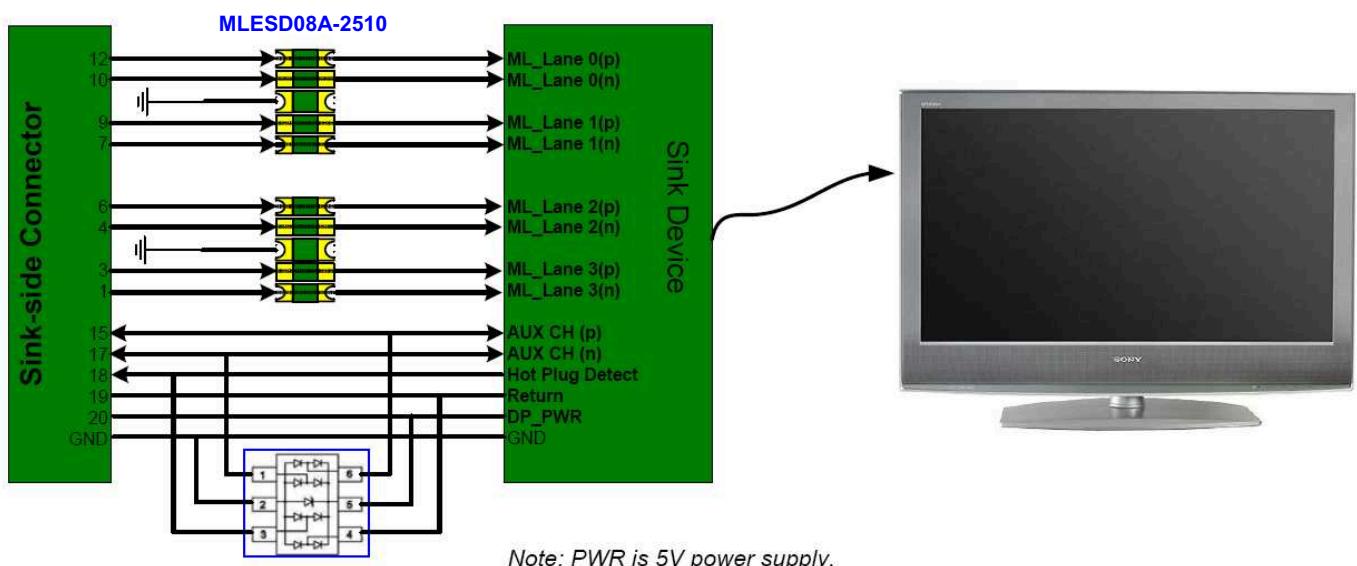


Design Recommendations for Display Port

For Display Port Source Device

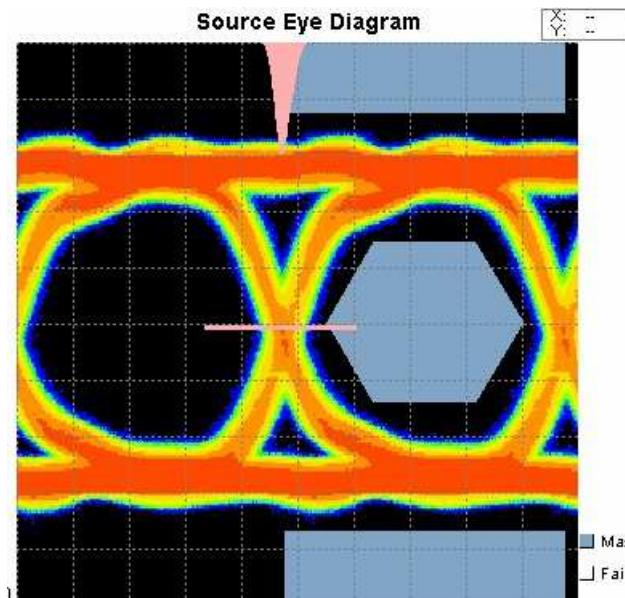


For Display Port Sink Device

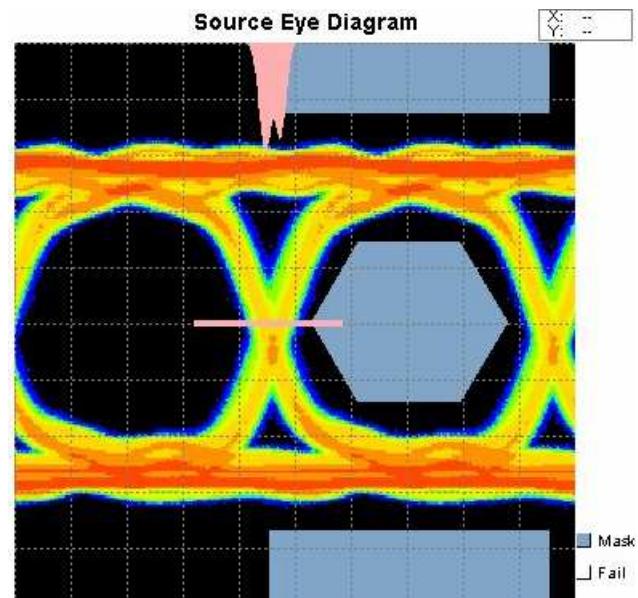


Eye Pattern Test

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

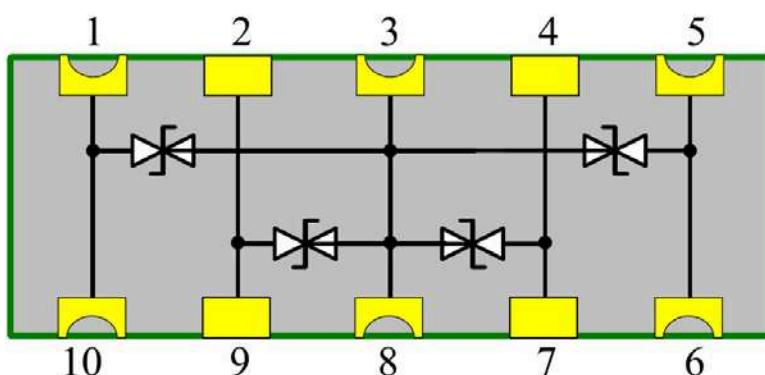


HDMI Port without MLESD08A-2510



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

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Ordering Information

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

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