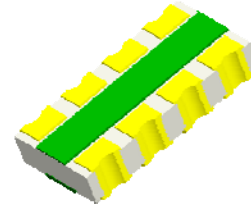


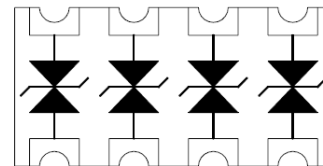
Features

- 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



Electrical Diagram

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

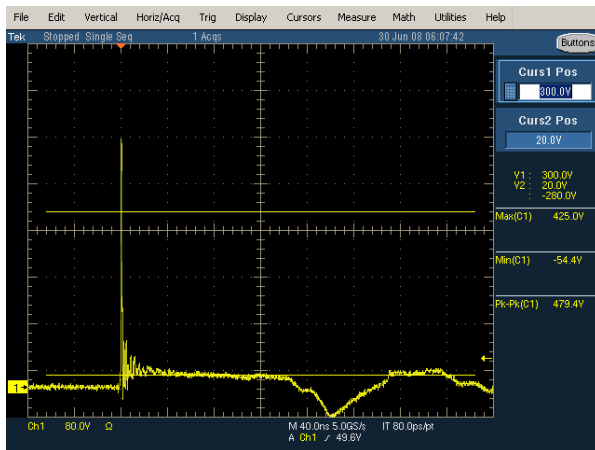
Electrical Characteristics

Electrical Characteristics						
Parameter	Symbol	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	12V V_{DC}	---	0.10	10	nA
Capacitance	C_P	$V_R = 0V, f = 1MHz$	---	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	---	---	---

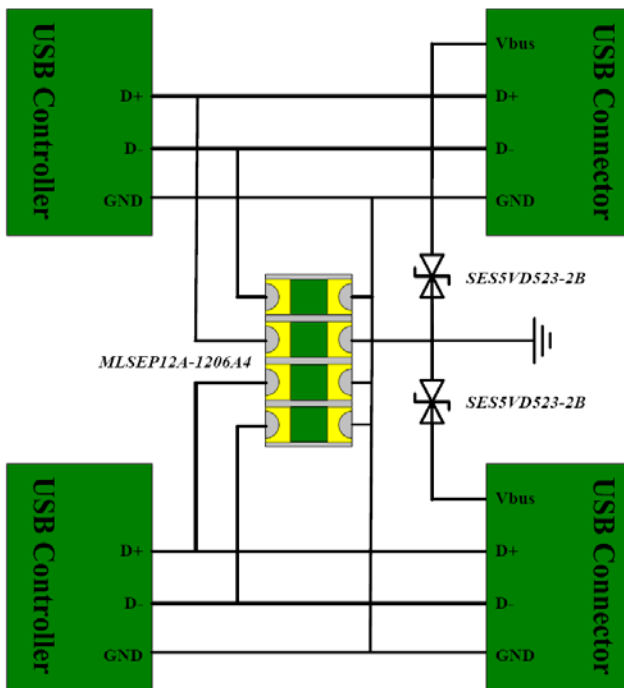
Notes:

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

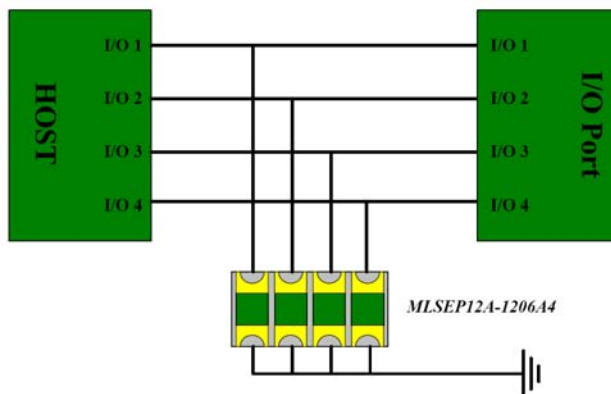
Typical PESD clamping for +8KV pulse per IEC61000-4-2



Design Recommendations for Dual USB2.0



Design Recommendations for I/O Port



Environmental Specifications

Operation temperature: -40~90°C

Moisture Resistance, Steady state: MIL-STD-833, Method 1004.7, 85% RH, 85°C, 1000hrs

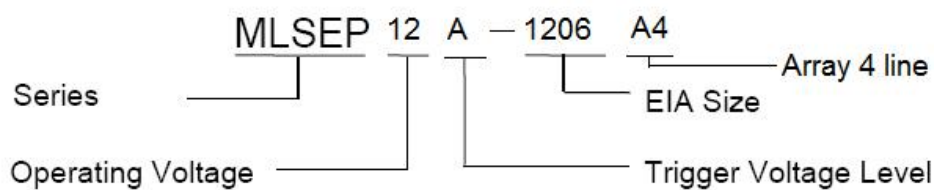
Thermal Shock: MIL-STD-202, Method 107G, -55°C to 150°C, 30 min cycle, 10 cycles.

Vibration: MIL-STD-202F, Method 201A, (10 to 55 to 10HZ, 1 min. cycle, 2hrs each in X-Y-Z)

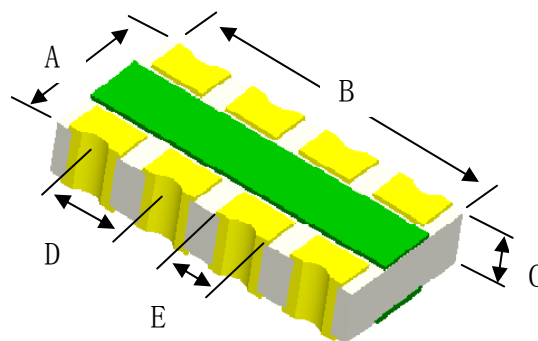
Chemical Resistance: ASTM D-543, 4hrs @40°C, 3 solutions (H₂O, detergent solution, deluxer)

Solder leach resistance and terminal adhesion: Per EIA-576 test

Part Numbering

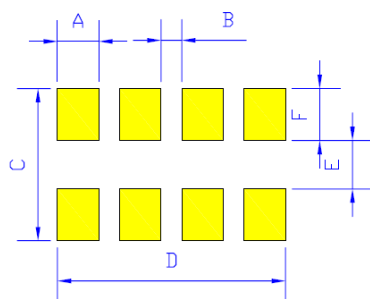


Product Dimensions (mm)



Width A		Length B		Height C		Pad distance D		Terminal width E		Unit
Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1.50	1.70	3.52	3.72	0.33	0.43	0.83	1.03	0.52	0.62	mm

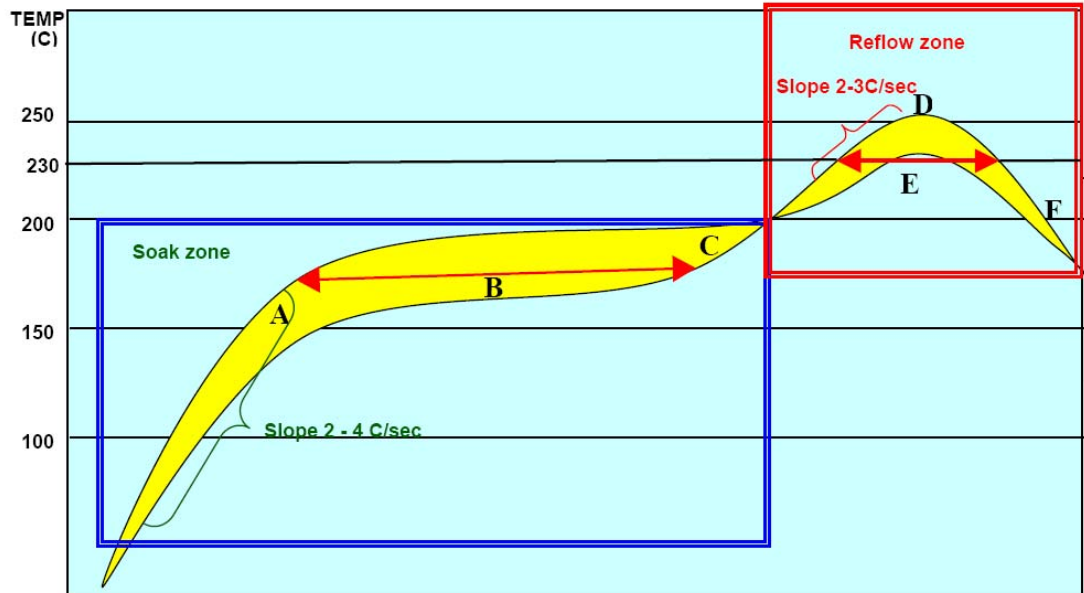
Recommended PAD Layout



A		B		C		D		E		F		Unit
Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
0.55	0.65	0.25	0.35	2.10	2.30	3.20	3.40	0.65	0.75	0.70	0.80	mm

Solder Reflow Recommendation

PESD Solder Profile



Item	Process	Description	Reach Temp.	Time or Rate
A	Soak Start	From ambient to soak temperature and soak start	150°C - 180°C	2°C - 4°C / sec
B	Soak time	Soak time	---	60s - 120s
C	Soak end	Soak end	180°C - 200°C	---
D	Peak Temp.	From soak temperature to Peak temperature	260°C	2°C - 3°C / sec
E	Time above	Main heating time	230°C - 260°C	40s - 60s
F	Cooling	From main heating temperature to 100°C	100°C	Max. 4°C / sec

Notes:

- 1* Peak temperature can be high to 260°C, and the recommendation time is as below
 - at 230°C 40s ~ 60s
 - at 240°C 30s ~ 40s
 - at 260°C 5s ~ 10s

2* Recommended reflow methods: IR, Vapor phase oven, hot air oven, wave solder.

3* Devices can be cleaned using standard industry methods and solvents.

4* Component can withstand 270°C 10 sec.

5* If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Package Information

Tape & Reel: 3000pcs per reel.