



Micro Commercial Components

Micro Commercial Components
20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
Fax: (818) 701-4939

MLESD12A-0402

Features

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

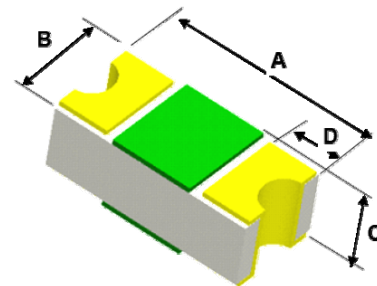
* Caution: This component is designed for signal line protection only, not intended to be used under bias, not for application with a power line.

Environmental Specifications

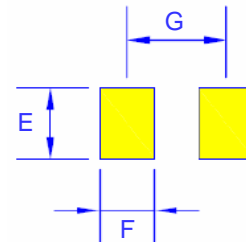
- Operation temperature: -40~90°C
- Moisture Resistance, Steady state: MIL-STD-883, Method 1004.7, 85% RH, 85°C, 1000hrs
- Thermal Shock: MIL-STD-202, Method 107G, -55°C to 150°C, 30 min cycle, 10 cycles.
- Vibration: MIL-STD-202F, Method 201A, (10 to 55 to 10HZ, 1 min. cycle, 2hrs each in X-Y-Z)
- Chemical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

Multilayer Polymer ESD Suppressor

0402



Suggested Solder
Pad Layout



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.037	.045	0.95	1.15	
B	.017	.026	0.45	0.65	
C	.013	.017	0.33	0.43	
D	.010	.014	0.25	0.35	
E	.024	.028	0.60	0.70	
F	.017	.022	0.45	0.55	
G	.033	.037	0.85	0.95	

MLESD12A-0402

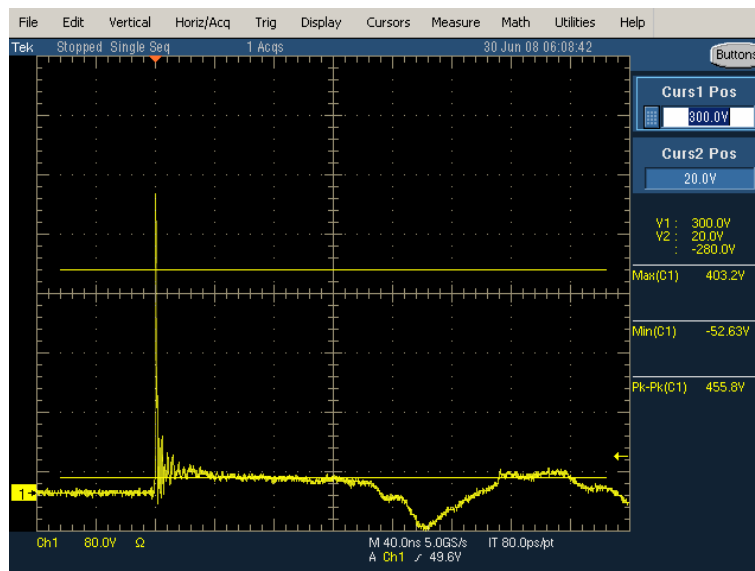
Electrical Characteristics

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	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:

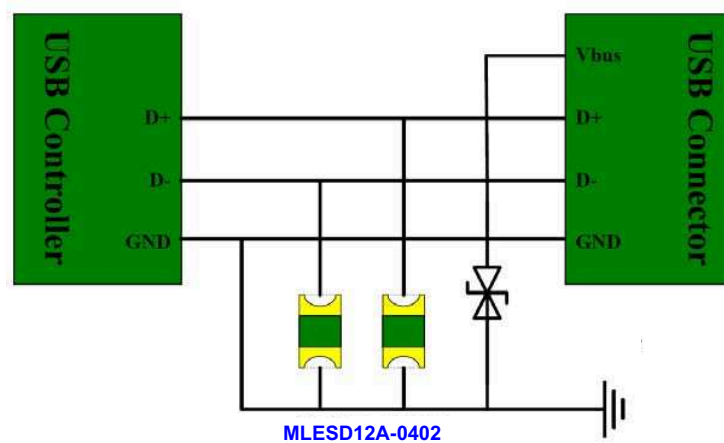
1, Trigger and clamping voltage measure per IEC 61000-4-2, 8KV contact discharge method

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



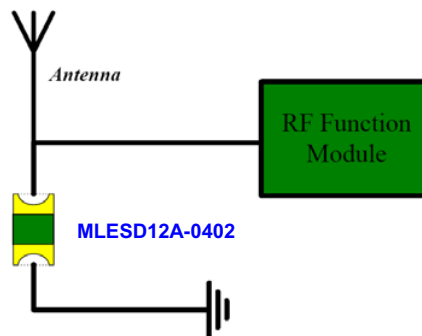
Design Recommendations for USB2.0

For USB2.0 port



Design Recommendations for Antenna

For antenna line



Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel;10Kpcs/Reel

IMPORTANT NOTICE
<p><i>Micro Commercial Components Corp.</i> reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes .</p> <p><i>Micro Commercial Components Corp.</i> does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold <i>Micro Commercial Components Corp.</i> and all the companies whose products are represented on our website, harmless against all damages.</p>
APPLICATIONS DISCLAIMER
<p>Products offer by <i>Micro Commercial Components Corp.</i> are not intended for use in Medical, Aerospace or Military Applications.</p>