



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Micro Commercial Components

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MLESD12A-0402

Multilayer Polymer
ESD Suppressor

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

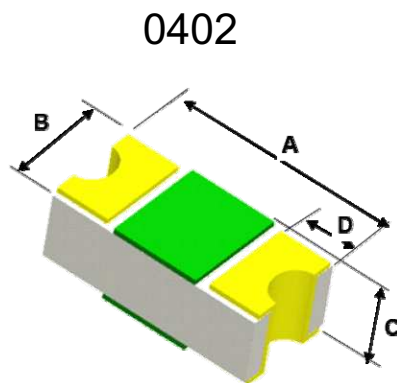
Application

- 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-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



Suggested Solder Pad Layout

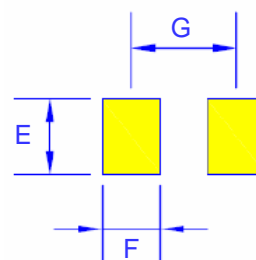


Table with 6 columns: DIM, INCHES (MIN, MAX), MM (MIN, MAX), and NOTE. It lists dimensions A through G with their respective minimum and maximum values in inches and millimeters.

MLESD12A-0402

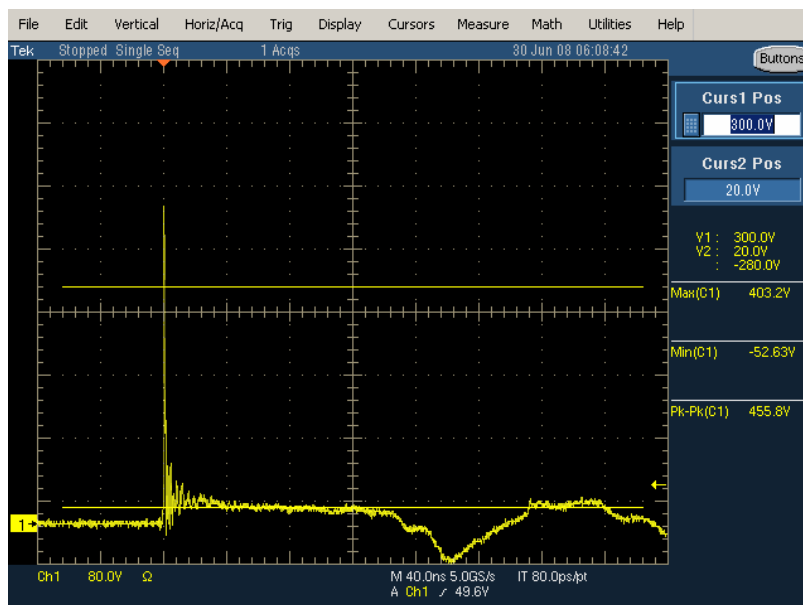
Electrical Characteristics

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:

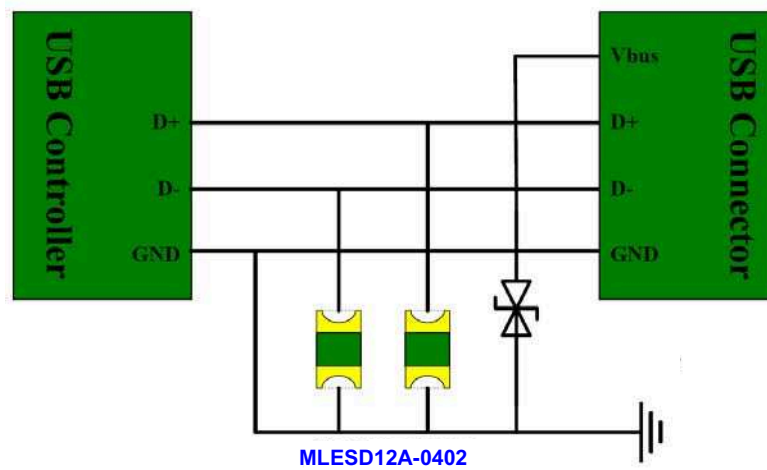
- 1, Trigger and clamping voltage measure per IEC 61000-4-2, 8KV contact discharge method

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



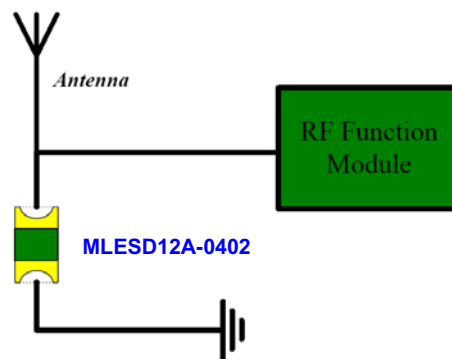
Design Recommendations for USB2.0

For USB2.0 port



Design Recommendations for Antenna

For antenna line





Micro Commercial Components

Ordering Information

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

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