

## 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

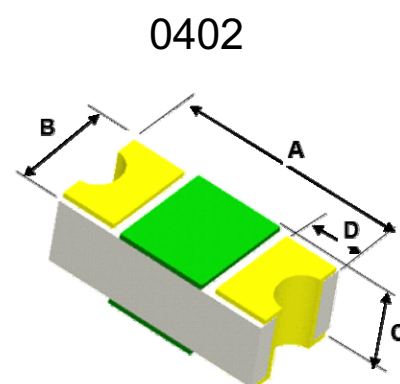
- High Definition Multi-Media Interface (HDMI)
- Digital Visual Interface (DVI)
- Display Port Interface
- Unified Display Interface (UDI)
- MDDI Ports
- Gigabit Ethernet
- USB2.0 and IEEE1394 interface

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

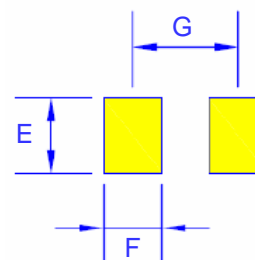
## Environmental Specifications

- Operation temperature: -40~90°C
- Moisture Resistance, Steady state: MIL-STD-883C, 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(H<sub>2</sub>O, detergent solution, deluxer )
- Solder leach resistance and terminal adhesion: Per EIA-576 test

# Multilayer Polymer ESD Suppressor



Suggested Solder Pad Layout



| DIM | DIMENSIONS |      |      |      | NOTE |
|-----|------------|------|------|------|------|
|     | INCHES     |      | MM   |      |      |
|     | MIN        | MAX  | MIN  | MAX  |      |
| A   | .035       | .047 | 0.90 | 1.20 |      |
| B   | .017       | .026 | 0.45 | 0.65 |      |
| C   | .010       | .018 | 0.25 | 0.45 |      |
| D   | .006       | .014 | 0.15 | 0.35 |      |
| E   | .024       | .028 | 0.60 | 0.70 |      |
| F   | .017       | .022 | 0.45 | 0.55 |      |
| G   | .033       | .037 | 0.85 | 0.95 |      |

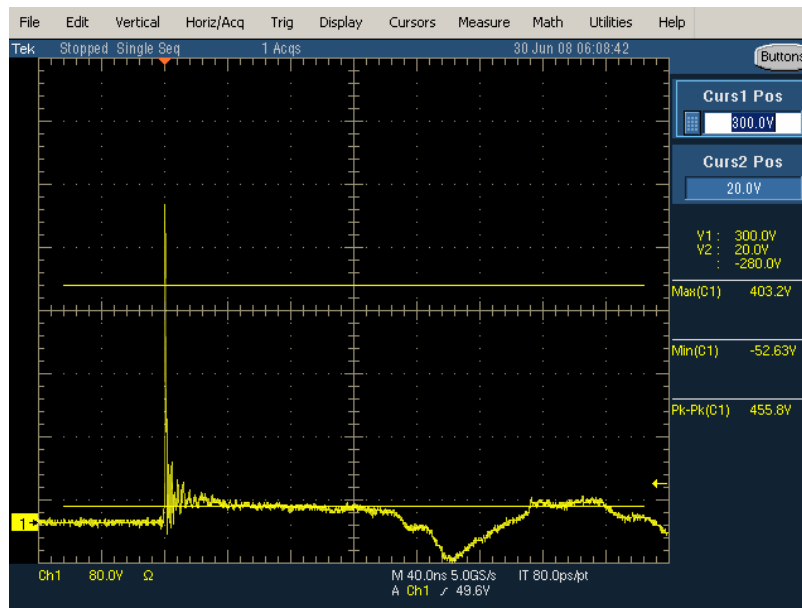
## Electrical Characteristics

| 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 | 100 | nA    |
| Capacitance                  | $C_P$    | VR = 0V, f = 1MHz                  | --- | 0.15 | 0.3 | pF    |
| Operating Temperature        | ---      | ---                                | -40 | ---  | 90  | °C    |
| Storage Temperature          | ---      | ---                                | -55 | ---  | 120 | °C    |
| ESD pulse withstand          | Pulses   | IEC61000-4-2 8KV contact discharge | 100 | ---  | --- | ---   |

Notes:

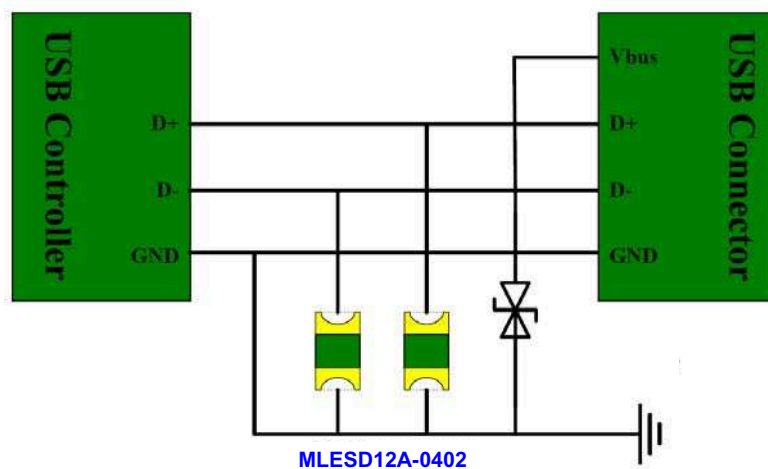
- 1, Trigger and clamping voltage measure per IEC 61000-4-2, 8KV contact discharge method

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



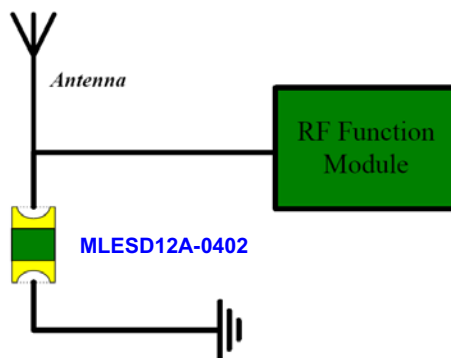
### Design Recommendations for USB2.0

For USB2.0 port



### Design Recommendations for Antenna

For antenna line



## Ordering Information

| Device         | Packing                |
|----------------|------------------------|
| Part Number-TP | Tape&Reel: 10Kpcs/Reel |

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