

Protect High Speed Data Circuits from ESD Damage without Distorting Data

Introducing the 0402ESDA-MLP1 Ultra-Low Capacitance ESD Suppressor in a Discrete 0402 SMD Device

- **Maintains Signal Integrity**

The ultra-low capacitance (0.05pF typical) leaves high speed data circuits untouched so ICs can function as designed.

- **Protects ICs from ESD Damage**

The polymer based Voltage Variable Material reacts in less than 1ns to suppress damaging ESD strikes away from the IC allowing for continued operation.

- **Provides Long Lasting Protection**

The robust design withstands over 1000 ESD strikes under normal operating conditions, allowing continued protection over the lifetime of the product.

- **Space Savings**

The discrete 0402 SMD design saves precious PCB space while giving designers flexibility in device placement for superior ESD protection schemes.

- **Environmentally Friendly**

Cooper Bussmann offers ESD suppressors that are RoHS compliant, and halogen free, making them a great choice for any global application.



0402ESDA-MLP1 Specifications

Catalog Symbols: 0402ESDA-MLP1

Packaging: 10,000 per Reel

Technology: Polymer Voltage Variable Material
ESD Suppressor

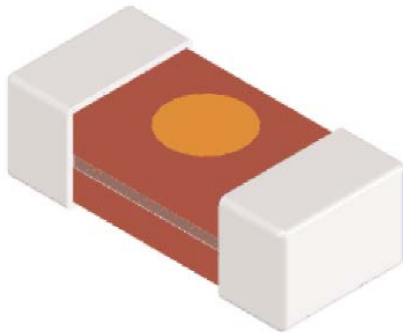
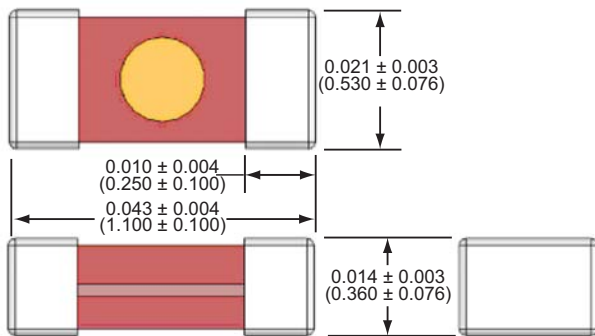
Electrical Characteristics:

- Working Voltage: 30Vdc
- Clamp Voltage: 35V Typical
- Trigger Voltage: 300V Typical
- Capacitance @ 1MHz: 0.05pF Typical
0.15pF Maximum
- Attenuation Change: -0.2dB Typical (0-6GHz)
- ESD Pulse Withstand: >1000 Pulses Typical

ESD Capability:

- IEC61000-4-2 Direct Discharge: 8kV
- IEC61000-4-2 Air Discharge: 15kV

Product Dimensions - in (mm)



Ideal for protecting high speed data ports.

- USB 2.0/3.0
- IEEE 1394b
- HDMI 1.3
- DVI
- High speed ethernet
- Test probe I/O ports
- Controller I/O ports

Typical Applications:

- Computers and peripherals
- HDTV Equipment
- DVD Players
- A/V Equipment
- Satellite radio
- Cell phones
- PDAs
- Digital still cameras
- Digital camcorders
- MP3/Multimedia players
- Set top boxes
- External storage
- DSL Modems
- LCD TV / Monitor
- Game consoles
- Medical equipment

Design Considerations:

The location in the circuit for the MLP series has to be carefully determined. For better performance, the device should be placed as close to the signal input as possible and ahead of any other component. Due to the high current associated with an ESD event, it is recommended to use a "O-stub" pad design (pad directly on the signal/data line and second pad directly on common ground).

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