

0402 Plastic-Encapsulate ESD Protection Suppressor

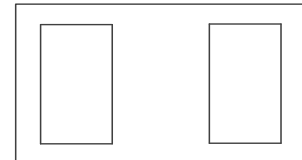
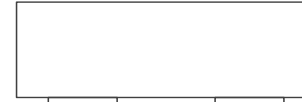
PESD0402MS12 Bi-directional Suppressor

0402



Features

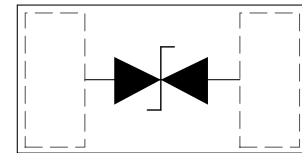
- Ultra-Low capacitance:0.05pF(typ.)
- Low leakage current(<100nA)
- Fast response time(<1ns)
- Bi-directional,single line protection
- IEC 61000-4-2 (ESD Air): 15KV
- IEC 61000-4-2 (ESD Contact): 8KV



Applications

- USB 3.0/3.1
- HDMI 1.3/1.4/2.0
- RF Antenna
- SATA and eSATA Interface

Schematic & PIN configuration



Mechanical Characteristics

- Flammability Rating: UL 94V-0
- High temperature soldering guaranteed:
260 °C / 10s

Absolute Maximum Ratings (TA=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2 (Contact)	V _{ESD}	± 8	KV
ESD per IEC 61000-4-2 (Air)		± 15	
Operating Temperature	T _A	-40 to +90	°C
Storage Temperature	T _{STG}	-55 to +150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T _L	260(10 sec.)	°C

Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Continuous Operating Voltage	V _{DC}				12	V
Trigger Voltage	V _T	IEC61000-4-2 8kVcontact discharge		450		V
Leakage Current	I _L	DC12V shall be applied on component			100	nA
Clamping Voltage	V _C	IEC61000-4-2 8kVcontact discharge		40		V
Capacitance	C _J	Measured at 10MHz		0.05		pF

Typical Characteristics

Fig1. Typical ESD Response
(ICE 61000-4-2, 8kV contact discharge)

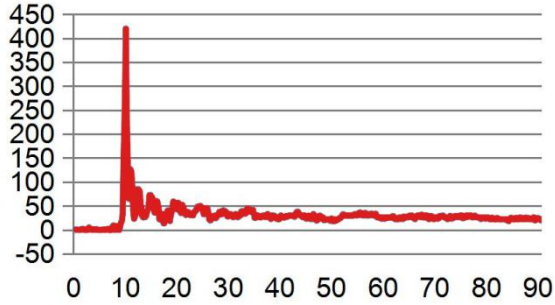


Fig2. Typical Device Capacitance VS. Frequency

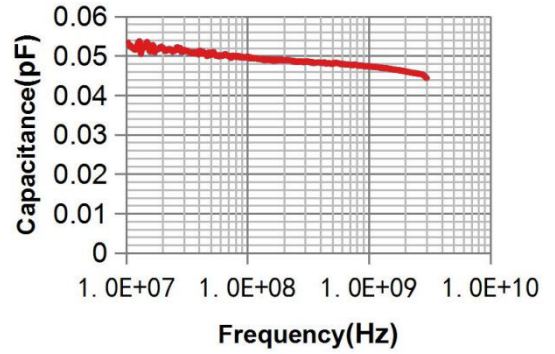
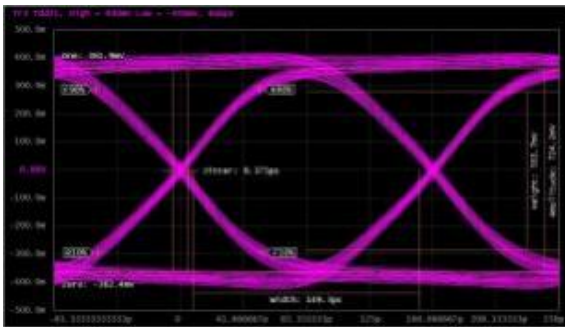
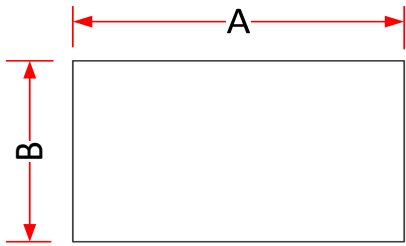


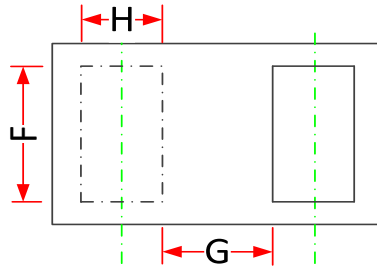
Fig3. HDMI 2.0 Mask at 6.0 Gbps



0402 Package Outline Dimensions



TOP VIEW



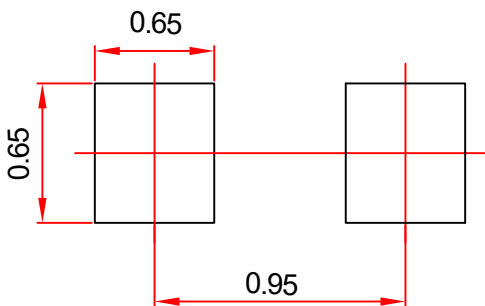
BOTTOM VIEW



SIDE VIEW

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.950	1.050	0.037	0.041
B	0.450	0.550	0.018	0.021
C	0.320	0.400	0.013	0.016
H	0.280	0.320	0.011	0.013
F	0.400	0.450	0.016	0.018
G	0.320	0.360	0.013	0.014

0402 Suggested Pad Layout



Note:

1. Controlling dimension: in/millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

Package and Ordering Information

Package	Outline	Reel Size	Reel DIA. (mm)	Q'TY/Reel (pcs)
0402	TAPING	7"	330	10000