

MLSEP24B-0603 Multilayer Polymer ESD Suppressor

Description

This device is an ultra low capacitance PESD product designed to protect very high speed data interfaces. MLSEP24B-0603 has a typical capacitance of only 0.05pf (I/O to GND), and it can be used to meet the ESD immunity requirements of IEC 61000-4-2 (15KV air, 8KV contact discharge).

Features

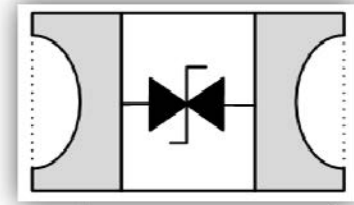
- ESD protection for high speed data lines to
IEC61000-4-2 ESD contact discharge typical 8KV, max 15KV
IEC61000-4-2 ESD air discharge typical 15KV, max 25KV
- Multilayer structure
- Surface mount
- Extremely low capacitance
- Very low leakage current
- Fast response time
- Bi-directional ESD protection
- Lead free solder termination
- The best ESD protection for high frequency, low voltage applications



Case: 0603

Applications

- High Definition Multi-Media Interface (HDMI)
- Digital Visual Interface (DVI)
- Display Port Interface (DP)
- Unified Display Interface (UDI)
- Mobile Display Digital Interface (MDDI)
- Gigabit Ethernet
- USB2.0 and USB3.0
- IEEE1394 interface



Schematic Diagram

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

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Maximum Contact Discharge Voltage Per IEC61000-4-2	---	15KV	V
Maximum Air Discharge Voltage Per IEC61000-4-2	---	25KV	V
Maximum Operating Temperature	T _{OPER}	-40 to +90	°C
Maximum Storage Temperature	T _{STG}	-55 to +125	°C
Maximum Lead Temperature For Soldering During 10s	T _L	260	°C

Electrical Characteristics (T_A=25°C)

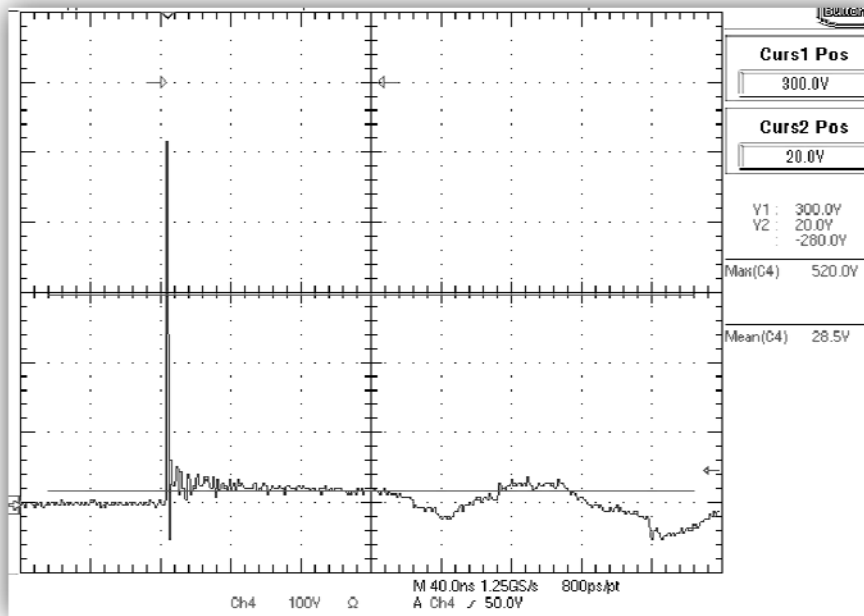
Electrical Characteristics						
Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Continuous Operating Voltage	V _{DC}	---	---	---	24	V
Trigger Voltage	V _T	IEC61000-4-2 8KV contact discharge	---	500	---	V
Clamping Voltage	V _C	IEC61000-4-2 8KV contact discharge	---	36	---	V
Leakage Current	I _L	DC 24V shall be applied on component	---	0.10	100	nA
Capacitance	C _P	V _R = 0V, f = 1MHz	---	0.05	0.15	pF
ESD Pulse Withstand	Pulses	IEC61000-4-2 8KV contact discharge	100	---	---	---

Notes: 1, Trigger and clamping voltage are measured per IEC 61000-4-2, 8KV contact discharge method.

2, After reliability tests such as high Temp storage, Temp cycles, continuous ESD strike etc, the maximum leakage current is less than 10uA.

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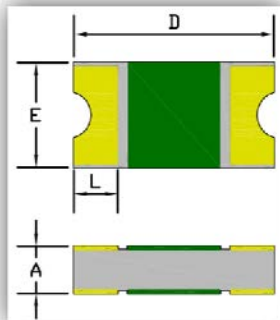
Typical PESD clamping for +8KV pulse per IEC61000-4-2



Product & PAD Dimension

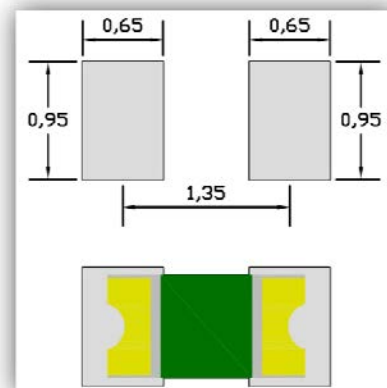
Product dimension

Case: 0603



Dimension	Unit: Millimeters		
	Min	Typ	Max
D	1.45	1.60	1.75
E	0.70	0.83	0.95
L	0.20	0.35	0.50
A	0.27	0.38	0.47

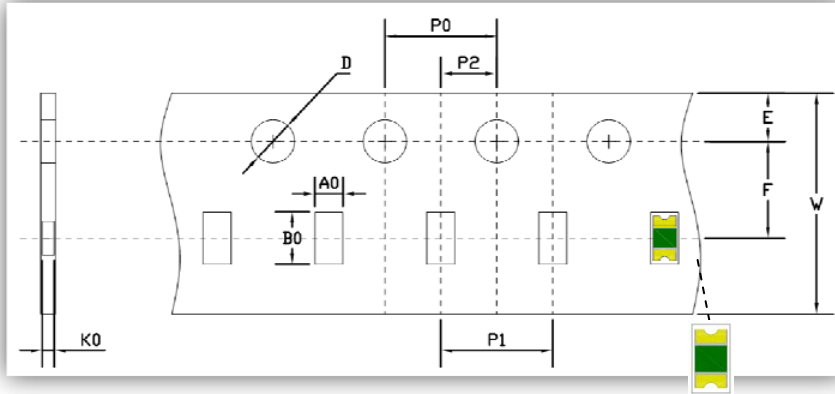
Recommended PAD Dimension



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Package Information

Tape Dimension



Dimension	Typical	Unit
A0	1.00	mm
B0	1.90	
K0	0.43	
D	1.55	
P0	4.00	
P1	4.00	
P2	2.00	
E	1.75	
F	3.50	
W	8.00	

Reel Dimension

