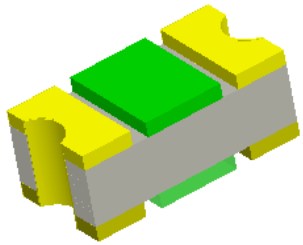
Multilayer Polymer ESD Suppressor MLSEP24B-0603

ROHS

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

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.

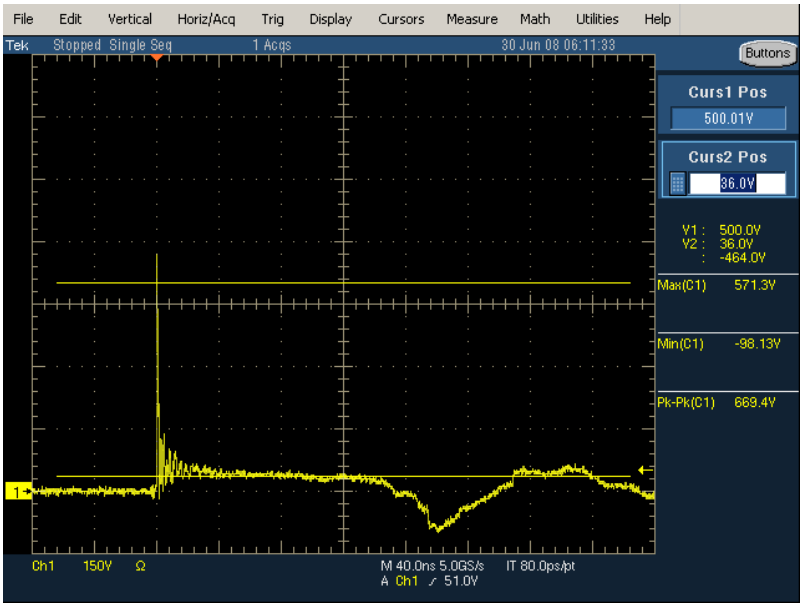
Electrical Characteristics

Electrical Characteristics						
Parameter	Symbol	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	24V V_{DC}	---	0.20	10	nA
Capacitance	C_P	VR = 0V, f = 1MHz	---	0.05	0.15	pF
Operating Temperature	---	---	-40	---	90	℃
Storage Temperature	---	---	-55	---	150	℃
ESD pulse withstand	Pulses	IEC61000-4-2 8KV contact discharge	2000	---	---	---

Notes:

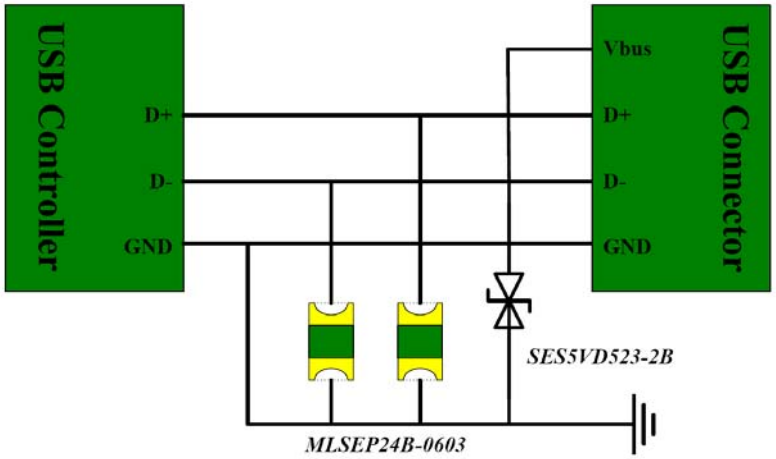
1, Trigger and clamping voltage measure per IEC 61000-4-2, 8KV direct discharge method

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



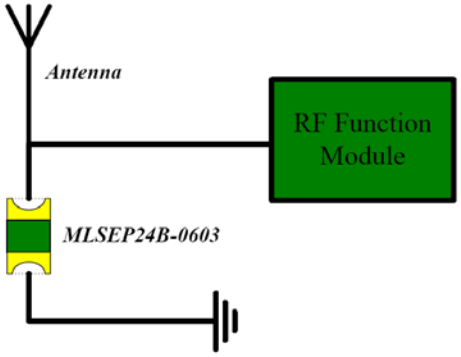
Design Recommendations for USB2.0

For USB2.0 port

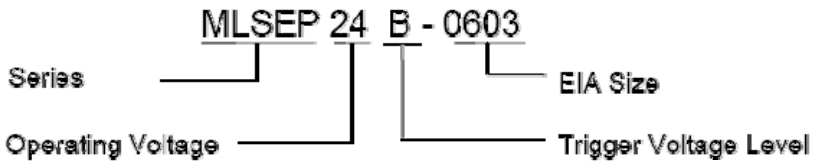


Design Recommendations for Antenna

For antenna line



Part Numbering



Environmental Specifications

Operation temperature: -40~90℃

Moisture Resistance, Steady state: MIL-STD-833,Method 1004.7,85% RH,85℃,1000hrs

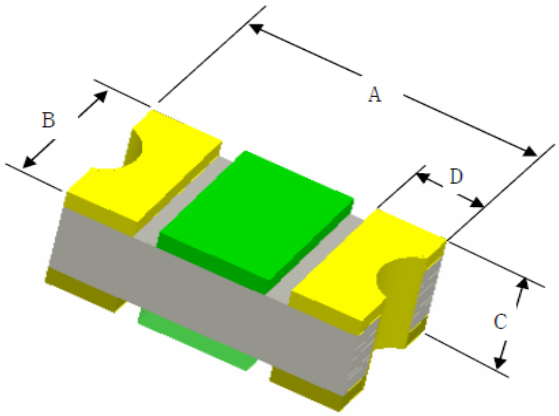
Thermal Shock: MIL-STD-202,Method 107G,-55℃to150℃,30 min cycle,10 cycles.

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℃, 3 solutions(H_2O, detergent solution, deluxer)

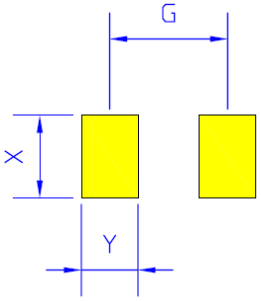
Solder leach resistance and terminal adhesion: Per EIA-576 test

Product Dimensions (mm)



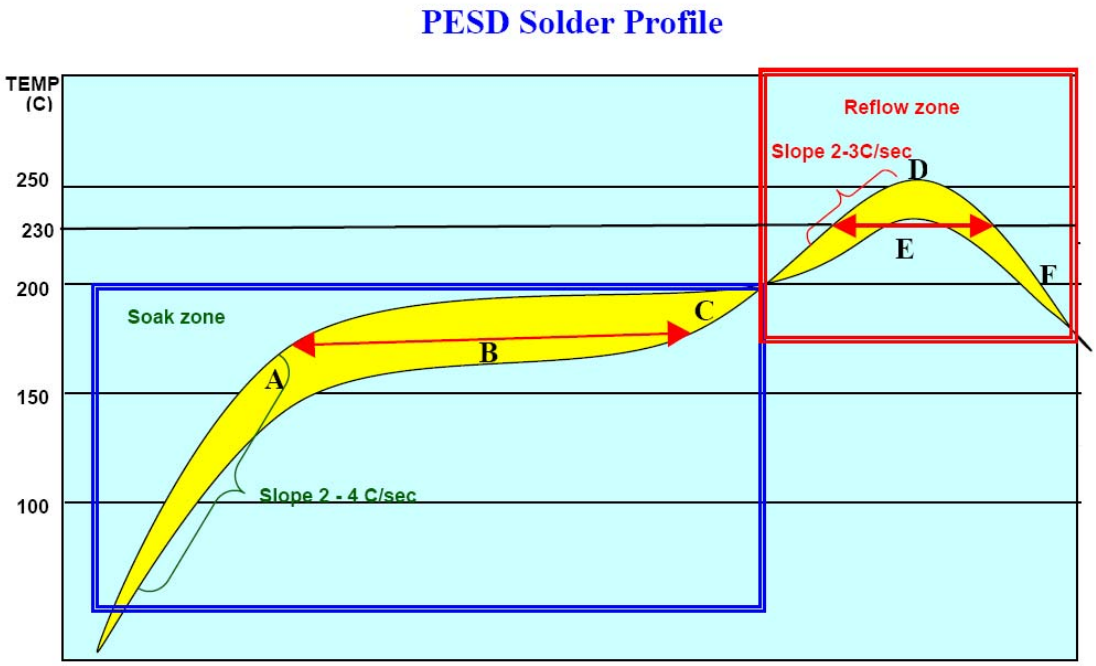
Length A		Width B		Height C		Terminal width D		Unit
Min	Max	Min	Max	Min	Max	Min	Max	
1.50	1.70	0.70	0.90	0.33	0.43	0.25	0.45	mm

Recommended PAD Layout



X		Y		G		Unit
Min	Max	Min	Max	Min	Max	
0.90	1.00	0.60	0.70	1.30	1.40	mm

Solder Reflow Recommendation



Item	Process	Description	Reach Temp.	Time or Rate
A	Soak Start	From ambient to soak temperature and soak start	150℃ - 180℃	2℃ - 4℃ / sec
B	Soak time	Soak time	---	60s - 120s
C	Soak end	Soak end	180℃ - 200℃	---
D	Peak Temp.	From soak temperature to Peak temperature	260℃	2℃ - 3℃ / sec
E	Time above	Main heating time	230℃ - 260℃	40s - 60s
F	Cooling	From main heating temperature to 100℃	100℃	Max. 4℃ / sec

Notes:

1* Peak temperature can be high to 260℃, and the recommendation time is as below

at 230℃	40s ~ 60s
at 240℃	30s ~ 40s
at 260℃	5s ~ 10s

2* Recommended reflow methods: IR, Vapor phase oven, hot air oven, wave solder.
3* Devices can be cleaned using standard industry methods and solvents.
4* Component can withstand 270℃ 10 sec.
5* If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Package Information

Tape & Reel: 5000pcs per reel.

Contact Information

SEMITEL Electronics Co., Ltd.
Flat C, 9/F, Unison Industrial Centre, 27-31 AuPuiWan Street, Fotan , Shatin , Hong Kong
Tel:00852-35273141 Fax:00852-35251735
EMAIL：info@semiteltech.com

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Design	Check	Audit	Approve
Tony	Michael	Ken	Ken