PESD0763U005

1 Channel Ultra-low Capacitance ESD Protection

1 Feature

- Ultra-low capacitance:0.05pF(Typ.)
- Low leakage current(<10nA)
- Fast response time(<1ns)
- IEC61000-4-2(Contact) : 8KV
  IEC61000-4-2(Air) : 15KV
- Bi-directional, single line protection

2 Description

PESD0763U005 polymeric ESD suppressor help protect sensitive electronic equipment against electrostatic discharge (ESD) without distorting data signals. This protection is a result of its ultra-low capacitance of only 0.05 pF (I/O to GND), and it can be used to help equipment to pass IEC61000-4-2 level 4 test (15KV air, 8KV contact discharge).

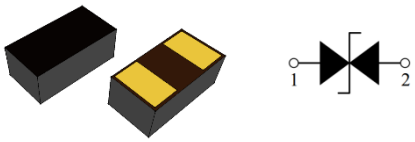
3 Application

- Smart phone/Mobile internet device
- Laptop/Desktop computer
- Antennas (Cell Phones, GPS…)
- USB 3.0, USB 3.1 and high speed interface

4 Device Information

Model	Package	Size
PESD0763U005	0603-2	1.60 mm × 0.80 mm × 0.30 mm

5 Pin Description



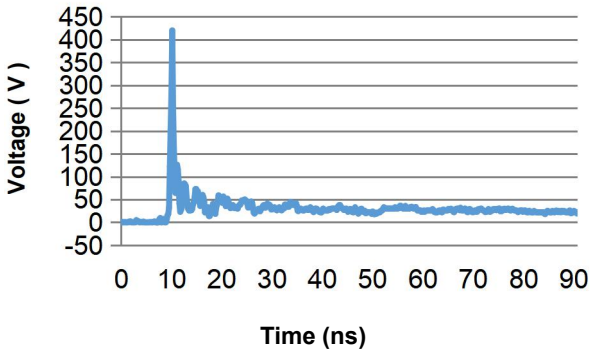
6. Limiting Values(T_A = 25 °C, unless otherwise specified)

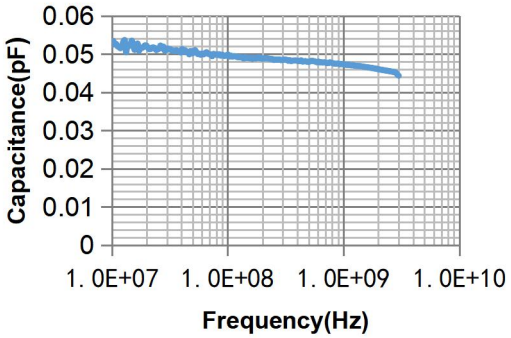
Parameter	Symbol	Value	Unit
Maximum Contact discharge voltage Per IEC61000-4-2	---	8KV	V
Maximum Air discharge voltage Per IEC61000-4-2	---	15KV	V
Maximum Operating temperature	T_{OPER}	-55 to +125	℃
Maximum Storage temperature	T_{STG}	-40 to +85	℃
Maximum lead temperature for soldering during 10s	T_L	260	℃

7. Electrical Characteristics(T_A = 25 °C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Rated Voltage	V_R	---			7	V
Trigger voltage	V_T	IEC61000-4-2 8KV contact discharge		450		V
Clamping voltage	V_C	IEC61000-4-2 8KV contact discharge		40		V
Leakage current	I_L	DC 15V shall be applied on component			10	nA
Capacitance	C_P	VR = 0V, f = 1MHz		0.05		pF

8. Typical Characteristics

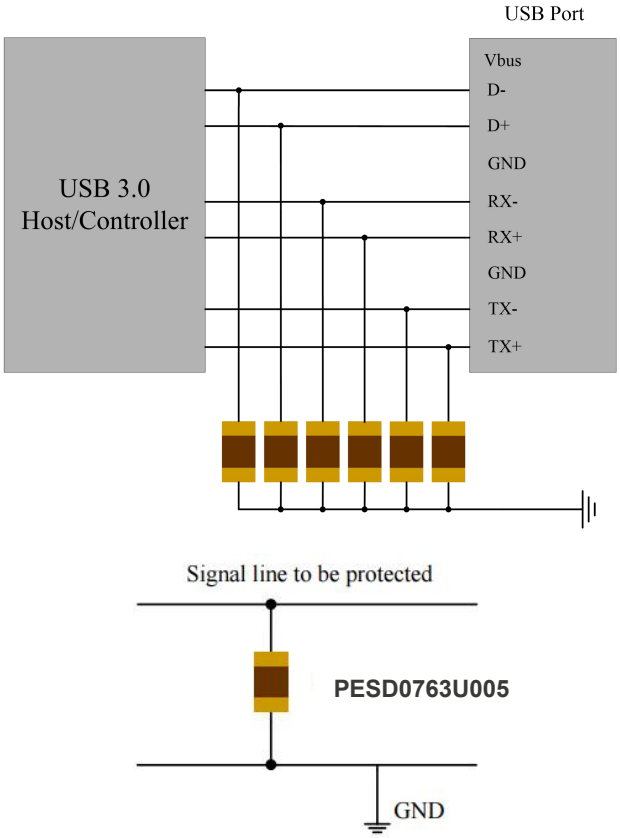




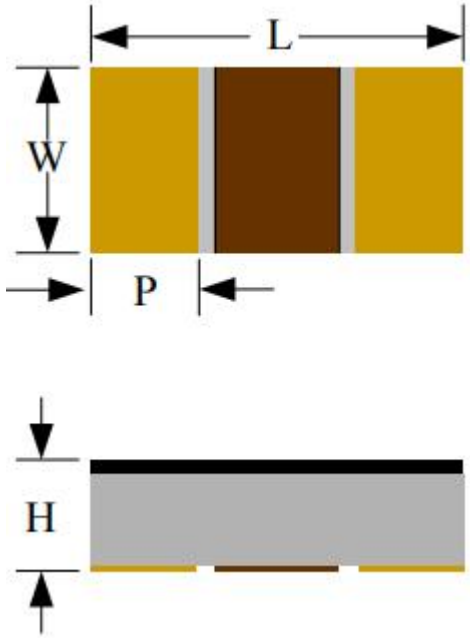
9. ESD Protection for Signal Line

The PESD is designed for the protection of one bidirectional data line from ESD damage.

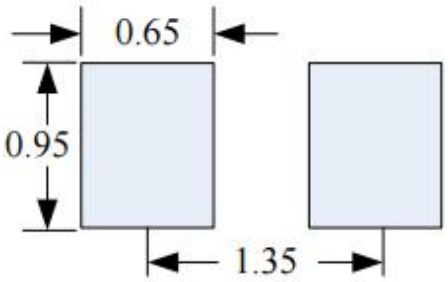
- Place the PESD as close to the input terminal or connector as possible.
- Minimize the path length between the PESD and the protected signal line.
- Use ground planes whenever possible.



10. Package Dimension



Recommended Solder Pad Footprint



***Sizes in mm**

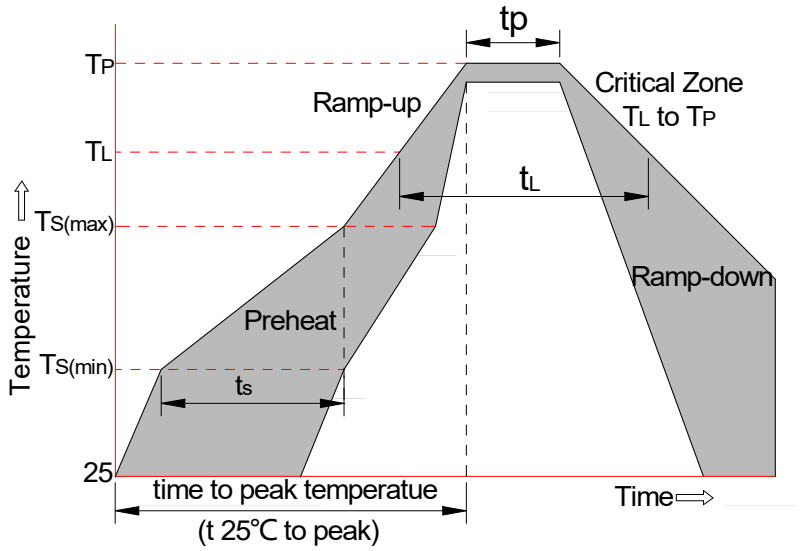
Notes：

This solder pad layout is for reference purposes only.

Dimension	Unit: Millimeters	
	Min.	Max.
L	1.45	1.75
W	0.70	0.95
P	0.20	0.50
H	0.26	0.46

11. Soldering Parameters

FIG.5: Reflow condition



Reflow Condition		Pb-Free Assembly
Pre-heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
xTime 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C

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