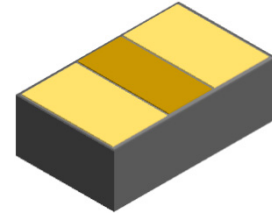


1 Channel Ultra-low Capacitance ESD Protection

Feature

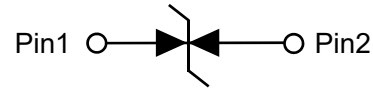
- Ultra-Low capacitance:0.05pF(typ.)
- Low leakage current(<0.1μA)
- Fast response time(<1ns)
- Bi-directional, single line protection
- Transient protection for data lines to IEC 61000-4-2(ESD) 25kV(air), 15kV(contact);



Bottom View

Applications

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



Circuit Diagram

Absolute maximum rating@25°C

Rating	Symbol	Value	Units
Operating Temperature Range	T _{OPEN}	-55~+125	°C
Storage Temperature Range	T _{STG}	-55~+125	°C
Maximum Lead Temperature for Soldering During 10s	T _L	260	°C
ESD Protection-Contact Discharge	V _{ESD}	15	kV
ESD Protection-Air Discharge	V _{ESD}	25	kV

Electrical characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Continuous Operating Voltage	V _{DC}	-	-	-	24	V
Trigger Voltage	V _T	V _{ESD} = 8kV	-	300	-	V
Clamping Voltage	V _C	V _{ESD} = 8kV	-	35	-	V
Leakage Current	I _L	V _{DC} = 24V	-	0.01	0.1	μA
Junction Capacitance	C _J	V _R = 0V, f=1MHz	-	0.05	-	pF

Note:

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 10μA.

Typical Characteristics

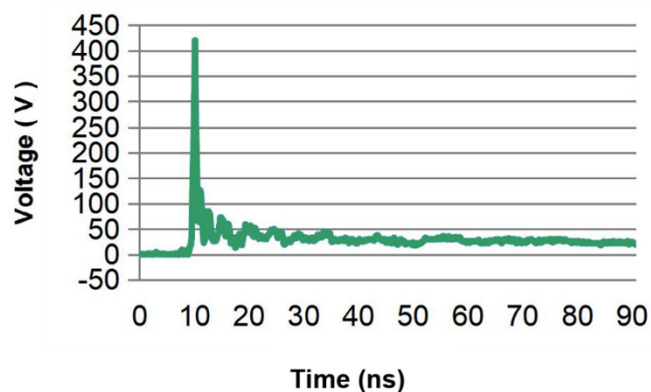


Fig.1 Typical ESD Response
(IEC 61000-4-2, 8kV contact discharge)

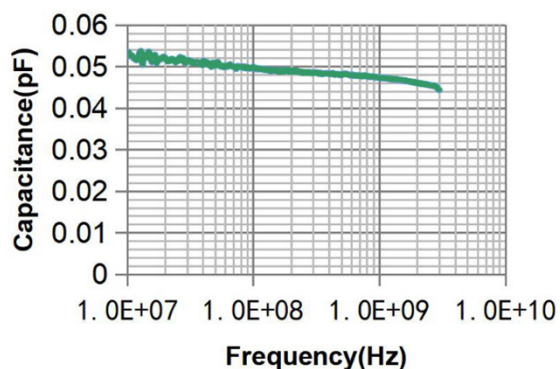
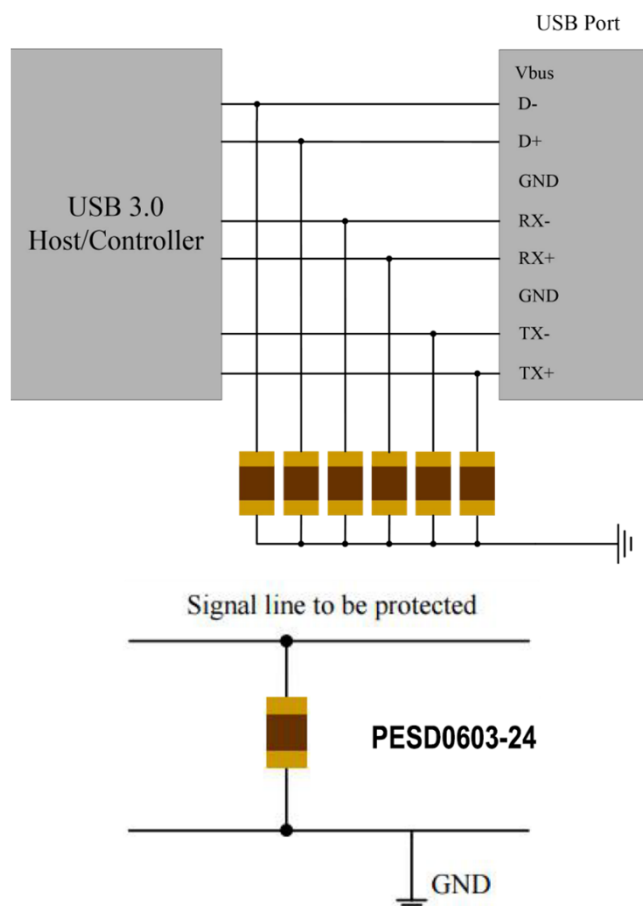


Fig.2 Typical Device Capacitance VS. Frequency

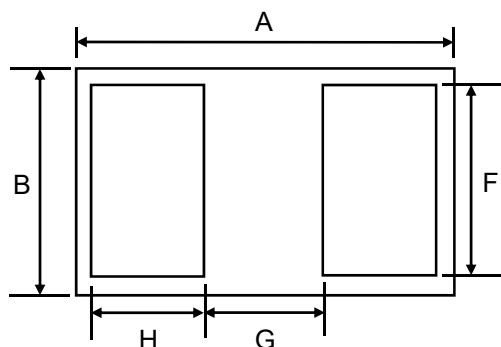
ESD Protection for Signal Line

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

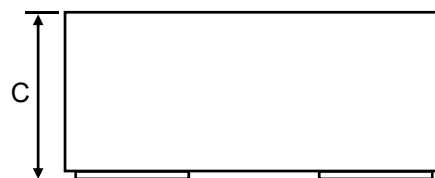
- Place the PESD as close to the input terminal or connector as possible.
- Minimize the path length between the PESD and the protected signal line.
- Use ground planes whenever possible.



Product dimension (0603)

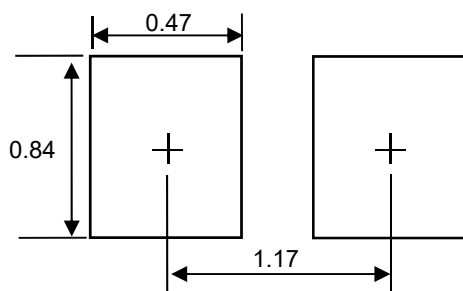


Bottom View



Side View

Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	1.50	1.70	0.059	0.067
B	0.70	0.90	0.028	0.035
C	0.32	0.40	0.013	0.016
H	0.345	0.385	0.014	0.015
F	0.715	0.755	0.028	0.030
G	0.78	0.82	0.031	0.032



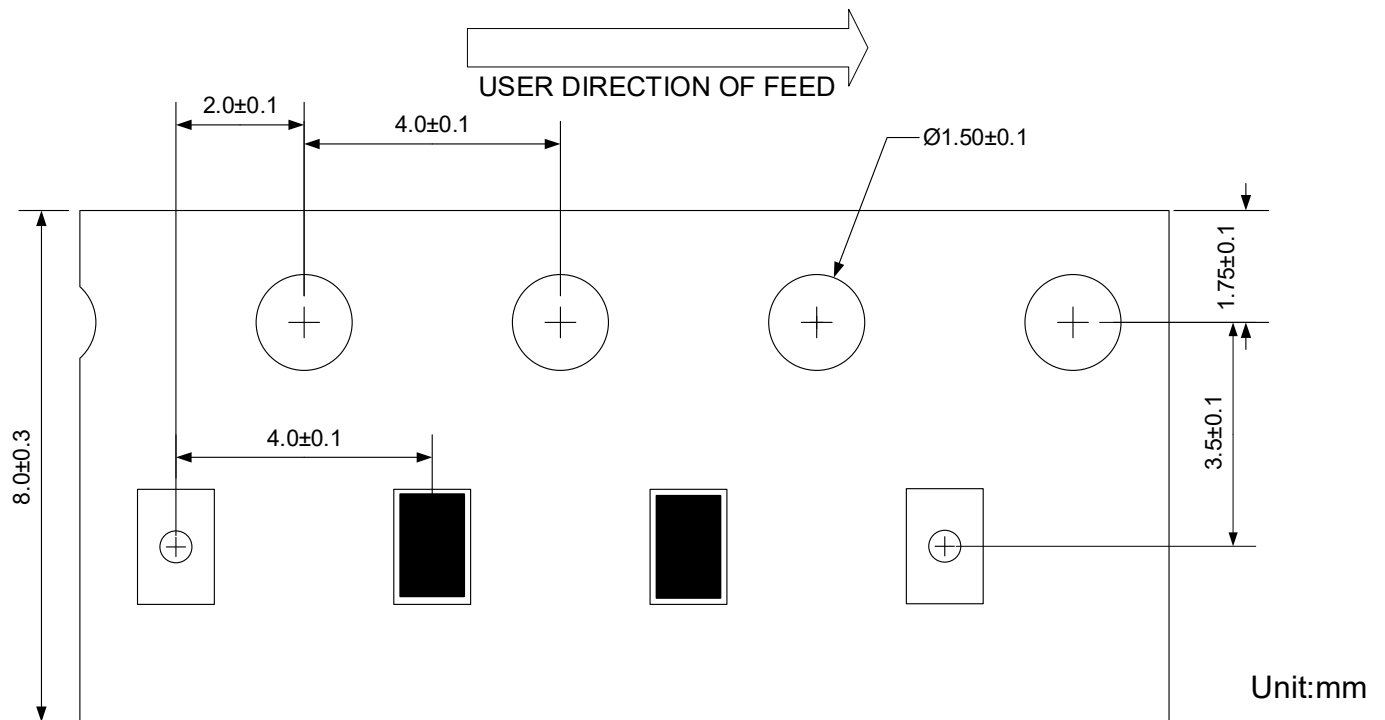
Unit:mm

Suggested PCB Layout

Ordering information

Device	Package	Reel	Shipping
PESD0603-24	0603	7"	5000 / Tape & Reel

Load with information



IMPORTANT NOTICE

 and **Prisemi**[®] are registered trademarks of **Prisemi Electronics Co., Ltd** (Prisemi), Prisemi reserves the right to make changes without further notice to any products herein. Prisemi makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Prisemi assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in Prisemi data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. Prisemi does not convey any license under its patent rights nor the rights of others. The products listed in this document are designed to be used with ordinary electronic equipment or devices, Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

Website: <http://www.prisemi.com>

For additional information, please contact your local Sales Representative.

©Copyright 2009, Prisemi Electronics

 **Prisemi**[®] is a registered trademark of Prisemi Electronics.

All rights are reserved.