

# MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



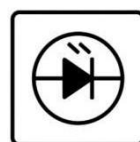
TSS



MOV



GDT



PLED

**PESD0603MS14-MS**

**Product specification**


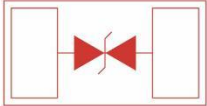
**FEATURES**

- 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

**Reference News**

| PACKAGE OUTLINE   | PIN CONFIGURATION   |
|---|---|
|  |  |
| 0603  |   |

**Limiting Values(TA = 25 °C, unless otherwise specified)**

| Symbol | Parameter                       | Conditions                       | Min | Max | Unit |
|--------|---------------------------------|----------------------------------|-----|-----|------|
| VESD   | Electrostatic Discharge Voltage | IEC 61000-4-2; Contact Discharge | -   | 8   | kV   |
|        |                                 | IEC 61000-4-2; Air Discharge     | -   | 15  | kV   |
| TA     | Operating Temperature Range     | -                                | -40 | 90  | °C   |
| Tstg   | Storage Temperature Range       | -                                | -55 | 125 | °C   |

**ELECTRICAL CHARACTERISTICS (Tamb=25°C)**

| Symbol | Parameter                    | Conditions                              | Min | Typ. | Max | Unit |
|--------|------------------------------|---|-----|------|-----|------|
| VDC    | Continuous Operating Voltage | -                                       | -   | -    | 14  | V    |
| VT     | Trigger Voltage              | IEC61000-4-2 8kV<br>contact discharge   | -   | 450  | -   | V    |
| VC     | Clamping Voltage             | IEC61000-4-2 8kV<br>contact discharge   | -   | 40   | -   | V    |
| IL     | Leakage Current              | DC 14V shall be applied<br>on component | -   | -    | 100 | nA   |
| CJ     | Capacitance                  | Measured at 10MHz                       | -   | 0.05 | -   | pF   |

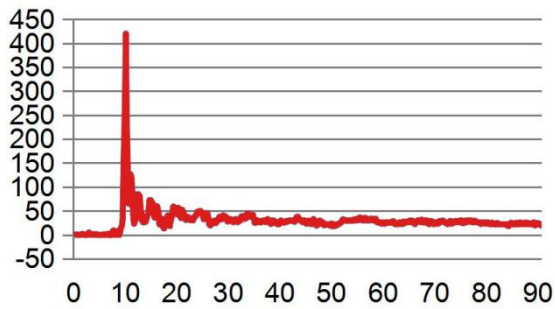


Fig. 1 Typical ESD Response  
(IEC 61000-4-2, 8kV contact discharge)

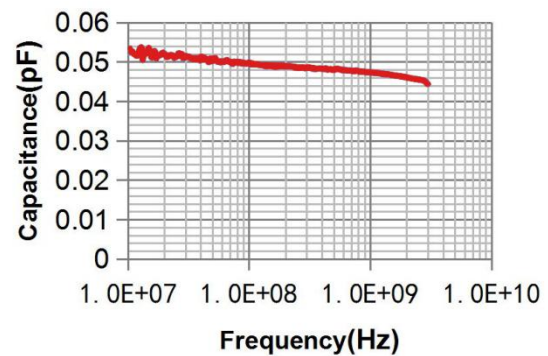
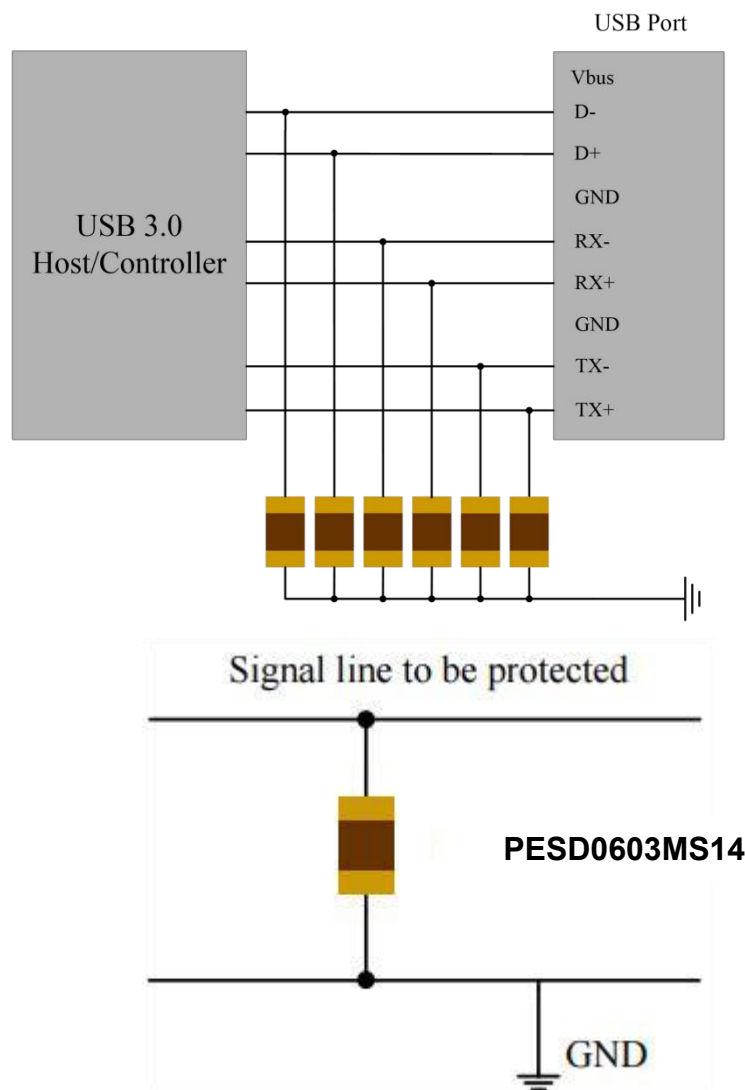


Fig.2 Typical Device Capacitance VS. Frequency

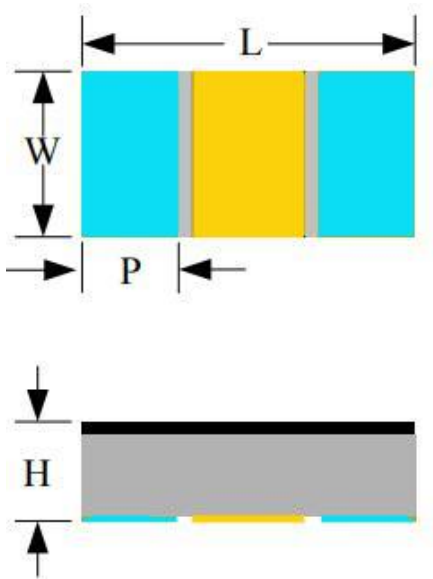
## ESD Protection for Signal Line

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

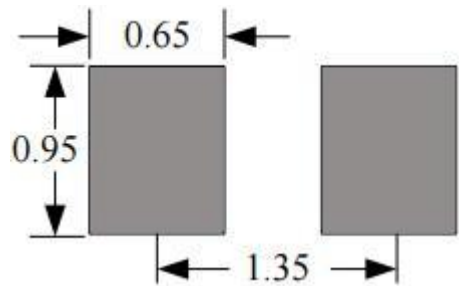
- Place the PESD as close to the input terminal or connector as possible.
- Minimize the path length between the PESD and the protected signal line.
- Use ground planes whenever possible.



**PACKAGE MECHANICAL DATA**



**Recommended Solder Pad Footprint**



**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 |

**REEL SPECIFICATION**

| P/N             | PKG  | QTY  |
|-----------------|------|------|
| PESD0603MS14-MS | 0603 | 5000 |

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