# MSKSEMI 美森科



ESD











PLED

TVS

TSS

MOV

PESD0603MS03-MS

**Product specification** 





# SEMICONDUCTOR

# FEATURES

- Ultra-Low capacitance:0.05pF(typ.)
- Low leakage current(<100nA)</li>
- 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 | Мах | Unit |
|--|----------------------------------|------------|-----|-----|------|
| V <sub>ESD</sub> 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   |

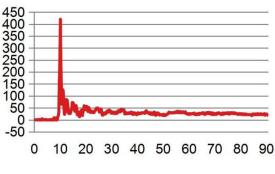
# ELECTRICAL CHARACTERISTICS (Tamb=25℃)

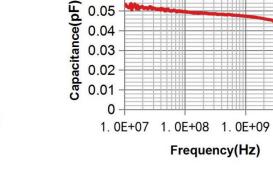
| Symbol | Parameter                    | Conditions                               | Min | Тур. | Max | Unit |
|--------|------------------------------|--|-----|------|-----|------|
| VDC    | Continuous Operating Voltage | -  | -   | -    | 3.3 | V    |
| Vτ     | Trigger Voltage              | IEC61000-4-2 8kV<br>contact discharge    | -   | 450  | -   | V    |
| Vc     | Clamping Voltage             | IEC61000-4-2 8kV<br>contact discharge    | -   | 40   | -   | V    |
| ١L     | Leakage Current              | DC 3.3V shall be applied<br>on component | -   | -    | 100 | nA   |
| CJ     | Capacitance                  | Measured at 10 MHz                       | -   | 0.05 | -   | pF   |



1.0E+10







0.06

0.05

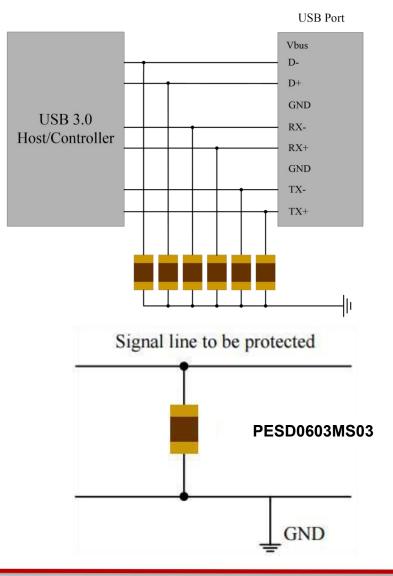
Fig. 1 Typical ESD Response (IEC 61000-4-2, 8kV contact discharge)

Fig.2 Typical Device Capacitance VS. Frequency

## **ESD Protection for Signal Line**

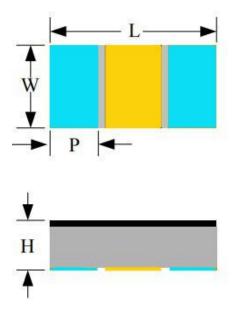
The PESD is designed for the protection of one bidirectional data line from ESD damage.

- 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.

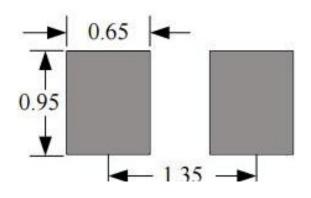


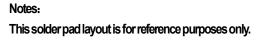


#### PACKAGE MECHANICAL DATA



#### **Recommended Solder Pad Footprint**





| Dimension | Unit: Millimeters |      |  |
|-----------|-------------------|------|--|
|           | Min               | Max  |  |
| L         | 1.45              | 1.75 |  |
| W         | 0.70              | 0.95 |  |
| Р         | 0.20              | 0.50 |  |
| Н         | 0.26              | 0.46 |  |

# **REEL SPECIFICATION**

| P/N             | PKG  | QTY  |
|-----------------|------|------|
| PESD0603MS03-MS | 0603 | 5000 |



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