

1 Channel Ultra-low Capacitance ESD Protection

1KE7I7.0C

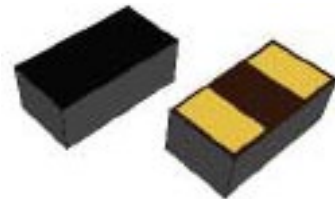
■ Features

- Ultra-Low capacitance:0.2pF(Max.)
- Low leakage current(<10nA)
- 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

0402

■ Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|----------------------------|------------------|-----------|------|
| IEC 61000-4-2(ESD) Contact | V_{ESD} | 8 | KV |
| IEC 61000-4-2(ESD) Air | | 15 | |
| Operating temperature | T_{opr} | -55 ~ 125 | °C |
| Storage temperature | T_{stg} | -40 ~ 85 | |

■ Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|------------------------------|-----------------|-------------------------------------|-----|-----|-----|------|
| Continuous Operating Voltage | V_{DC} | | | | 7.0 | V |
| Trigger Voltage | V_{T} | IEC61000-4-2 8kV contact discharge | | 450 | | |
| Leakage Current | I_{L} | DC 5V shall be applied on component | | | 10 | nA |
| Clamping Voltage | V_{C} | IEC61000-4-2 8kV contact discharge | | 40 | | V |
| Capacitance | C_{J} | Measured at 10MHz | | | 0.2 | pF |

■ Ordering Information

| Device | Size (mm) | Package | Shipping |
|-----------|----------------|---------|----------------|
| 1KE7I7.0C | 1.00x0.52x0.38 | 0402 | 10,000pcs/Reel |

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■ Typical Characteristics

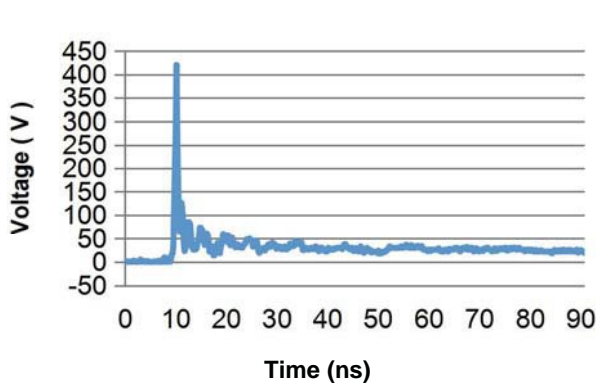


Fig.1 Typical ESD Response
(IEC 61000-4-2, 8kV contact discharge)

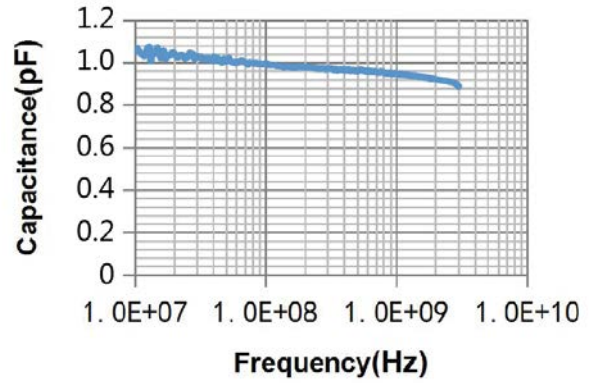


Fig.2 Normalized Capacitance VS.Frequency

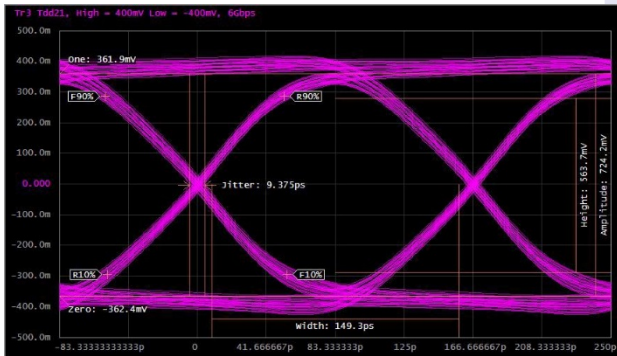
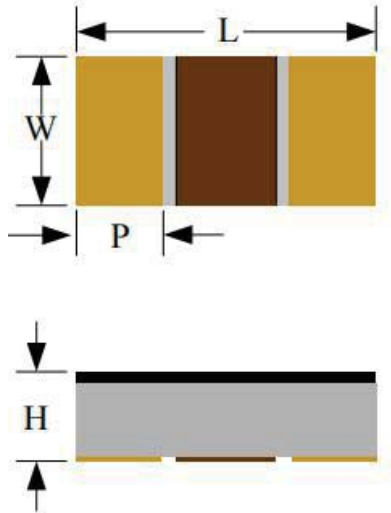


Fig.3 HDMI 2.0 Mask at 6.0 Gbps

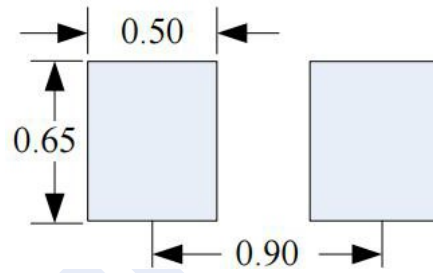
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■ Package Dimension



Recommended Solder Pad Footprint



* Sizes in mm

Notes :

This solder pad layout is for reference purposes only.

| Dimension | Unit: Millimeters | |
|-----------|-------------------|------|
| | Min. | Max. |
| L | 0.90 | 1.10 |
| W | 0.42 | 0.62 |
| P | 0.15 | 0.35 |
| H | 0.25 | 0.45 |