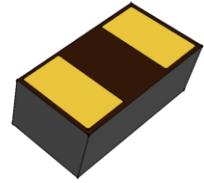


ESD Protection Devices

Features

- IEC61000-4-2 (ESD) $\pm 15\text{kV}$ (air)
 $\pm 8\text{kV}$ (contact)
- Ultra low capacitance :0.05 pF(typ.)
- Fast response time(<1ns)
- Low leakage current(<100nA)
- Bi-directional ESD protection
- Lead free in comply with EU RoHS 2011/65/EU directives



Applications

- High Definition Multi-Media Interface (HDMI)
- Digital Visual Interface (DVI)
- Display Port Interface (DP)
- USB2.0 and USB3.0/3.1
- RF Antenna

Ordering Information

| Part Number | Shipping | Reel |
|----------------------|--------------------|----------|
| LTE0402C15L01LG-TR10 | 10000PCS Tape&Reel | 7 inches |

Absolute Maximum Rating

| Symbol | Parameter | Value | Units |
|------------------|---|-----------|--------------------|
| V_{ESD} | Maximum Air Discharge Voltage per IEC 61000-4-2 | ± 15 | kV |
| | Maximum Contact Discharge Voltage per IEC 61000-4-2 | ± 8 | |
| T_{A} | Operating Temperature Range | -55 ~ 125 | $^{\circ}\text{C}$ |
| T_{STG} | Storage Temperature Range | -40 ~ 85 | $^{\circ}\text{C}$ |
| T_{L} | Lead Soldering Temperature | 260 | $^{\circ}\text{C}$ |

Electrical Characteristics (TA=25°C unless otherwise specified)

| Parameter | Symbol | Test Conditions | Min. | Typ. | Max. | Unit |
|------------------------------|----------|------------------------------------|------|------|------|---------|
| Continuous Operating Voltage | V_{DC} | -- | | | 15 | 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 | V_{DC} | | | 0.1 | μA |
| Capacitance | C_J | $V_R=0V, f = 10MHz$ | | 0.05 | | pF |

Electrical Characteristics Curve

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

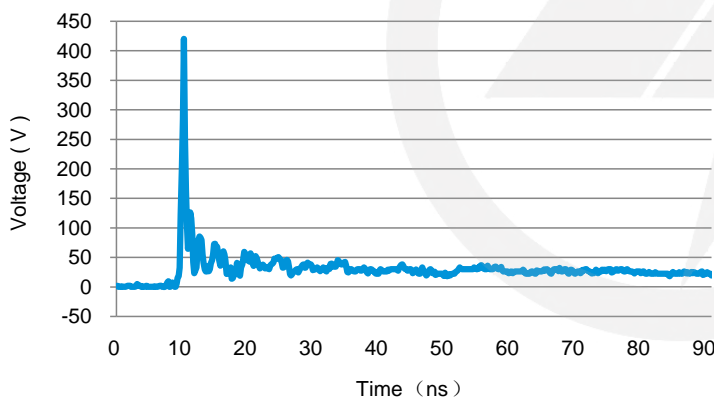


Fig.2 Typical Device Capacitance VS.Frequency

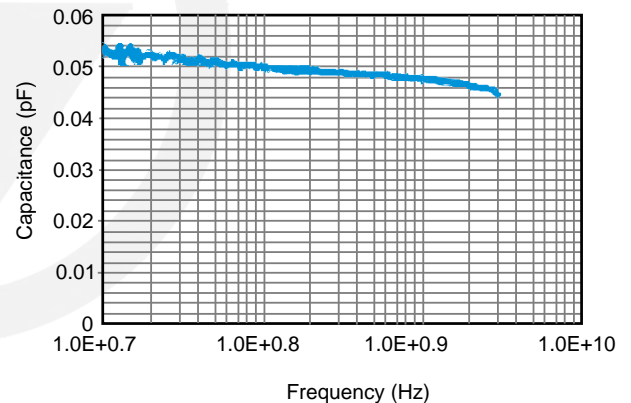
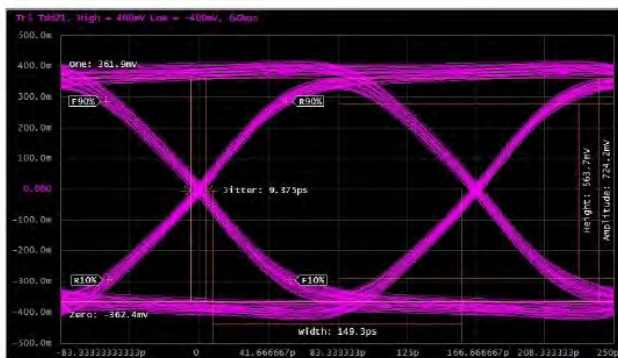
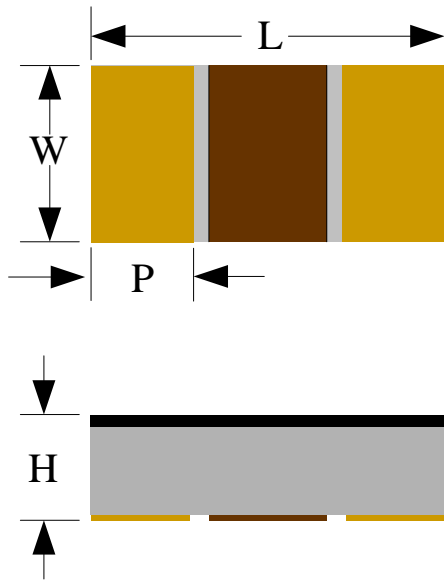


Fig.3 HDMI 2.0 Mask at 6.0 Gbps





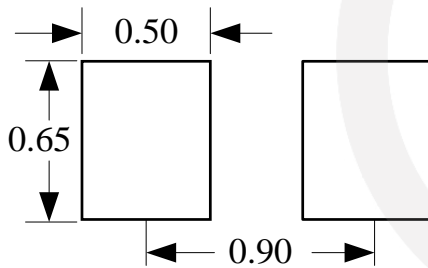
0402 Package Outline



Unit : mm

| SYMBOL | DIMENSIONS | |
|--------|------------|-------|
| | MIN. | MAX. |
| L | 0.900 | 1.100 |
| W | 0.420 | 0.620 |
| P | 0.150 | 0.350 |
| H | 0.250 | 0.450 |

0402 Suggested Pad Layout

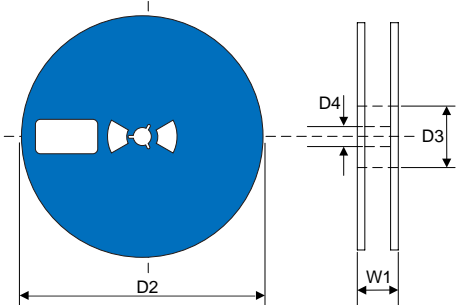


Note:

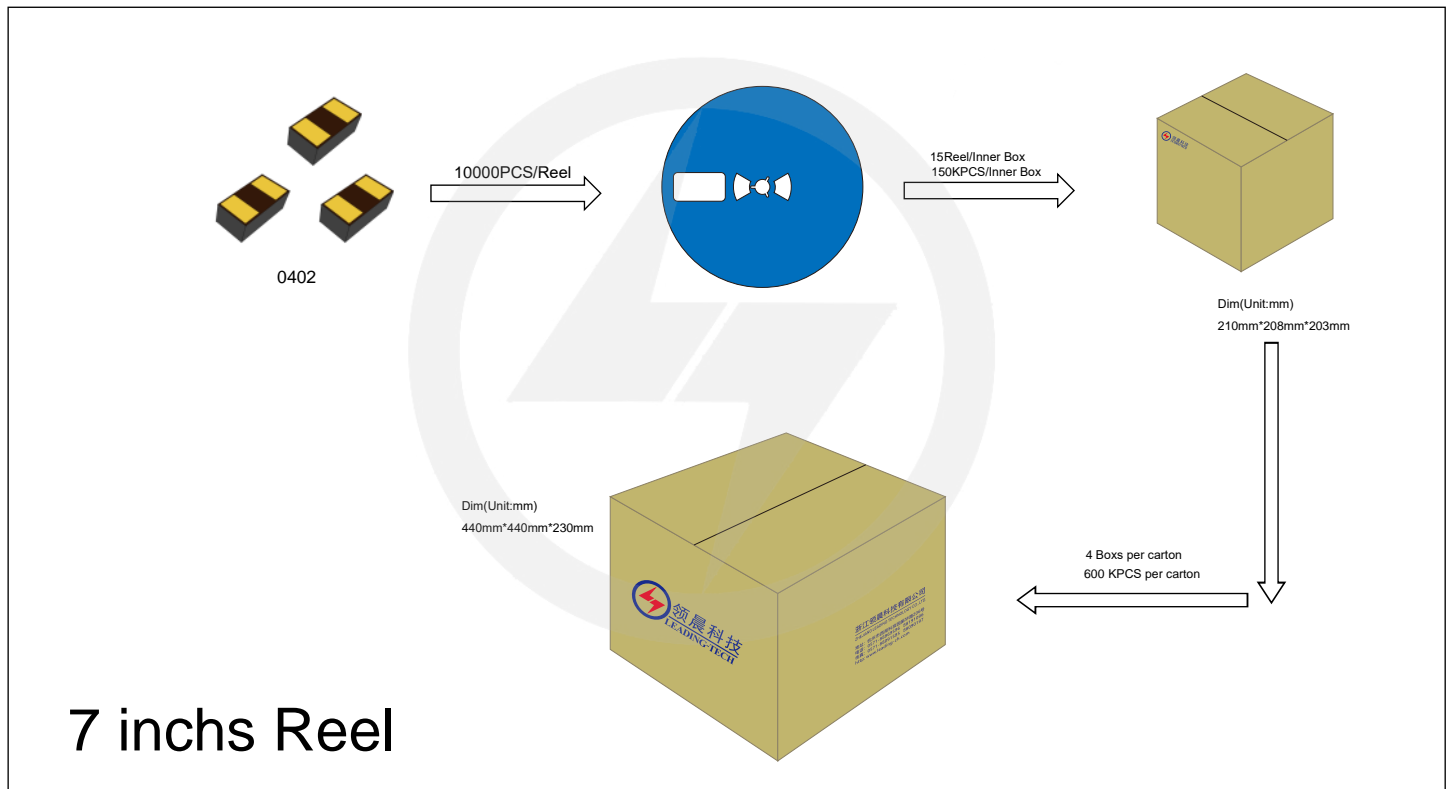
1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purpose only.

Reel Dimensions

Unit : mm

| | | |
|--|--------------------|----------------------|
| <p>7" Reel</p>  | D2 | $\Phi 178.0 \pm 2.0$ |
| | D3 | $\Phi 50$ |
| | D4 | 13.0 ± 0.5 |
| | W1 | 12 ± 0.5 |
| | Quantity: 10000PCS | |

Packaging





Recommended Soldering Conditions



Recommended Conditions

| Profile Feature | Pb-Free Assembly |
|--|------------------|
| Average ramp-up rate (T _L to T _P) | 3°C/second max. |
| Preheat | |
| -Temperature Min (T _{S min}) | 150°C |
| -Temperature Max (T _{S max}) | 200°C |
| -Time (min to max) (t _s) | 60-180 seconds |
| T _{S max} to T _L | |
| -Ramp-up Rate | 3°C/second max. |
| Time maintained above: | |
| -Temperature (T _L) | 217°C |
| -Time (t _L) | 60-150 seconds |
| Peak Temperature (T _P) | 260°C |
| Time within 5°C of actual Peak Temperature (t _p) | 20-40 seconds |
| Ramp-down Rate | 6°C/second max. |
| Time 25°C to Peak Temperature | 8 minutes max. |

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Version Update Information

| Series NO. | Enactment/Revision Date | Effective Date | Version | Revision Content | Revision Reason | Revision Person | Note |
|------------|-------------------------|----------------|---------|------------------|-----------------|-----------------|------|
| 01 | 2025.06.03 | 2025.06.03 | 3.0 | New file | / | Ding | |