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## Small Package Low Capacitance TVS

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### **Compliance Standard**

- ◆ IEC 61000-4-2 (ESD)  
30KV - Contact Discharge  
30KV - Air Discharge
- ◆ IEC 61000-4-4 (EFT) 40A (5/50ns)
- ◆ IEC 61000-4-5 (Surge) 11.0 (8/20us)

### **Applications**

- ◆ Data Interface Protection
- ◆ Embedded System
- ◆ Handheld Device
- ◆ Computer

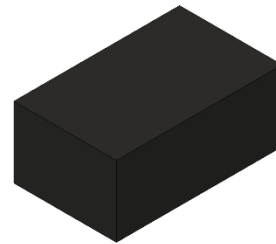
### **Features**

- ◆ 220W Peak Pulse Power
- ◆ Low Clamping Voltage
- ◆ Low Leakage Current
- ◆ Single Line, Uni-Directional

### **Mechanical Characteristics**

- ◆ DFN-1610 Package (0603)
- ◆ Weight 3 Milligram (Approximate)
- ◆ Flammability Rating UL94V-0
- ◆ Lead Free Plating
- ◆ Reel Size 7"
- ◆ 3000 PCS Per Reel

**Package**



DFN-1610

**Pin Configuration**



## DEVICE CHARACTERISTICS

| Maximum Rating              |                  |           |      |
|-----------------------------|------------------|-----------|------|
| Parameter                   | Symbol           | Value     | Unit |
| Peak Pulse Power            | P <sub>PP</sub>  | 220       | Watt |
| Lead Soldering Temperature  | T <sub>L</sub>   | 260 (10s) | °C   |
| Operating Temperature Range | T <sub>J</sub>   | -55~150   | °C   |
| Storage Temperature Range   | T <sub>STG</sub> | -55~150   | °C   |

| Electrical Characteristics (@25 °C) |         |                            |                          |                          |                        |                        |                        |
|-------------------------------------|---------|----------------------------|--------------------------|--------------------------|------------------------|------------------------|------------------------|
| Part Number                         | Marking | V <sub>RWM</sub><br>(Volt) | V <sub>B</sub><br>(Volt) | V <sub>C</sub><br>(Volt) | I <sub>PP</sub><br>(A) | I <sub>R</sub><br>(uA) | C <sub>J</sub><br>(pF) |
| NLULC05TN                           | SA5     | 5.0                        | 6.0                      | 20.0                     | 11.0                   | 1.0                    | 0.6                    |



Figure1. Clamping waveform of positive 8KV ESD contact



Figure2. Clamping waveform of negative 8KV ESD contact

## DEVICE OUTLINE

| <i>Outline Dimension</i> |             |      |         |       |
|--------------------------|-------------|------|---------|-------|
| Symbol                   | Millimeters |      | Inches  |       |
|                          | Min         | Max  | Min     | Max   |
| A                        | 1.55        | 1.65 | 0.061   | 0.065 |
| B                        | 0.95        | 1.05 | 0.037   | 0.041 |
| C                        | 0.40        | 0.50 | 0.015   | 0.020 |
| H                        | 0.02        | 0.05 | 0.000   | 0.002 |
| L1                       | 0.75        | 0.85 | 0.029   | 0.033 |
| L2                       | 0.35        | 0.45 | 0.013   | 0.018 |
| L4                       | 1.10TYP     |      | 1.10TYP |       |
|                          |             |      |         |       |



## LAYOUT PAD DIMENSION

| <i>Layout PAD Dimension</i> |             |      |        |       |
|-----------------------------|-------------|------|--------|-------|
| Symbol                      | Millimeters |      | Inches |       |
|                             | Min         | Max  | Min    | Max   |
| A                           | 1.80        | 1.90 | 0.070  | 0.075 |
| B                           | 0.95        | 1.05 | 0.037  | 0.041 |
| C                           | 1.20        | 1.30 | 0.047  | 0.051 |



| <i>Revision History</i> | <i>Description</i>           |
|-------------------------|------------------------------|
| v2.0                    | Re-organize datasheet layout |
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