

Ultra Low Capacitance TVS Diode Array

**IEC Compliance**

- ◆ IEC 61000-4-2 (ESD)  
8KV - Contact Discharge  
15KV - Air Discharge
- ◆ IEC 61000-4-4 (EFT) 40A (5/50ns)
- ◆ IEC 61000-4-5 (Surge) 10A (8/20us)

**Application**

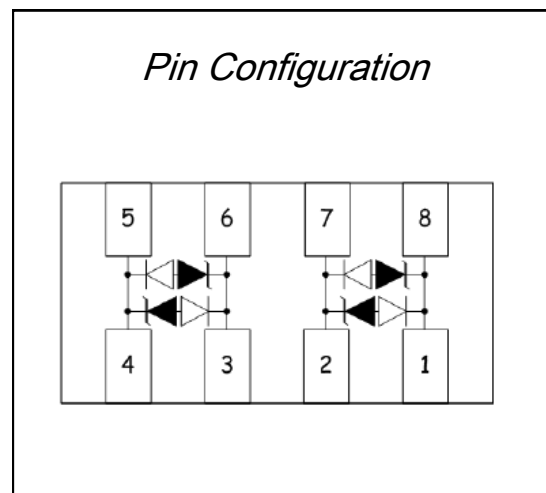
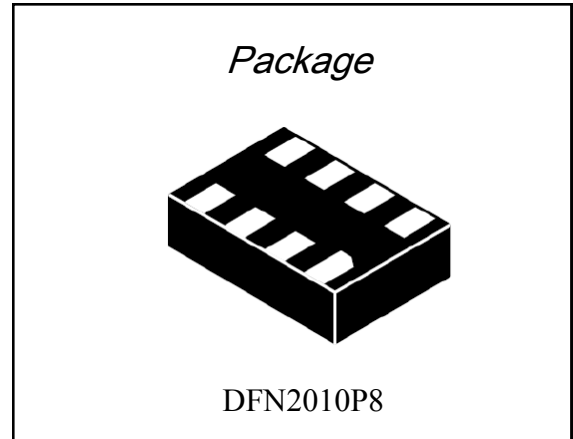
- ◆ Ethernet Application
- ◆ Embedded System
- ◆ Handheld Device
- ◆ Computer

**Features**

- ◆ 150W Peak Pulse Power
- ◆ Low Clamping Voltage
- ◆ Low Leakage Current
- ◆ 2-Pair Line to Line Protection

**Mechanical Characteristics**

- ◆ DFN2010P8 Package
- ◆ Weight 1 Milligram (Approximate)
- ◆ Flammability Rating UL94V-0
- ◆ Lead Free Plating
- ◆ Reel Size 7"
- ◆ 3,000 PCS Per Reel



**DEVICE CHARACTERISTICS**

| Maximum Rating                        |                  |           |       |
|---------------------------------------|------------------|-----------|-------|
| Parameter                             | Symbol           | Value     | Units |
| Peak Pulse Power (tp=8/20us waveform) | P <sub>PP</sub>  | 150       | 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                         | Device Marking | V <sub>RWM</sub> (Volt) | V <sub>B</sub> (Volt) | V <sub>C</sub> (Volt) | I <sub>PP</sub> (A) | I <sub>R</sub> (uA) | C <sub>J</sub> (pF) |
| NLULC33CP8                          | U33            | 3                       | 3.5                   | 15                    | 10                  | 1                   | 1                   |

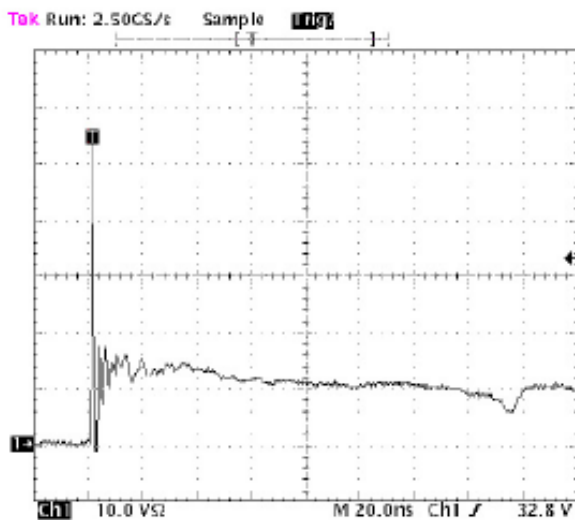


Figure1. Clamping waveform of positive 8KV ESD contact

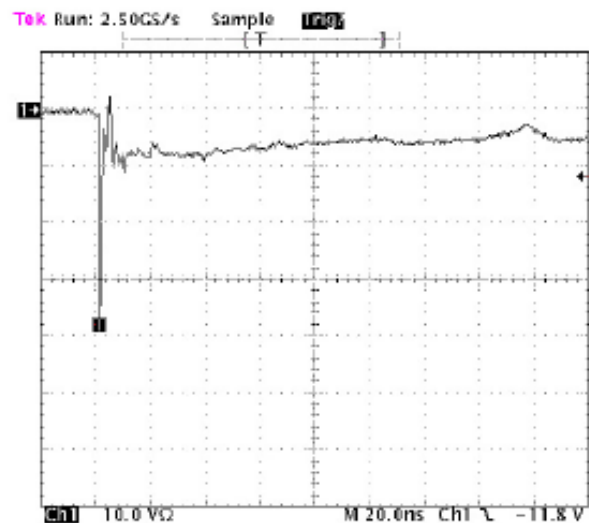
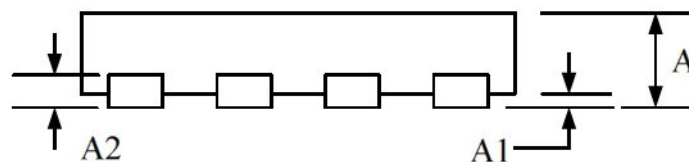
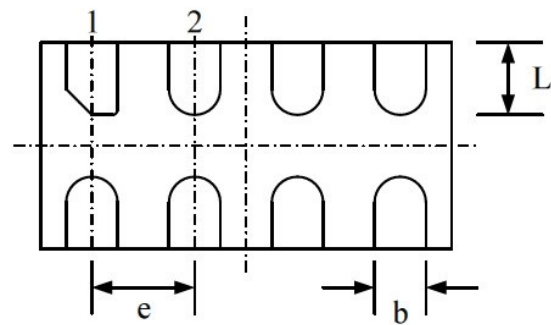
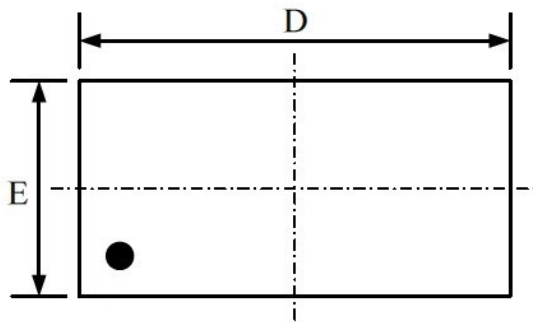


Figure2. Clamping waveform of negative 8KV ESD contact

**DEVICE OUTLINE**

| Outline Dimension |             |       |          |       |
|-------------------|-------------|-------|----------|-------|
| Symbol            | Millimeters |       | Inches   |       |
|                   | Min         | Max   | Min      | Max   |
| A                 | 0.350       | 0.450 | 0.014    | 0.018 |
| A1                | 0.000       | 0.050 | 0.000    | 0.002 |
| A2                | 0.127REF    |       | 0.005REF |       |
| D                 | 1.924       | 2.076 | 0.076    | 0.082 |
| E                 | 0.924       | 1.076 | 0.036    | 0.042 |
| L                 | 0.274       | 0.426 | 0.011    | 0.017 |
| b                 | 0.200       | 0.300 | 0.008    | 0.012 |
| e                 | 0.500TYP    |       | 0.020TYP |       |
|                   |             |       |          |       |

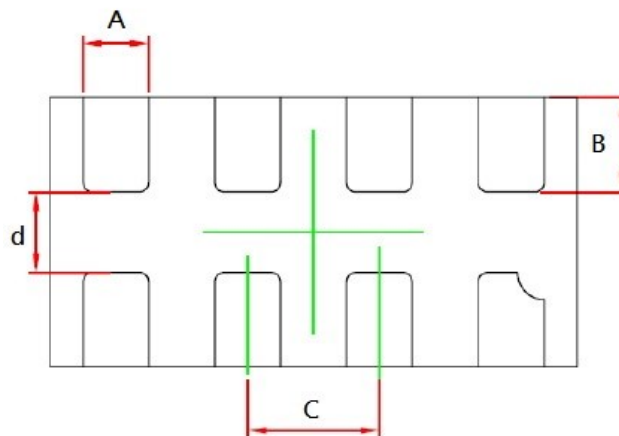


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**LAYOUT PAD DIMENSION**


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| Layout PAD Dimension |             |      |          |       |
|----------------------|-------------|------|----------|-------|
| Symbol               | Millimeters |      | Inches   |       |
|                      | Min         | Max  | Min      | Max   |
| A                    | 0.25        | 0.35 | 0.010    | 0.014 |
| B                    | 0.4         | 0.5  | 0.016    | 0.020 |
| C                    | 0.5TYP      |      | 0.020TYP |       |
| d                    | 0.25        | 0.35 | 0.010    | 0.014 |



| Revision History | Modification Description |
|------------------|--------------------------|
| Rev.1.0          | Initial Release          |
| Rev.1.01         | Edit Document Layout     |
|                  |                          |
|                  |                          |