

### Features

- Ultra low leakage: nA level
- Operating voltage: 15V
- Low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 30\text{kV}$
    - Contact discharge:  $\pm 30\text{kV}$
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 4A (8/20 $\mu\text{s}$ )
- RoHS Compliant

### Applications

- USB Ports
- SIM Ports
- Smart Phones
- Wireless Systems
- Set-top box and digital TV
- Digital video interface (DVI)
- Ethernet 10/100/1000 Base T

### Mechanical Characteristics

- Package: DFN1610TN
- Molding Compound Flammability Rating : UL 94V-O
- Quantity Per Reel:3000pcs
- Reel Size:7 inch
- Device Marking: CLC

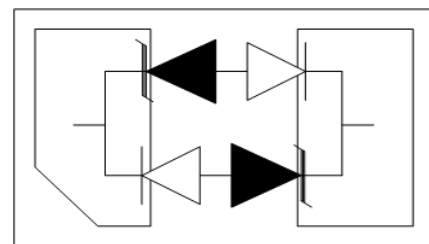
### Absolute Maximum Ratings (T<sub>amb</sub>=25°C unless otherwise specified)

| Parameter                              | Symbol           | Value       | Unit |
|--|------------------|-------------|------|
| Peak Pulse Power (8/20 $\mu\text{s}$ ) | P <sub>pp</sub>  | 140         | W    |
| ESD per IEC 61000-4-2 (Air)            | V <sub>ESD</sub> | $\pm 30$    | kV   |
| ESD per IEC 61000-4-2 (Contact)        |                  | $\pm 30$    |      |
| Operating Temperature Range            | T <sub>J</sub>   | -40 to +125 | °C   |
| Storage Temperature Range              | T <sub>STJ</sub> | -55 to +150 | °C   |

### Dimensions DFN1610TN



### Pin Configuration



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

| Parameter               | Symbol    | Test Condition                                    | Min  | Typ | Max | Unit          |
|-------------------------|-----------|---|------|-----|-----|---------------|
| Reverse Working Voltage | $V_{RWM}$ |   |      |     | 15  | V             |
| Breakdown Voltage       | $V_{BR}$  | $I_T = 1\text{mA}$                                | 16.7 |     |     | V             |
| Reverse Leakage Current | $I_R$     | $V_{RWM} = 15\text{V}$                            |      |     | 1   | $\mu\text{A}$ |
| Clamping Voltage        | $V_C$     | $I_{PP} = 1\text{A}$ (8 x 20 $\mu\text{s}$ pulse) |      |     | 23  | V             |
| Clamping Voltage        | $V_C$     | $I_{PP} = 4\text{A}$ (8 x 20 $\mu\text{s}$ pulse) |      |     | 35  | V             |
| Junction Capacitance    | $C_J$     | $V_R = 0\text{V}$ , $f = 1\text{MHz}$             |      | 0.6 |     | pF            |

## Typical Performance Characteristics (TA=25°C unless otherwise specified)

Figure 1. Power Detating

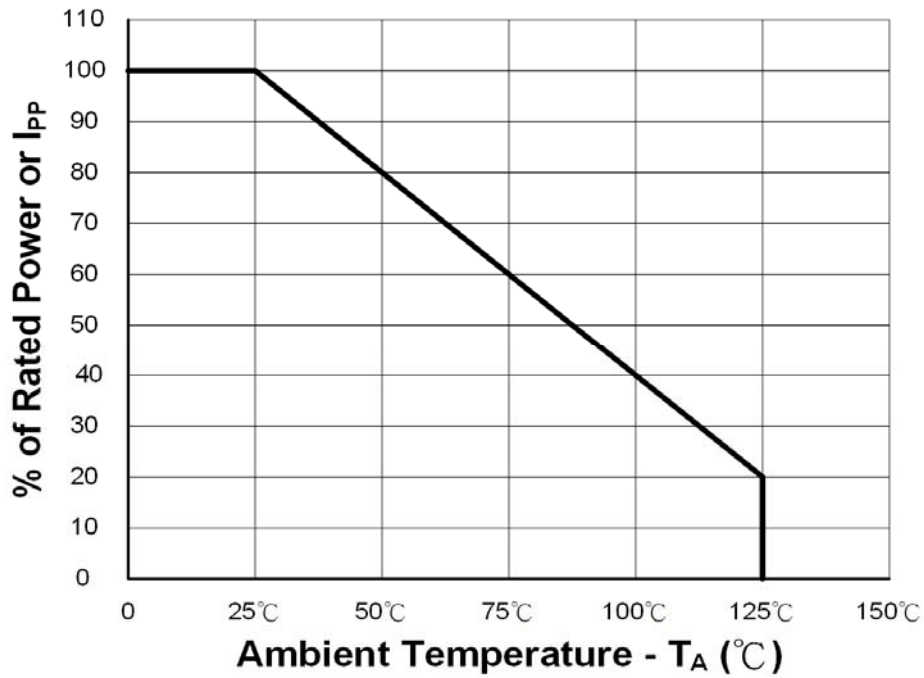
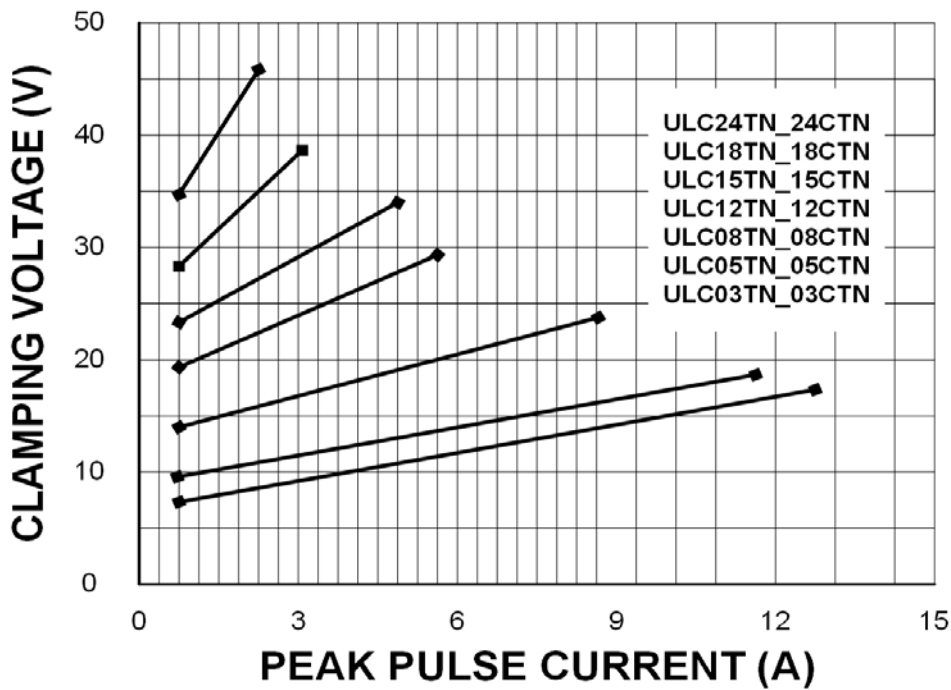
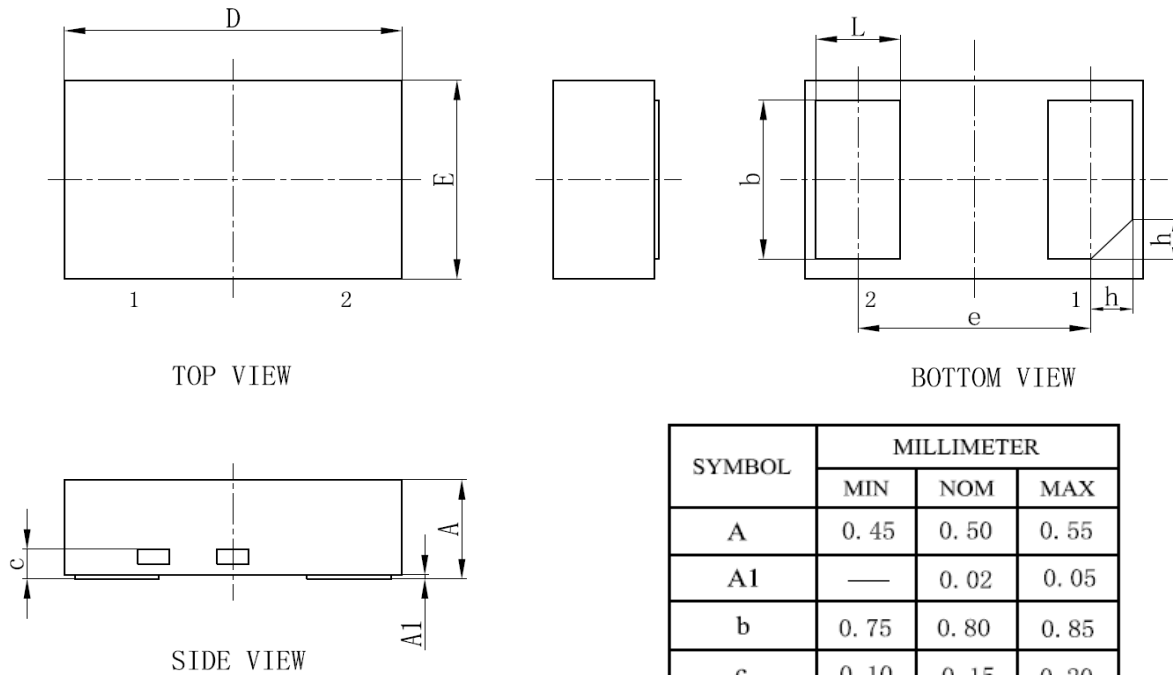


Figure 2. Clamping Voltage vs. Peak

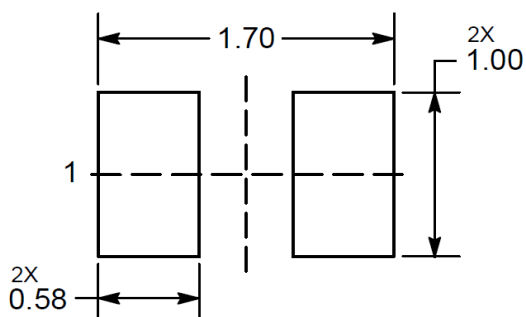


## DFN1610TN Package Outline Drawing



| SYMBOL | MILLIMETER |      |      |
|--------|------------|------|------|
|        | MIN        | NOM  | MAX  |
| A      | 0.45       | 0.50 | 0.55 |
| A1     | —          | 0.02 | 0.05 |
| b      | 0.75       | 0.80 | 0.85 |
| c      | 0.10       | 0.15 | 0.20 |
| D      | 1.55       | 1.60 | 1.65 |
| e      | 1.10BSC    |      |      |
| E      | 0.95       | 1.00 | 1.05 |
| L      | 0.35       | 0.40 | 0.45 |
| h      | 0.15       | 0.20 | 0.25 |

## Suggested Land Pattern



Note:  
Controlling dimensions are in millimeter (mm)

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