

## Features

- u 120 Watts Peak Pulse Power per Line ( $t_p=8/20\mu s$ )
- u Low capacitance: 0.3pF typical (I/O to I/O)
- u Low operating voltage: 5V
- u RoHS Compliant
- u IEC61000-4-2 (ESD)  $\pm 25kV$  (air),  $\pm 20kV$  (contact)
- u IEC61000-4-4 (EFT) 40A (5/50ns)
- u IEC61000-4-5 (Lightning) 4.5A (8/20 $\mu s$ )

## Mechanical Characteristics

- u Package: DFN2510-10 (2.5 $\times$ 1.0 $\times$ 0.5mm)
- u Ultra low leakage: nA level
- u Case Material: "Green" Molding Compound.
- u UL Flammability Classification Rating 94V-0
- u Moisture Sensitivity: Level 3 per J-STD-020
- u Terminal Connections: See Diagram Below

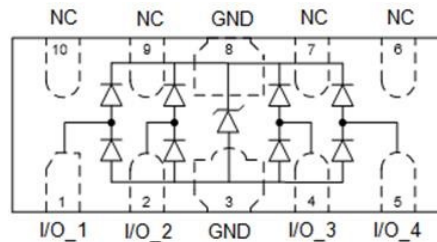
## Applications

- u High Definition Multimedia Interface (HDMI)
- u Digital Visual Interface (DVI)
- u Unified Display Interface (UDI)
- u MDDI Ports
- u PCI Express
- u Serial ATA

## Ordering Information

| Part Number | Qty per Reel | Reel Size |
|-------------|--------------|-----------|
| TP1045-04F  | 3000         | 7"        |

## Dimensions and Pin Configuration



**Absolute Maximum Ratings** (Tamb=25°C unless otherwise specified)

| Parameter                       | Symbol | Value       | Unit |
|---------------------------------|--------|-------------|------|
| Peak Pulse Power (8/20μs)       | Ppk    | 120         | W    |
| Peak Pulse Current (8/20μs)     | IPP    | 4.5         | A    |
| ESD per IEC 61000-4-2 (Air)     | VESD   | ± 25        | kV   |
| ESD per IEC 61000-4-2 (Contact) |        | ± 20        |      |
| Operating Temperature Range     | TJ     | -55 to +125 | °C   |
| Storage Temperature Range       | Tstg   | -55 to +150 | °C   |

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

| Parameter               | Symbol | Min | Typ | Max | Unit | Test Condition                                   |
|-------------------------|--------|-----|-----|-----|------|--|
| Reverse Working Voltage | VRWM   |     |     | 5   | V    | Any I/O pin to ground                            |
| Breakdown Voltage       | VBR    | 6   |     | 9   | V    | It = 1mA, any I/O pin to ground                  |
| Reverse Leakage Current | IR     |     |     | 0.2 | μA   | VRWM = 5V, any I/O pin to ground                 |
| Clamping Voltage        | VC     |     |     | 10  | V    | IPP = 1A (8 x 20μs pulse), any I/O pin to ground |
| Clamping Voltage        | VC     |     |     | 25  | V    | IPP = 5A (8 x 20μs pulse), any I/O pin to ground |
| Junction Capacitance    | CJ     |     | 0.3 |     | pF   | VR = 0V, f = 1MHz, between I/O pins              |

## Characteristic Curves

Fig1. 8/20 $\mu$ s Pulse Waveform

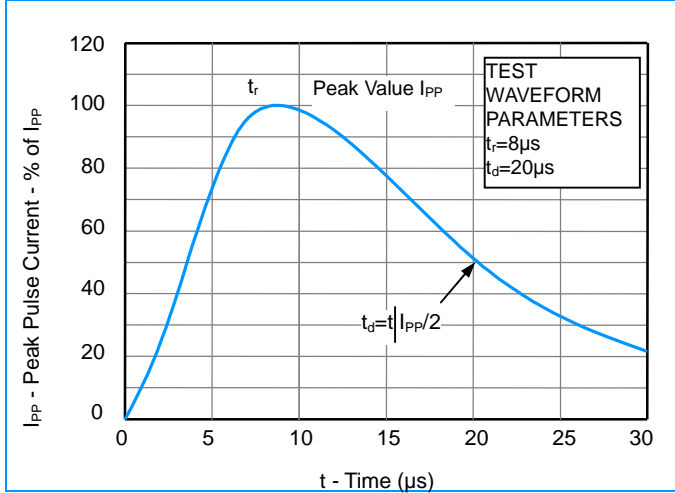


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

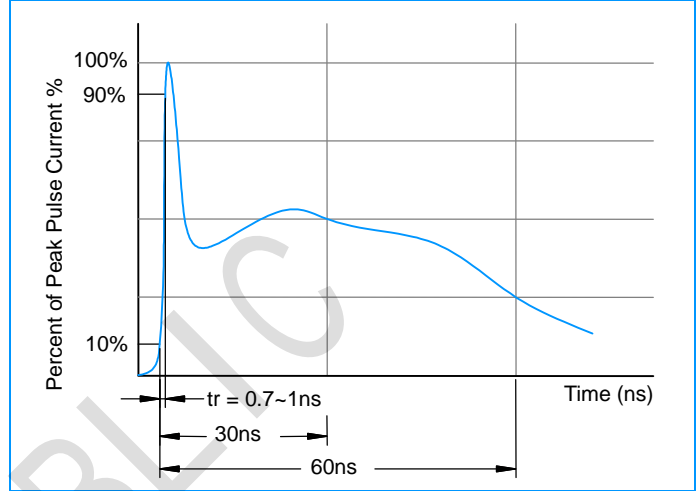


Fig3. Non - Repetitive Peak Pulse Power vs. Pulse Time

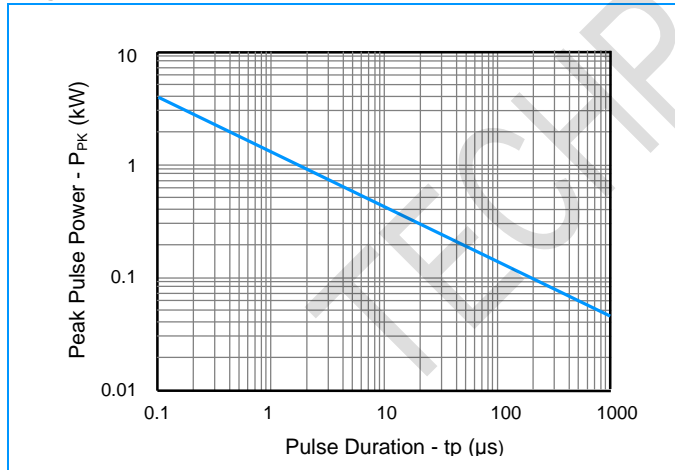
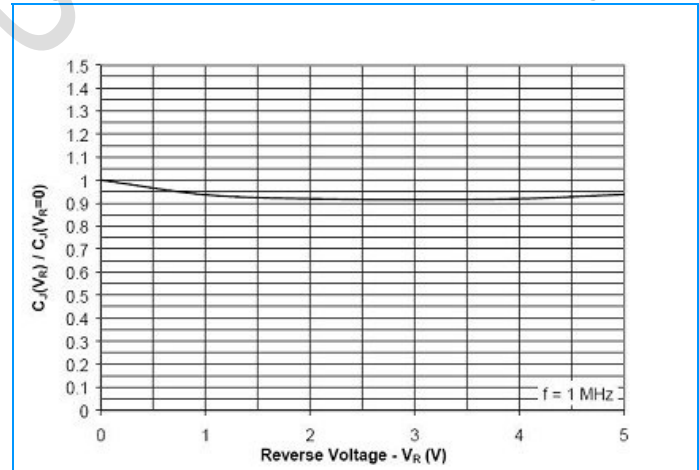
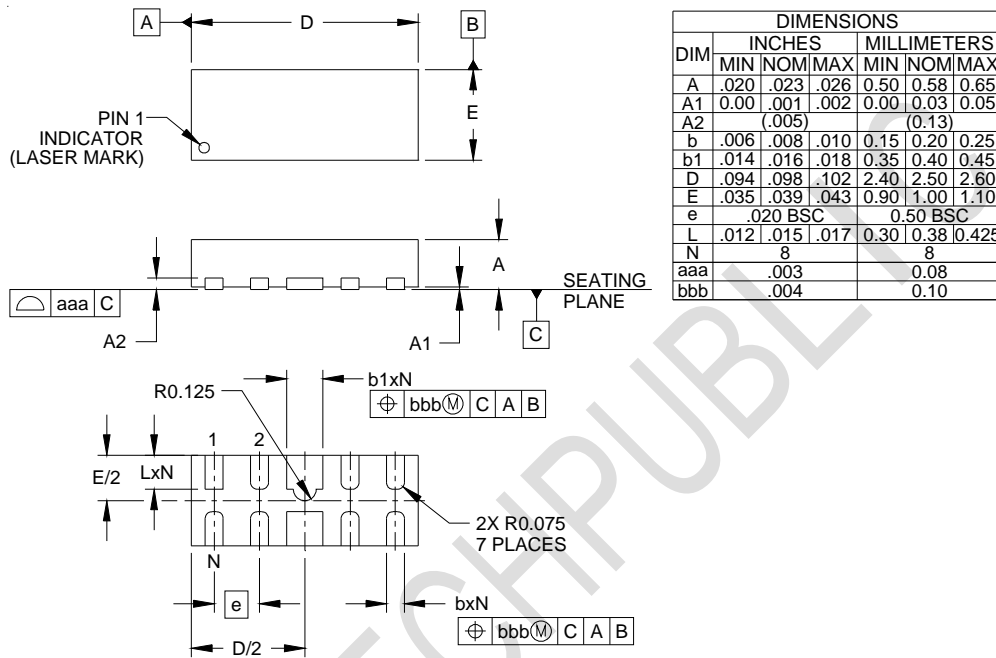


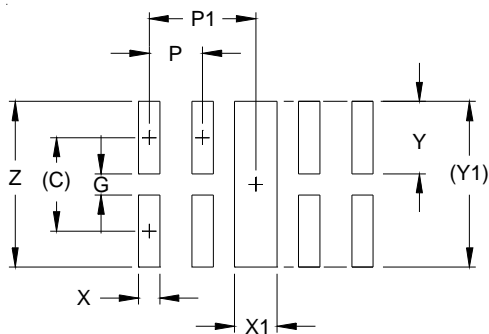
Fig4. Normalized Capacitance vs. Reverse Voltage



## Outline Drawing - DFN2510-10



## Land Pattern - DFN2510-10



| DIM | DIMENSIONS |             |
|-----|------------|-------------|
|     | INCHES     | MILLIMETERS |
| C   | (.034)     | (0.875)     |
| G   | .008       | 0.20        |
| P   | .020       | 0.50        |
| P1  | .039       | 1.00        |
| X   | .008       | 0.20        |
| X1  | .016       | 0.40        |
| Y   | .027       | 0.675       |
| Y1  | (.061)     | (1.55)      |
| Z   | .061       | 1.55        |