

Features

- ◆ Ultra low capacitance: 0.3pF typical (I/O to I/O)
- ◆ Ultra low leakage: nA level
- ◆ Low operating voltage: 3.3V
- ◆ Low clamping voltage
- ◆ Up to 4 data lines and one power line protects
- ◆ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 20\text{kV}$
 - Contact discharge: $\pm 15\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) : 4 A(8/20 μs)
- ◆ ROHS Compliant

Ordering Information

| Part Number | Qty per Reel | Reel Size |
|-------------|--------------|-----------|
| TPESD3324P | 3000 | 7" |

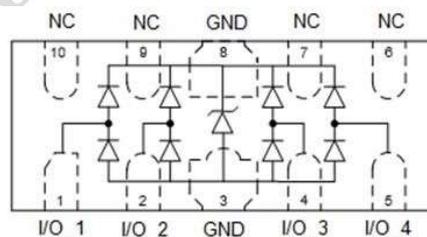
Mechanical Characteristics

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

Applications

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

Dimensions and Pin Configuration



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

| Parameter | Symbol | Value | Unit |
|---------------------------------|--------|-------------|------|
| Peak Pulse Power (tp=8/20μs) | PPP | 70 | W |
| ESD per IEC 61000-4-2 (Air) | VESD | ±20 | kV |
| ESD per IEC 61000-4-2 (Contact) | | ±15 | |
| 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 | | | 3.3 | V | |
| Breakdown Voltage | VBR | 3.6 | 4 | 5.5 | V | IT = 1mA |
| Reverse Leakage Current | IR | | | 0.06 | μA | VRWM = 3.3V |
| Clamping Voltage | VC | | | 15 | V | I _{PP} = 4A (8 x 20μs pulse) any I/O pin to ground |
| Junction Capacitance | CJ | | 0.3 | 0.4 | pF | VR = 0V, f = 1MHz, between I/O pins |
| Junction Capacitance | CJ | | | 0.8 | pF | VR = 0V, f = 1MHz, any I/O pin to ground |

Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

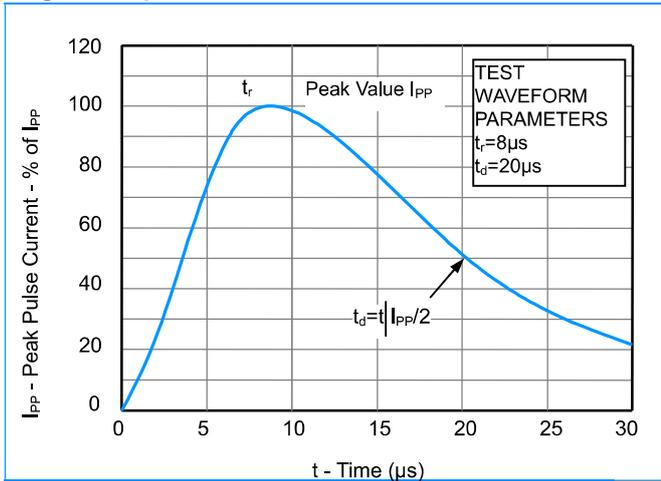


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

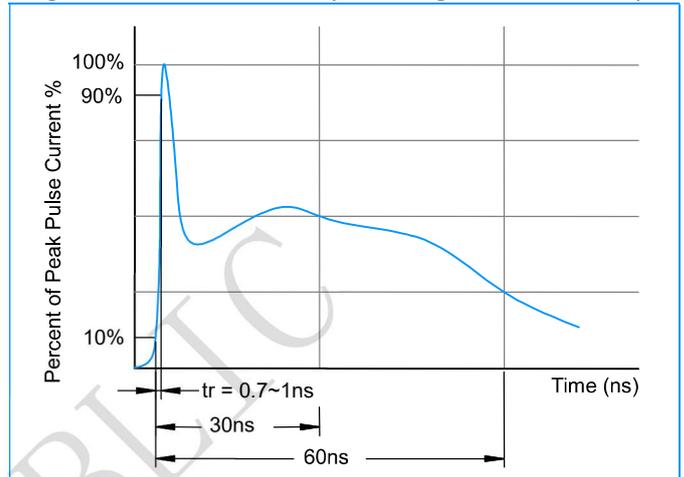
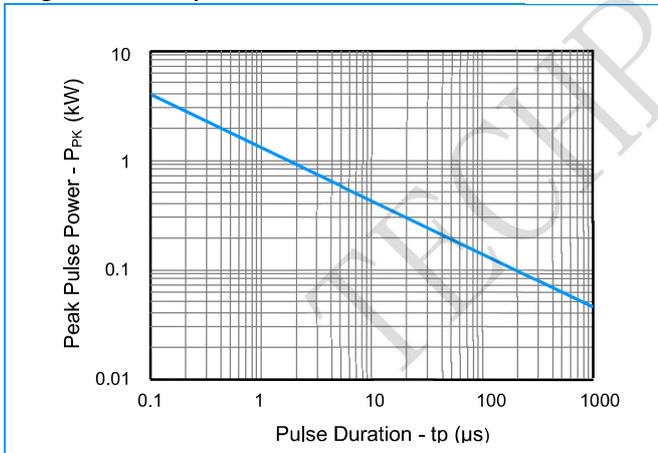
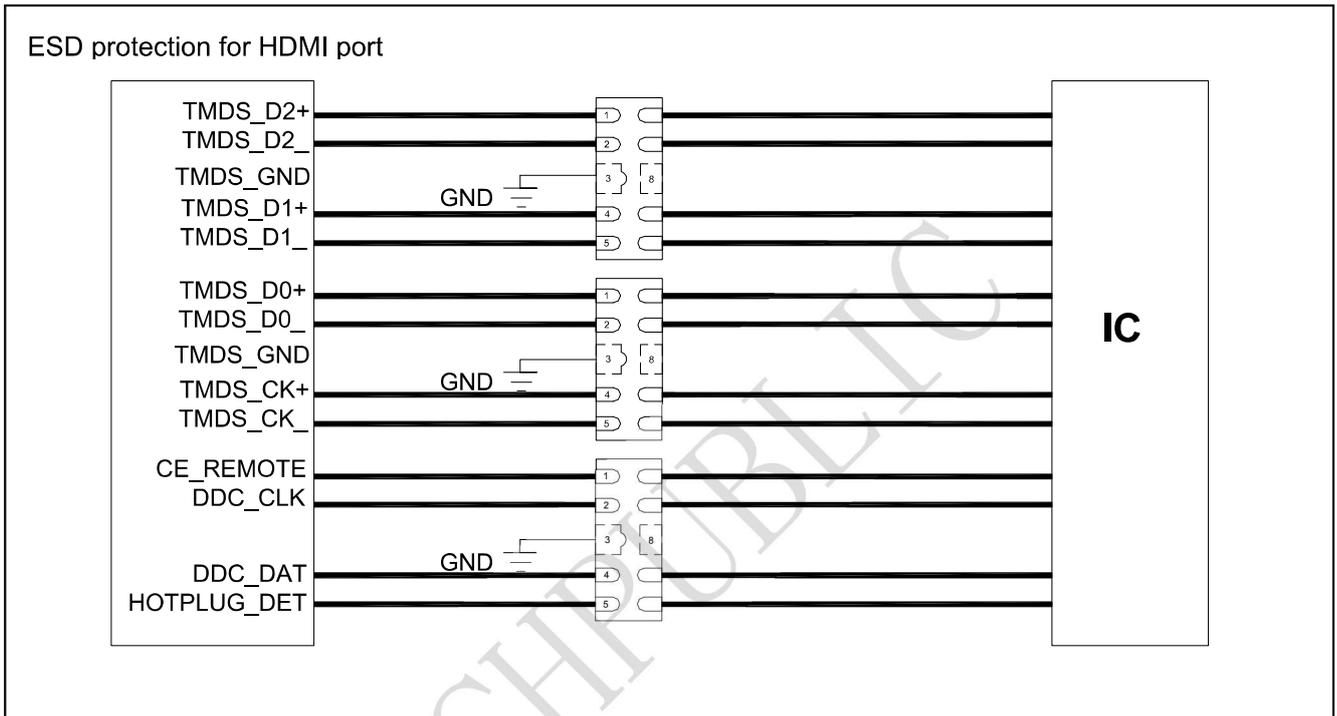


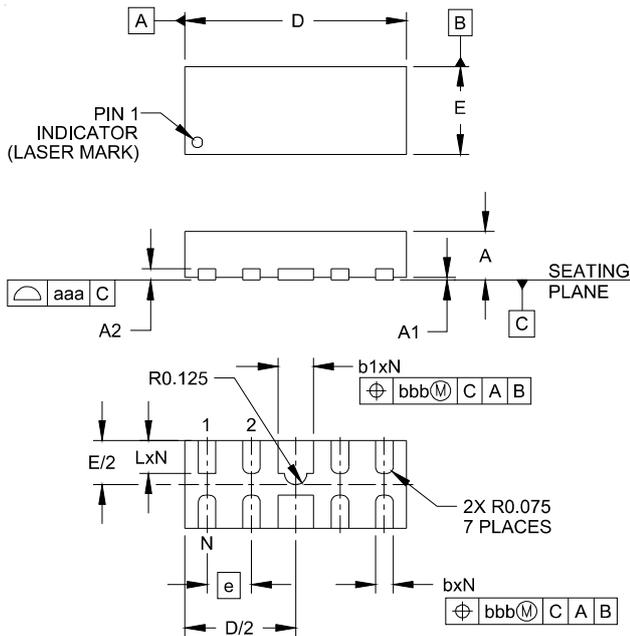
Fig3. Non - Repetitive Peak Pulse Power vs. Pulse Time



Application Information

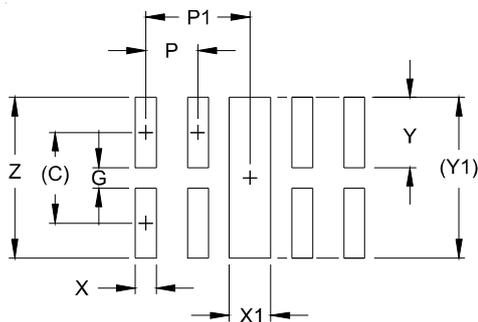


Outline Drawing - DFN2510-10



| DIM | INCHES | | | MILLIMETERS | | |
|-----|----------|------|------|-------------|------|-------|
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | .020 | .023 | .026 | 0.50 | 0.58 | 0.65 |
| A1 | 0.00 | .001 | .002 | 0.00 | 0.03 | 0.05 |
| A2 | (.005) | | | (0.13) | | |
| b | .006 | .008 | .010 | 0.15 | 0.20 | 0.25 |
| b1 | .014 | .016 | .018 | 0.35 | 0.40 | 0.45 |
| D | .094 | .098 | .102 | 2.40 | 2.50 | 2.60 |
| E | .035 | .039 | .043 | 0.90 | 1.00 | 1.10 |
| e | .020 BSC | | | 0.50 BSC | | |
| L | .012 | .015 | .017 | 0.30 | 0.38 | 0.425 |
| N | 8 | | | 8 | | |
| aaa | .003 | | | 0.08 | | |
| bbb | .004 | | | 0.10 | | |

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 |

MARKING CODE:

Or



xxyy= Date code