

Features

- u 120 Watts Peak Pulse Power per Line (tp=8/20μs)
- u Protects two or four I/O lines
- u Low capacitance: 0.35 pF typical (I/O to I/O)
- u Low operating voltage: 5V
- u RoHS Compliant
- u IEC61000-4-2 (ESD) ±25kV (air), ±20kV (contact)
- u IEC61000-4-4 (EFT) 40A (5/50ns)
- u IEC61000-4-5 (Lightning) 4A (8/20μs)

Mechanical Characteristics

- u Package: DFN1616-6
- 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

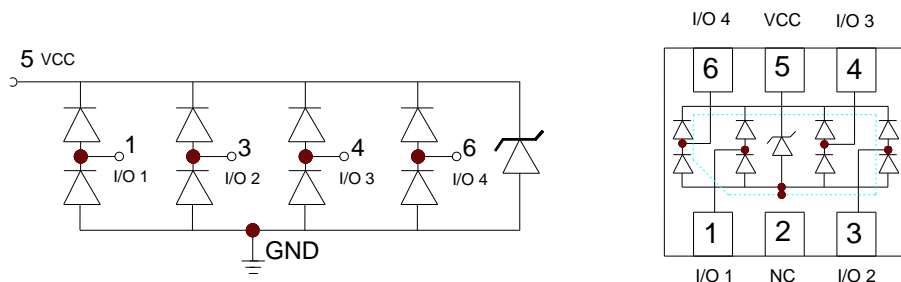
Applications

- 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 |
|-------------|--------------|-----------|
| TPESD0514PA | 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) | I _{PP} | 4 | A |
| ESD per IEC 61000-4-2 (Air) | V _{ESD} | ± 25 | kV |
| ESD per IEC 61000-4-2 (Contact) | | ± 20 | |
| Operating Temperature Range | T _J | -55 to +125 | °C |
| Storage Temperature Range | T _{stg} | -55 to +150 | °C |

Electrical Characteristics (T_A=25°C unless otherwise specified)

| Parameter | Symbol | Min | Typ | Max | Unit | Test Condition |
|-------------------------|------------------|-----|------|-----|------|--------------------------------------------------------------|
| Reverse Working Voltage | V _{RWM} | | | 5 | V | Any I/O pin to ground |
| Breakdown Voltage | V _{BR} | 6 | | 9 | V | I _T = 1mA, any I/O pin to ground |
| Reverse Leakage Current | I _R | | | 0.2 | μA | V _{RWM} = 5V, any I/O pin to ground |
| Clamping Voltage | V _C | | | 9 | V | I _{PP} = 1A (8 x 20μs pulse), any I/O pin to ground |
| Clamping Voltage | V _C | | | 25 | V | I _{PP} = 4A (8 x 20μs pulse), any I/O pin to ground |
| Junction Capacitance | C _J | | 0.35 | | pF | V _R = 0V, f = 1MHz, between I/O pins |
| Junction Capacitance | C _J | | 0.6 | 0.8 | pF | V _R = 0V, f = 1MHz, any I/O pin to ground |

Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

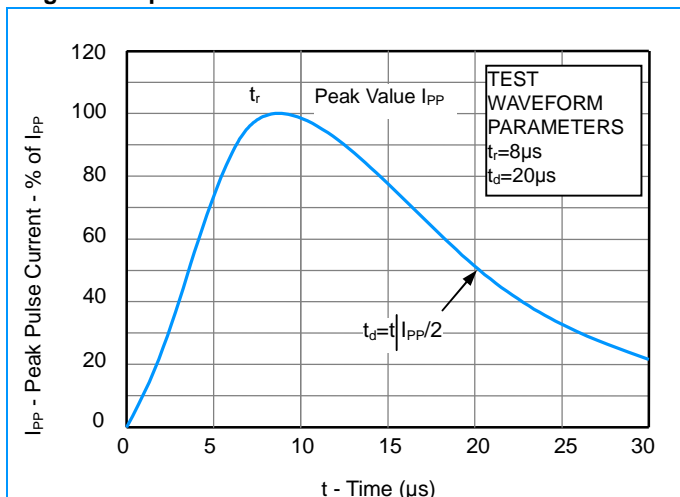


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

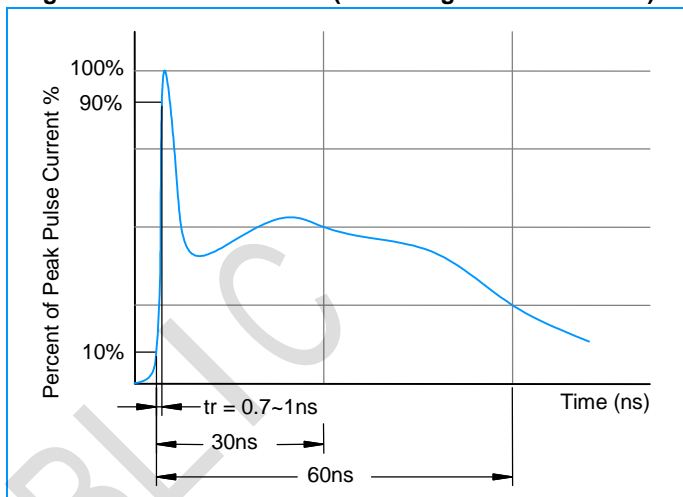


Fig3. Non - Repetitive Peak Pulse Power vs. Pulse Time

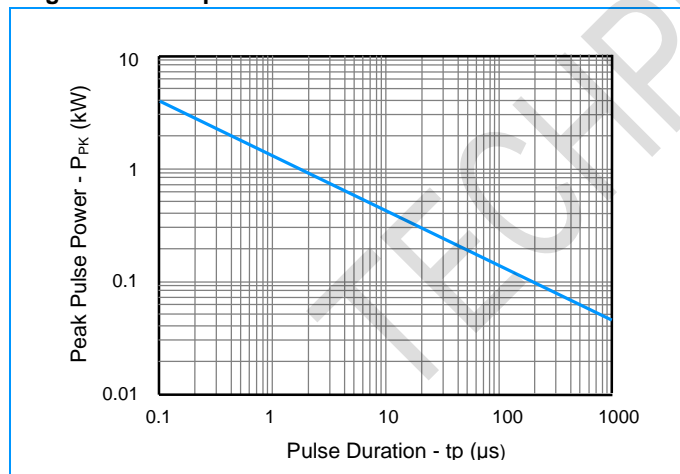
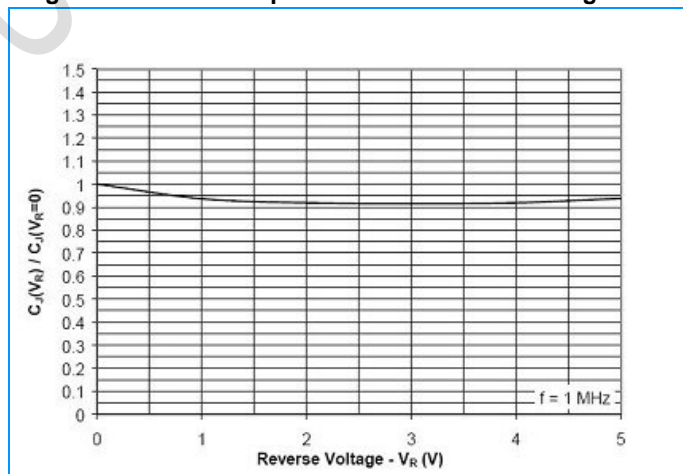
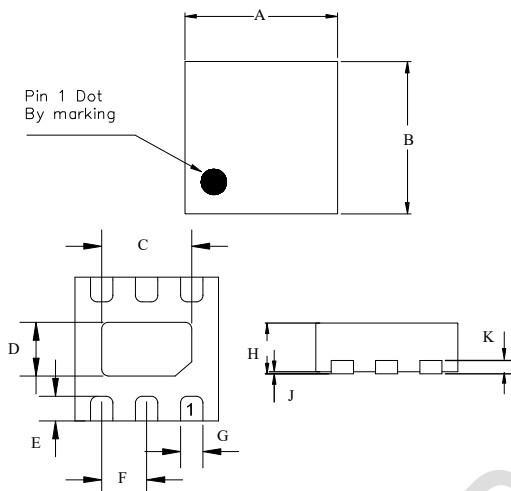


Fig4. Normalized Capacitance vs. Reverse Voltage



Outline Drawing - DFN1616-6

DFN1616-6



| DIM | DIMENSIONS | | | | NOTE |
|-----|------------|-------|-----------|------|------|
| | INCHES | | MM | | |
| A | 0.061 | 0.065 | 1.55 | 1.65 | |
| B | 0.061 | 0.065 | 1.55 | 1.65 | |
| C | 0.035 | 0.041 | 0.90 | 1.05 | |
| D | 0.020 | 0.026 | 0.50 | 0.65 | |
| E | 0.008 | 0.012 | 0.20 | 0.30 | |
| F | 0.020 REF. | | 0.50 REF. | | |
| G | 0.008 | 0.026 | 0.20 | 0.30 | |
| H | 0.020 | 0.024 | 0.50 | 0.60 | |
| J | 0.000 | 0.002 | 0.00 | 0.05 | |
| K | 0.006 REF. | | 0.15 REF. | | |

Suggested Solder Pad Layout

