

## 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: ±20kV  
Contact discharge: ±15kV
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) : 4 A(8/20μs)
- ◆ ROHS Compliant

## Mechanical Characteristics

- ◆ Package: DFN2510-10 (2.5×1.0×0.5mm)
- ◆ 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

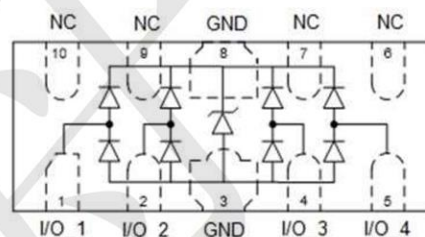
## Applications

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

## Ordering Information

Part Number	Qty per Reel	Reel Size
TPAZ1043-04F	3000	7"

## Dimensions and Pin Configuration



**Marking: (3324 , 3324P, 118xy)**  
**xy=date code**

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20µs) (VCC-GND)	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 <sub>PP</sub> = 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 $\mu$ s Pulse Waveform

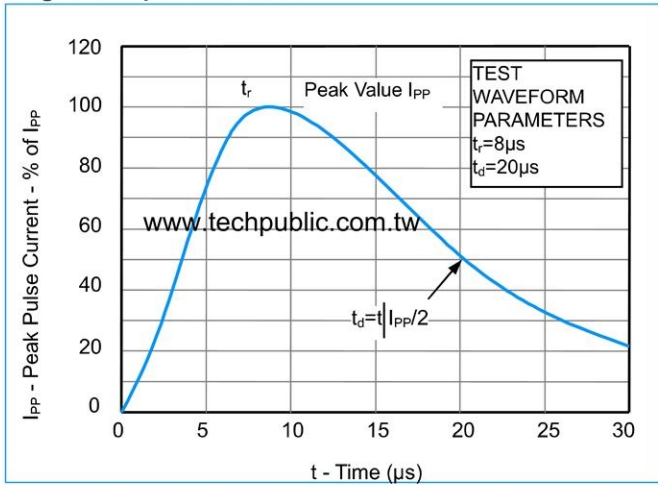


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

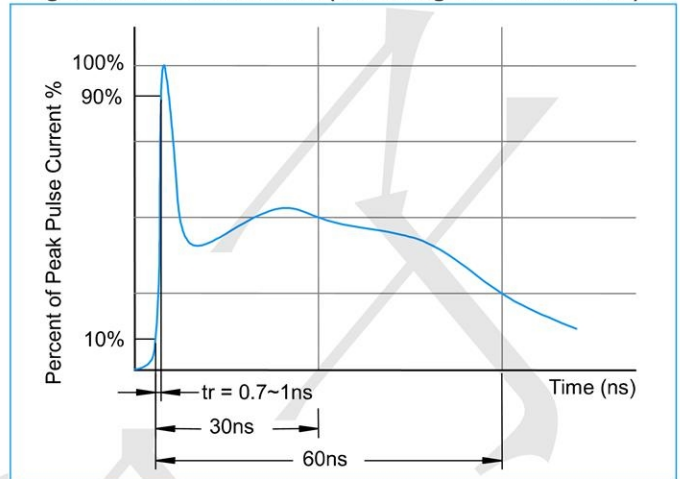
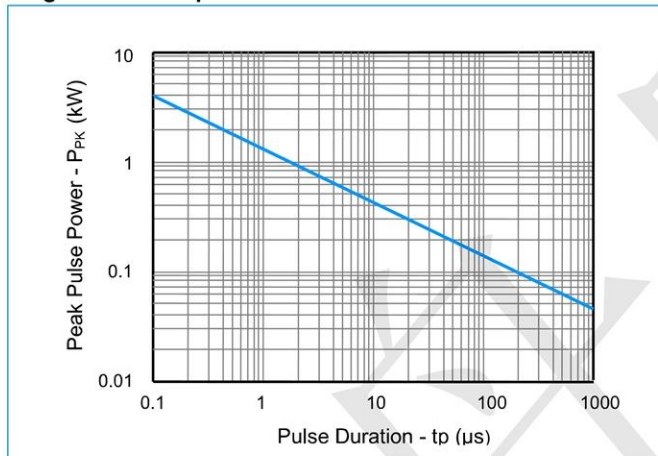
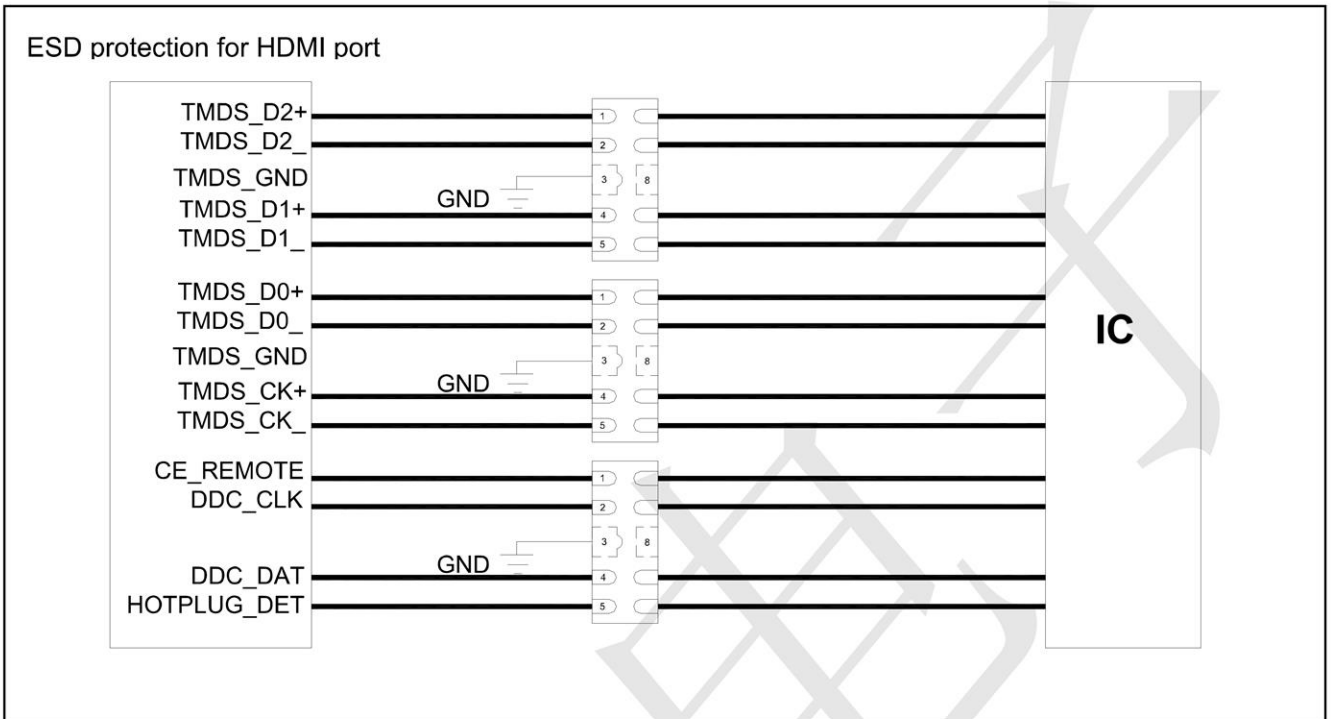


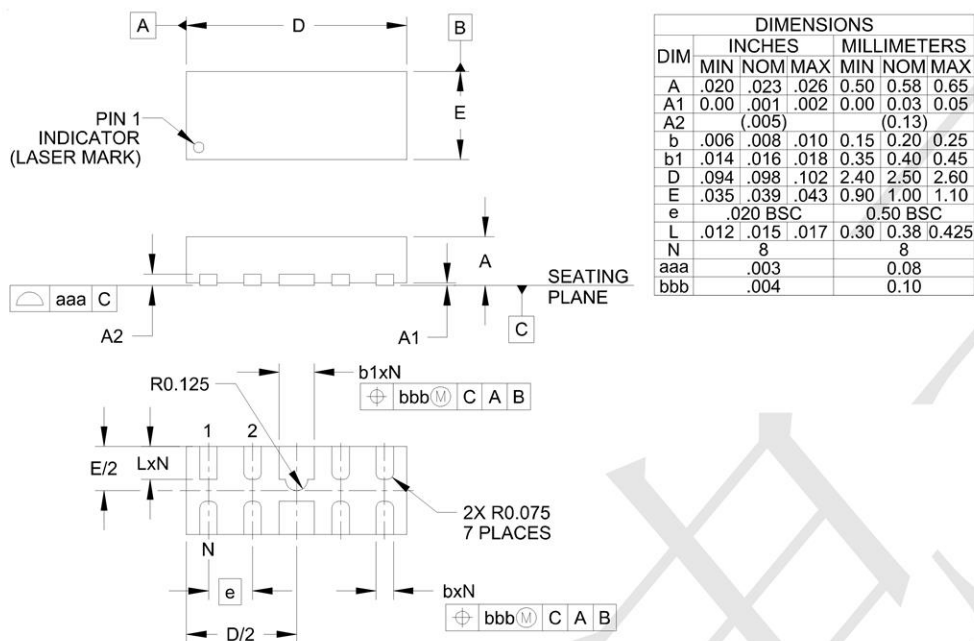
Fig3. Non - Repetitive Peak Pulse Power vs. Pulse Time



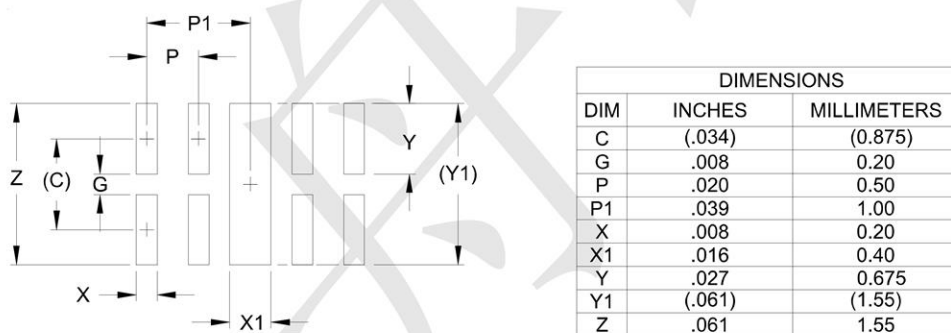
**Application Information**



### Outline Drawing - DFN2510-10



### Land Pattern - DFN2510-10



### Marking

Or



14= Device Code  
xyy= Date Code

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