

## Features

- ◆ 70 Watts Peak Pulse Power ( 8/20μs)
- ◆ Protects two or four I/O lines
- ◆ Low capacitance: 0.3 pF typical (I/O to I/O)
- ◆ Low operating voltage: 5V
- ◆ RoHS Compliant
- ◆ IEC61000-4-2 (ESD) ±20kV (air), ±15kV (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ IEC61000-4-5 (Lightning) 5A(8/20μs)

## 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

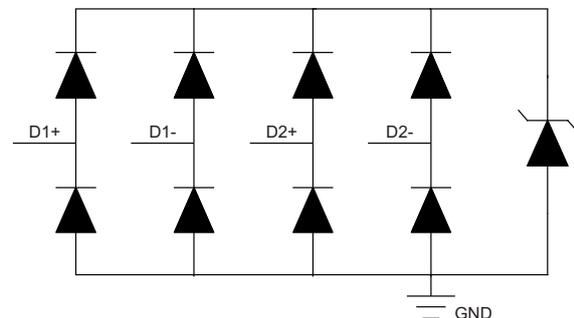
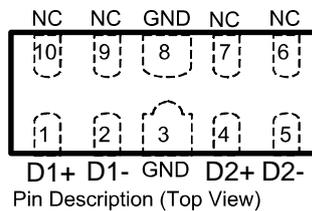
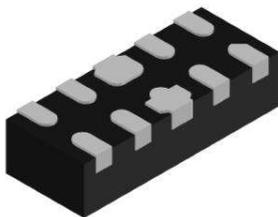
## Applications

- ◆ 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
TPD4E05U06DQAR-TP	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	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			5.5	V	Any I/O pin to ground
Breakdown Voltage	VBR	6.4	7.5	9.2	V	IT = 1mA, any I/O pin to ground
Reverse Leakage Current	IR		0.01	0.05	μA	VRWM = 5V, any I/O pin to ground
Clamping Voltage	VC			10	V	I <sub>PP</sub> = 1 A (8 x 20μs pulse), any I/O pin to ground
Clamping Voltage	VC			13	V	I <sub>PP</sub> = 5 A (8 x 20μs pulse), any I/O pin to ground
Junction Capacitance	CJ		0.3		pF	VR = 0V, f = 1MHz, between I/O pins
Junction Capacitance	CJ		0.6	0.8	pF	VR = 0V, f = 1MHz, any I/O pin to ground

## Characteristic Curves

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

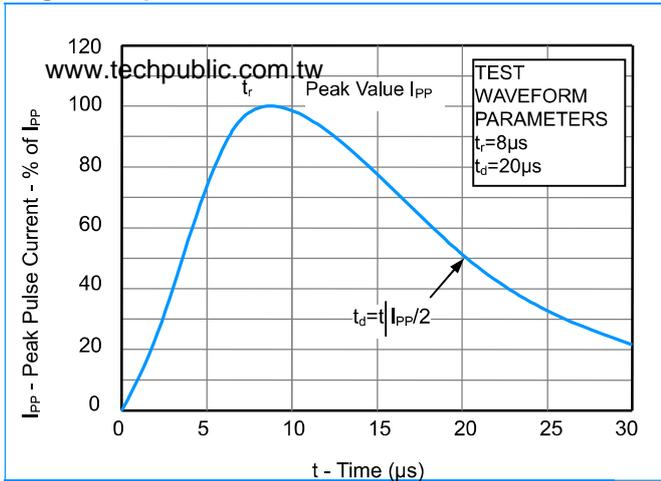


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

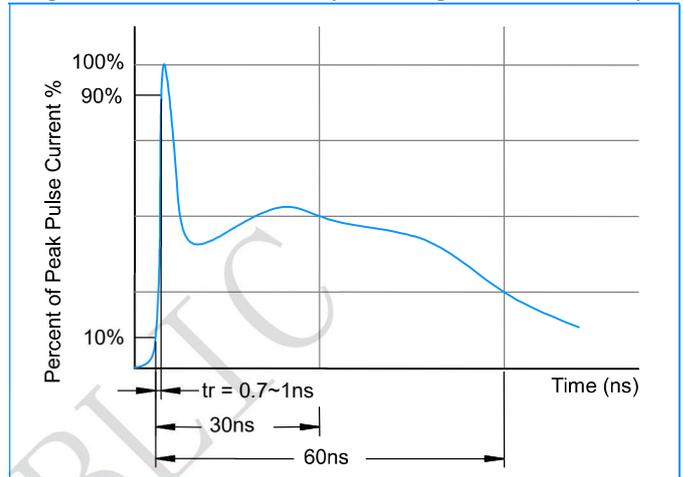
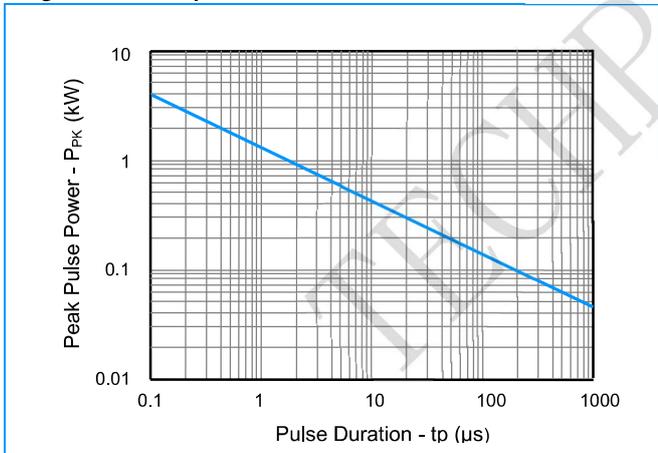
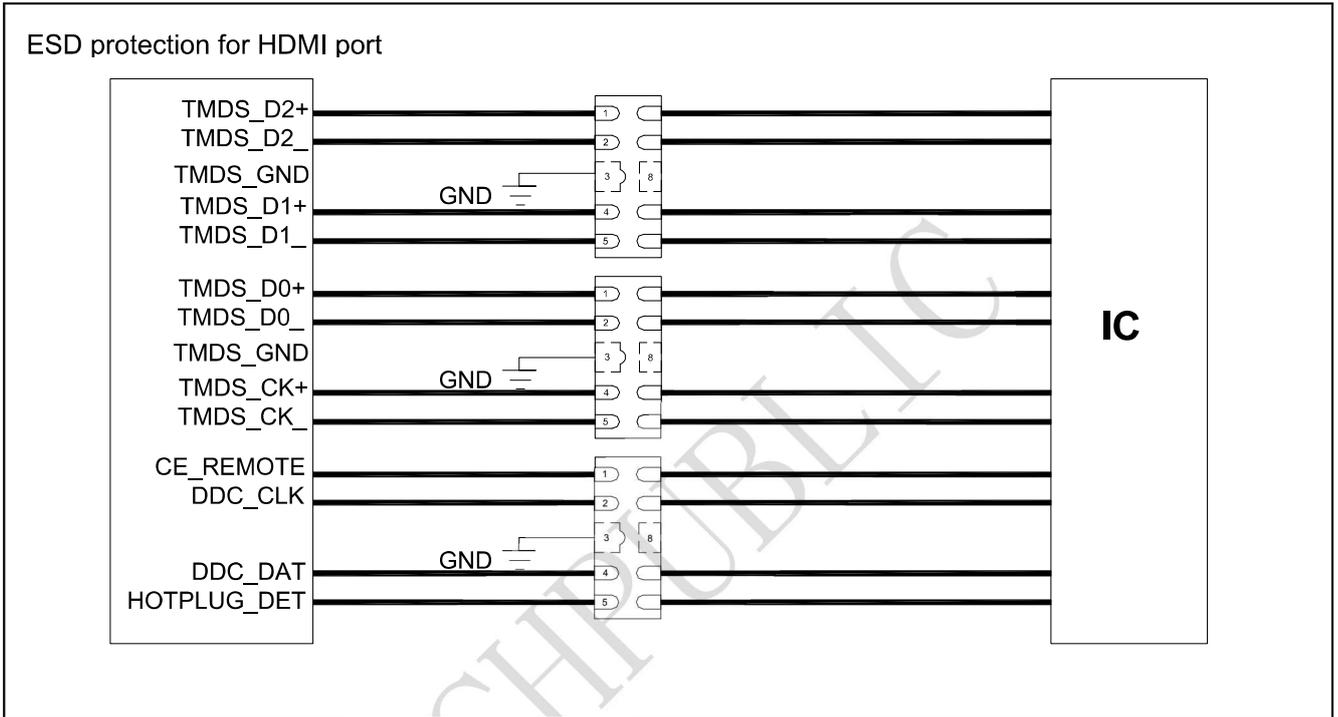


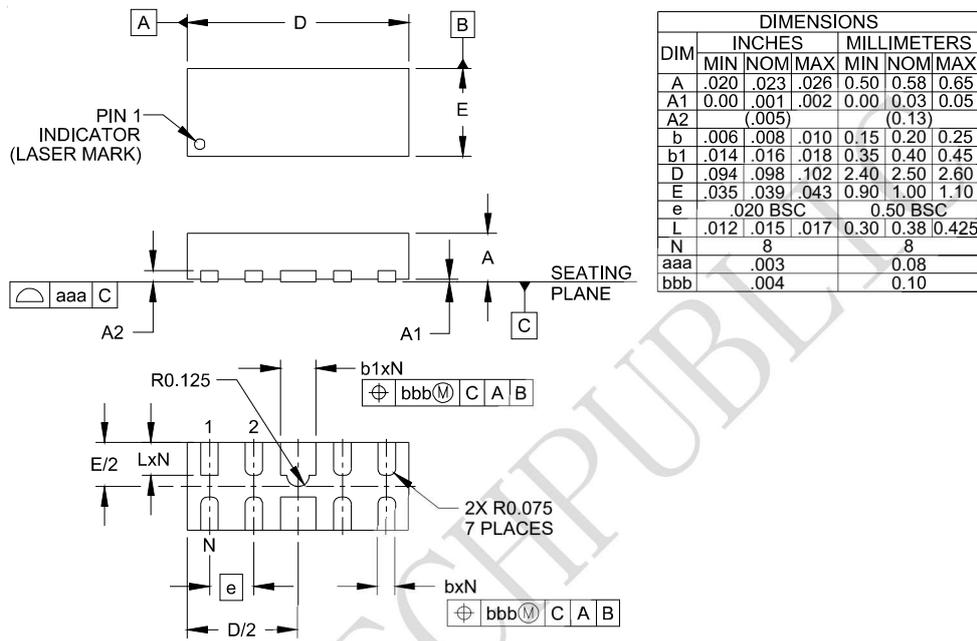
Fig3. Non - Repetitive Peak Pulse Power vs. Pulse Time



**Application Information**



**Outline Drawing - DFN2510-10**



**Land Pattern - DFN2510-10**

