

## Features

- ◆ Ultra low capacitance: 0.1 pF 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) : 6 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

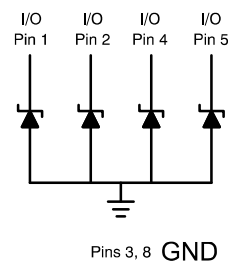
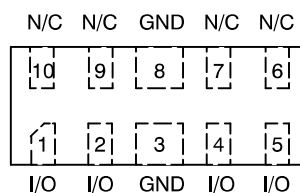
## Applications

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

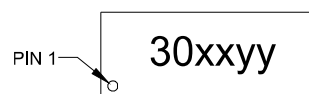
## Ordering Information

Part Number	Qty per Reel	Reel Size
TPESD8004MUTAG	3000	7"

## Dimensions and Pin Configuration



MARKING CODE:



30 = Specific Device Code  
xxyy = Date Code

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

Parameter	Symbol	Value	Unit
Peak Pulse Current (8/20μs)	Ipp	6	A
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	
Trigger Voltage	Vt1	6		9	V	IT = 1mA
Holding Voltage	Vh	2		3	V	Ih = 1mA
Reverse Leakage Current	IR			0.08	uA	VRWM = 3.3V
Clamping Voltage	VC		5		V	Ipp=6A(8x 20us pulse)
Clamping Voltage	VC		5.2		V	Ipp=8A(100ns pulse)
Clamping Voltage	VC		7.5		V	Ipp=16A(100ns pulse)
Junction Capacitance	CJ		0.18	0.3	pF	VR = 0V, f = 1MHz, Between IO and GND
Junction Capacitance	CJ		0.1	0.2	pF	VR = 0V, f = 1MHz, Between IO and IO

**Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)**

Fig1. 8/20 $\mu\text{s}$  Pulse Waveform

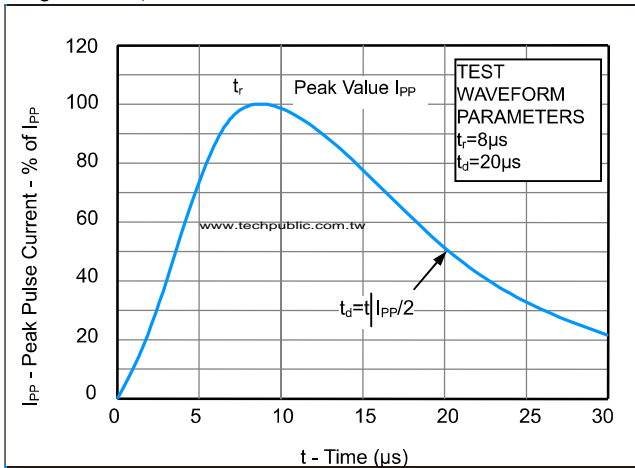


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

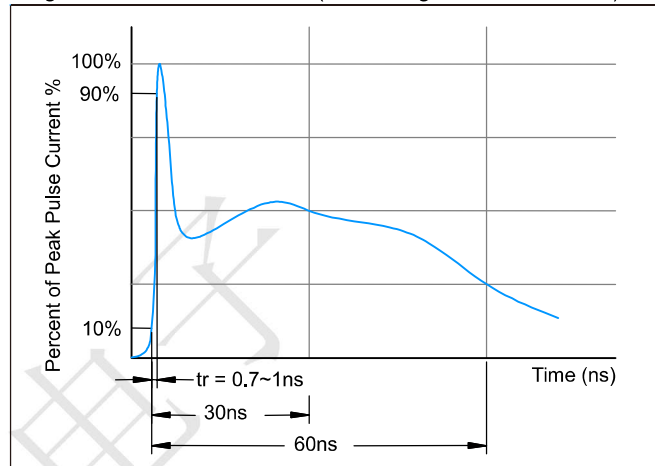
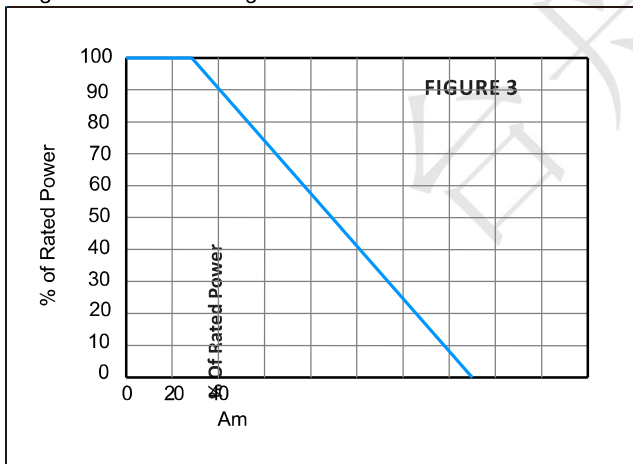
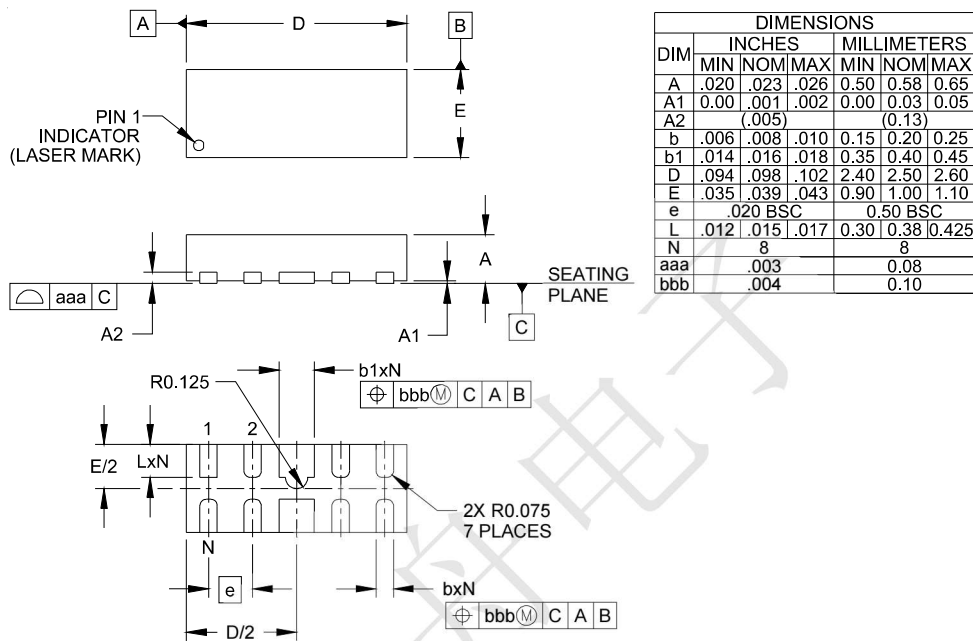


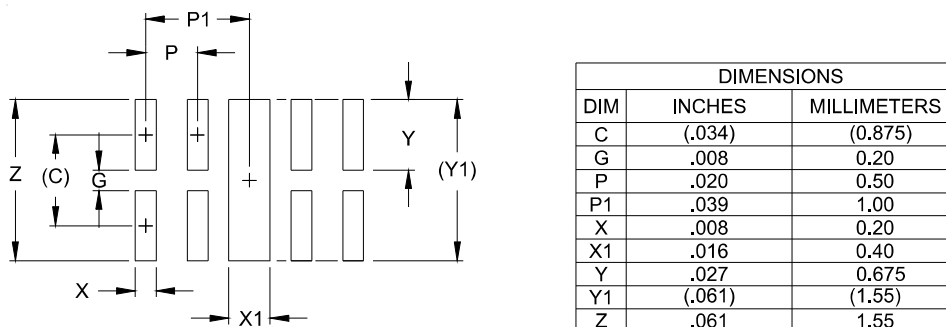
Fig3. Power Derating Curve



## Outline Drawing - DFN2510-10



## Land Pattern - DFN2510-10



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