

Features

- ◆ Ultra low capacitance: 0.1 pF typical (I/O to I/O)
- ◆ Ultra low leakage: nA level
- ◆ Low operating voltage: 1.5V
- ◆ 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: $\pm 20\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) : 4 A(8/20 μs)
- ◆ ROHS Compliant

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

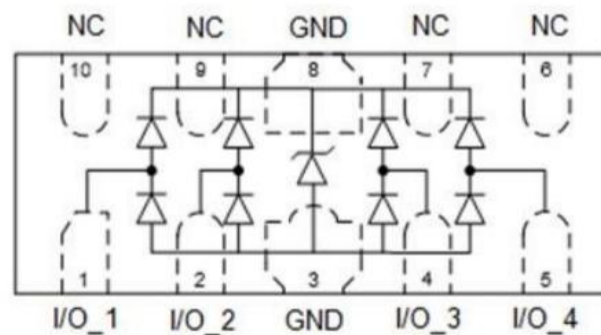
Applications

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

Ordering Information

Part Number	Qty per Reel	Reel Size
TPAZ176S-04F	3000	7"

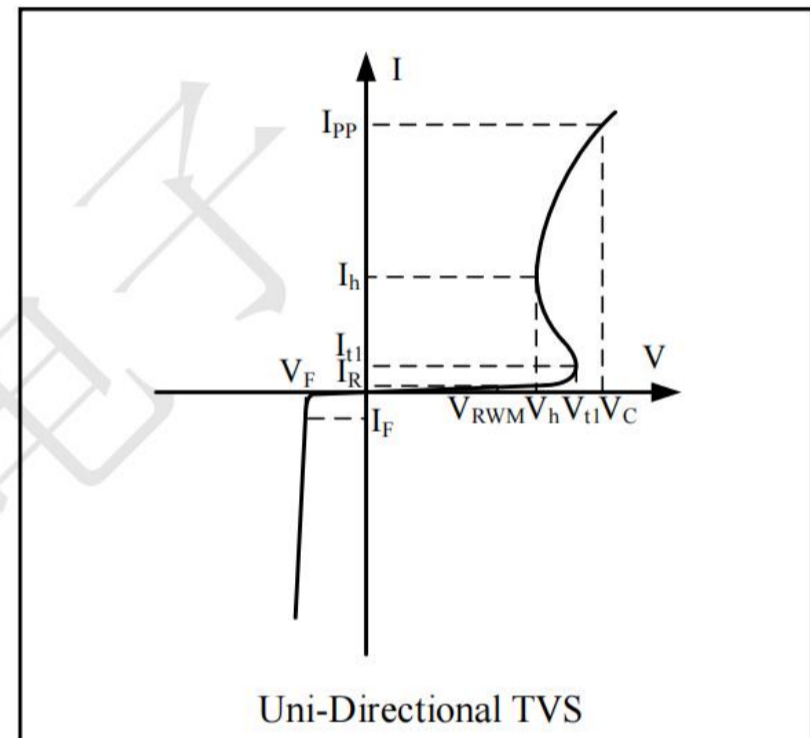
Dimensions and Pin Configuration



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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20µs)	Ppk	80	W
Peak Pulse Current (8/20µs)	IPP	4	A
ESD per IEC 61000-4-2 (Air)	VESD	± 20	kV
ESD per IEC 61000-4-2 (Contact)		± 20	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

Symbol	Parameter
V_{RWM}	Nominal Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{t1}	Trigger Voltage
I_{t1}	Trigger Current @ V_{t1}
V_h	Holding Voltage
I_h	Holding Current @ V_h
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Maximum Peak Pulse Current
V_F	Forward Voltage @ I_F
C_{ESD}	Parasitic Capacitance



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

Symbol	Min	Typ	Max	Unit	Test Condition
V_{RWM}			1.5	V	Any I/O pin to ground
V_h	1.6		2.3	V	$I_T = 1mA$, any I/O pin to ground
I_R			0.1	µA	$V_{RWM} = 1.5V$, any I/O pin to ground
V_{t1}	3.0		4.0	V	$I_{PP} = 1A$ (8 x 20µs pulse), any I/O pin to ground
V_C		3		V	$I_{PP} = 4A$ (8 x 20µs pulse), any I/O pin to ground
V_C		4.7		V	$I_{PP} = 16.0A$, $t_p = 100ns^{(1)}$ any I/O pin to ground
C_J		0.17		pF	$V_R = 0V$, $f = 1MHz$, between I/O pins
C_J		0.1	0.15	pF	$V_R = 0V$, $f = 1MHz$, any I/O pin to ground

Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

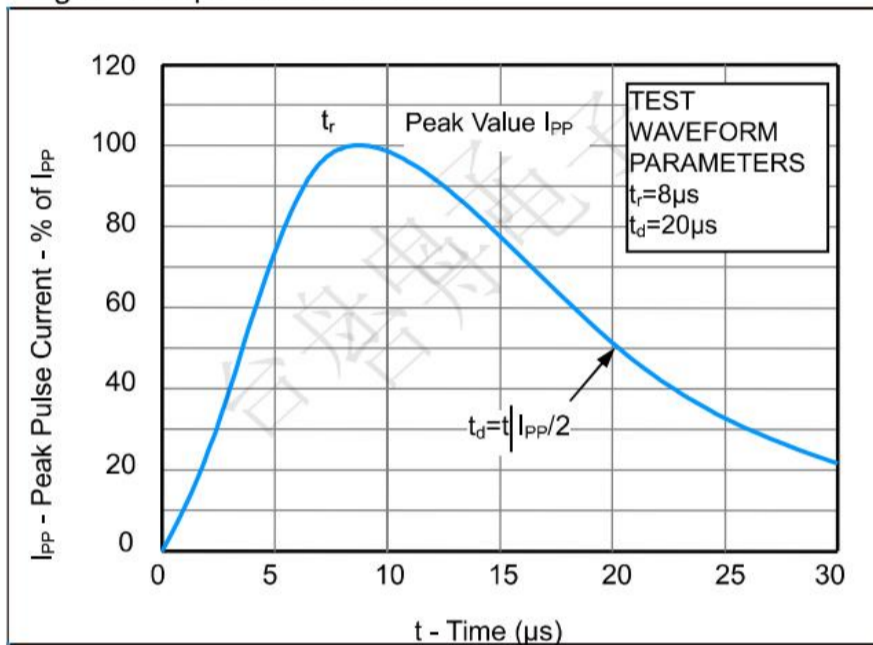


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

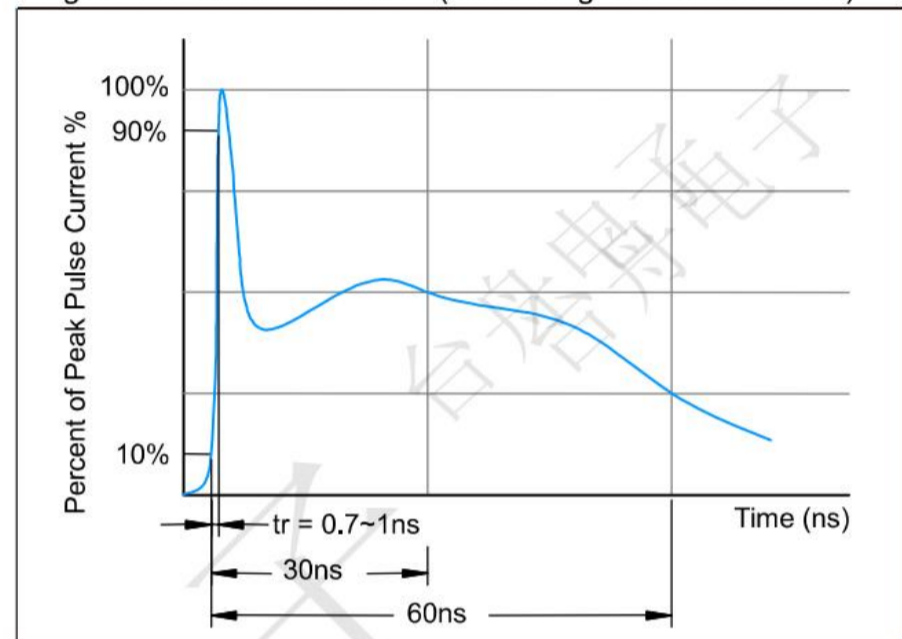
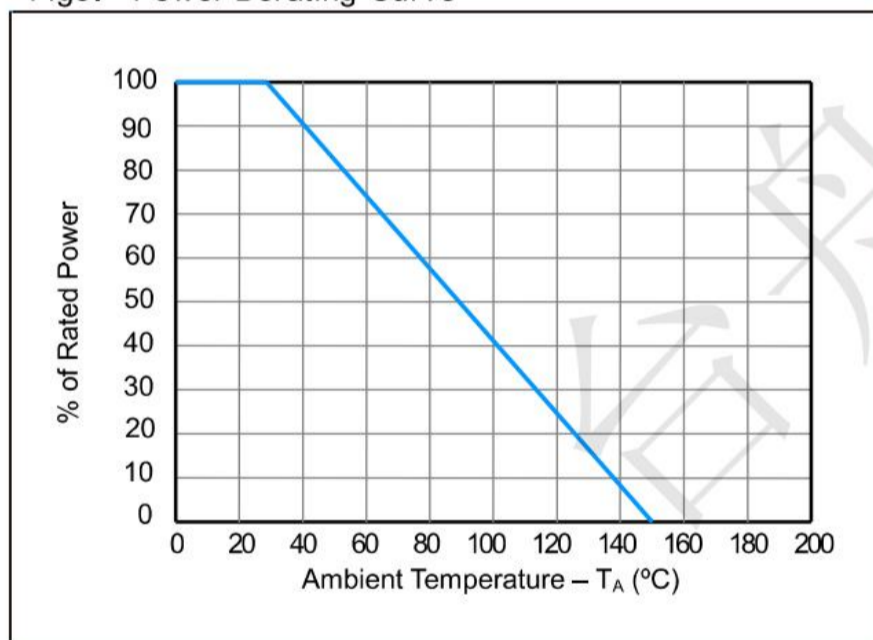
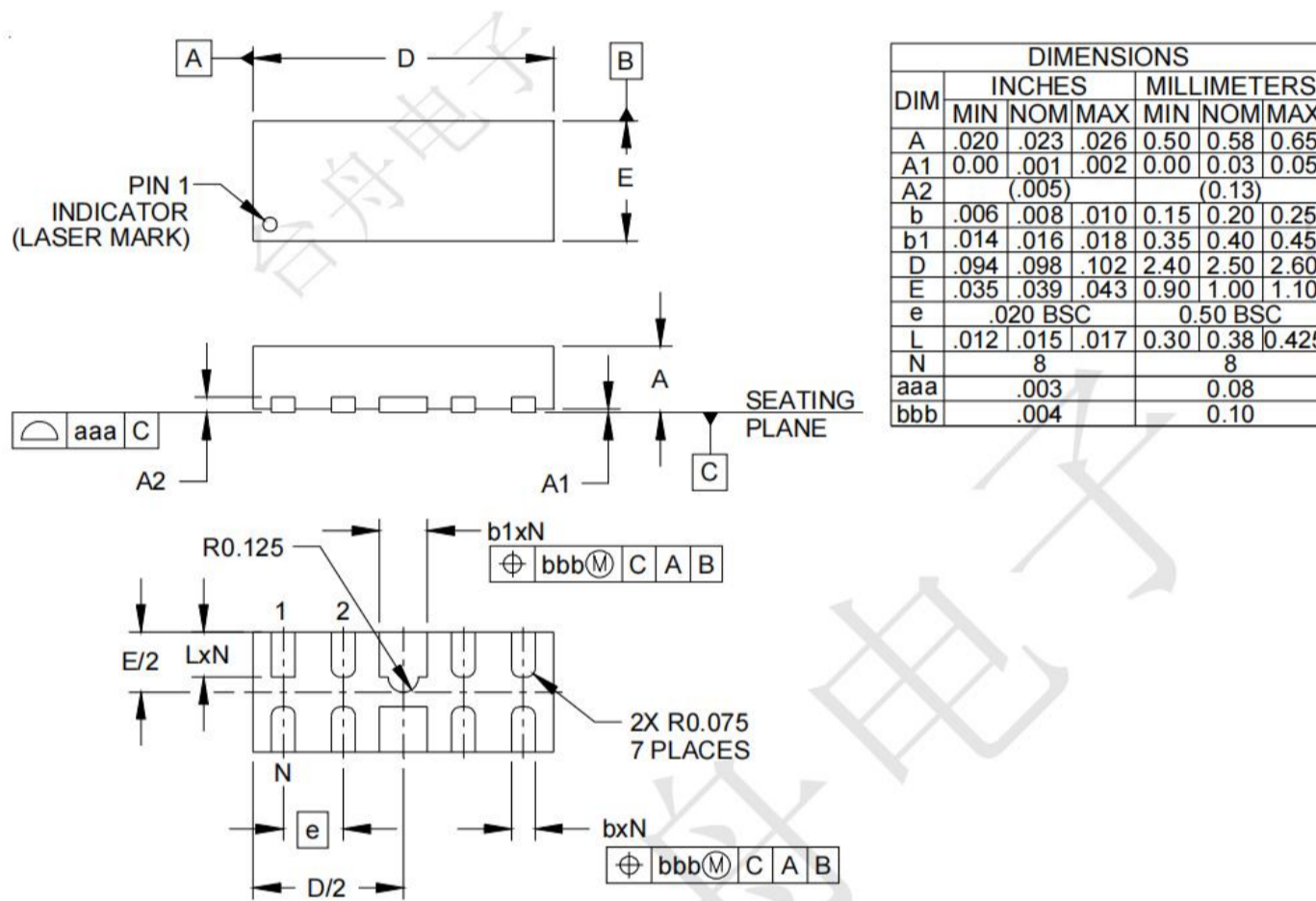


Fig3. Power Derating Curve



Outline Drawing - DFN2510-10



Land Pattern - DFN2510-10

