



TPESD5304D-10

Ultra Low Capacitance TVS Arrays

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Features

- u 150 Watts Peak Pulse Power per Line (tp=8/20μs)
- u Protects two or four I/O lines
- u Low capacitance: 0.3pF typical (I/O to I/O)
- u Low operating voltage: 5V
- u RoHS Compliant
- u IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- u IEC61000-4-4 (EFT) 40A (5/50ns)
- u IEC61000-4-5 (Lightning) 5A (8/20μs)

Ordering Information

Part Number	Qty per Reel	Reel Size
TPESD5304D-10	3000	7"

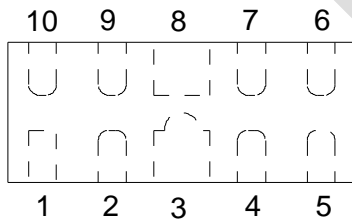
Mechanical Characteristics

- u Package: DFN2510-10 (2.5×1.0×0.5mm)
- u Lead Finish: Matte Tin
- u Case Material: "Green" Molding Compound.
- u UL Flammability Classification Rating 94V-0
- u Moisture Sensitivity: Level 3 per J-STD-020
- u Terminal Connections: See Diagram Below

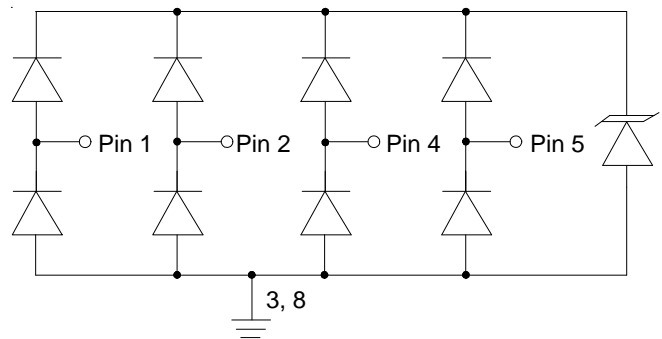
Applications

- 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

Dimensions and Pin Configuration



Pin	Identification
1, 2, 4, 5	Input Lines
6, 7, 9, 10	Output Lines (No Internal Connection)
3, 8	Ground



4-Line Protection

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	150	W
Peak Pulse Current (8/20μs)	I _{PP}	5	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 15	kV
ESD per IEC 61000-4-2 (Contact)		± 8	
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

Electrical Characteristics (TA=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			V	I _T = 1mA, any I/O pin to ground
Reverse Leakage Current	I _R		0.01	0.5	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			16	V	I _{PP} = 5A (8 x 20μs pulse), any I/O pin to ground
Junction Capacitance	C _J		0.3	0.4	pF	V _R = 0V, f = 1MHz, between I/O pins
Junction Capacitance	C _J			0.8	pF	V _R = 0V, f = 1MHz, any I/O pin to ground

Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

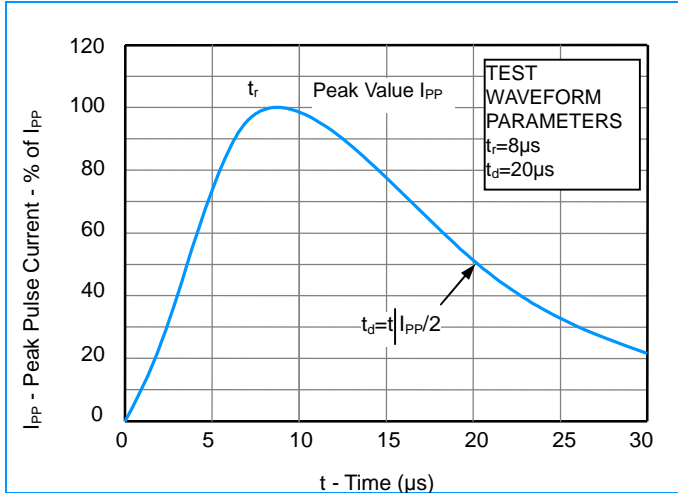


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

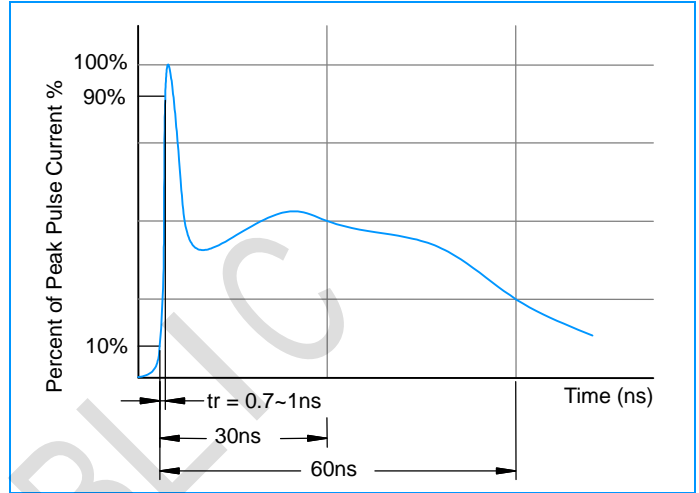


Fig3. Non - Repetitive Peak Pulse Power vs. Pulse Time

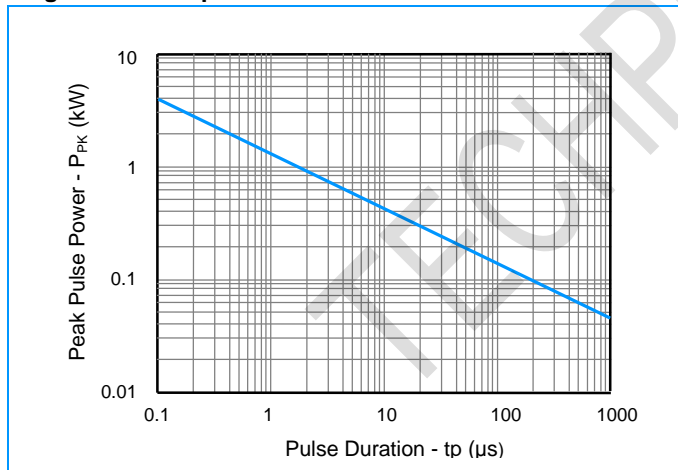
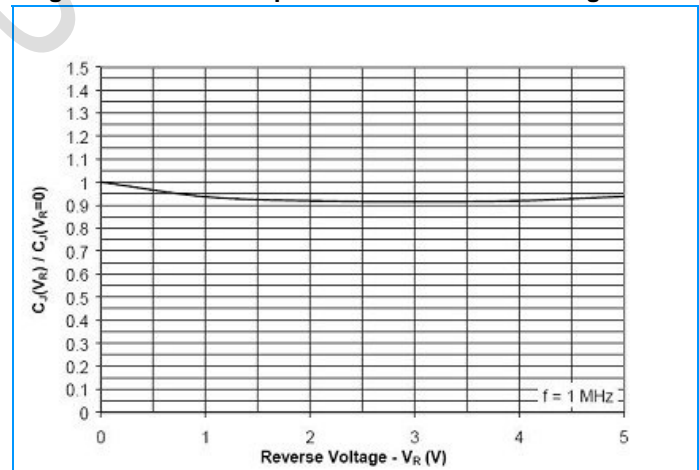
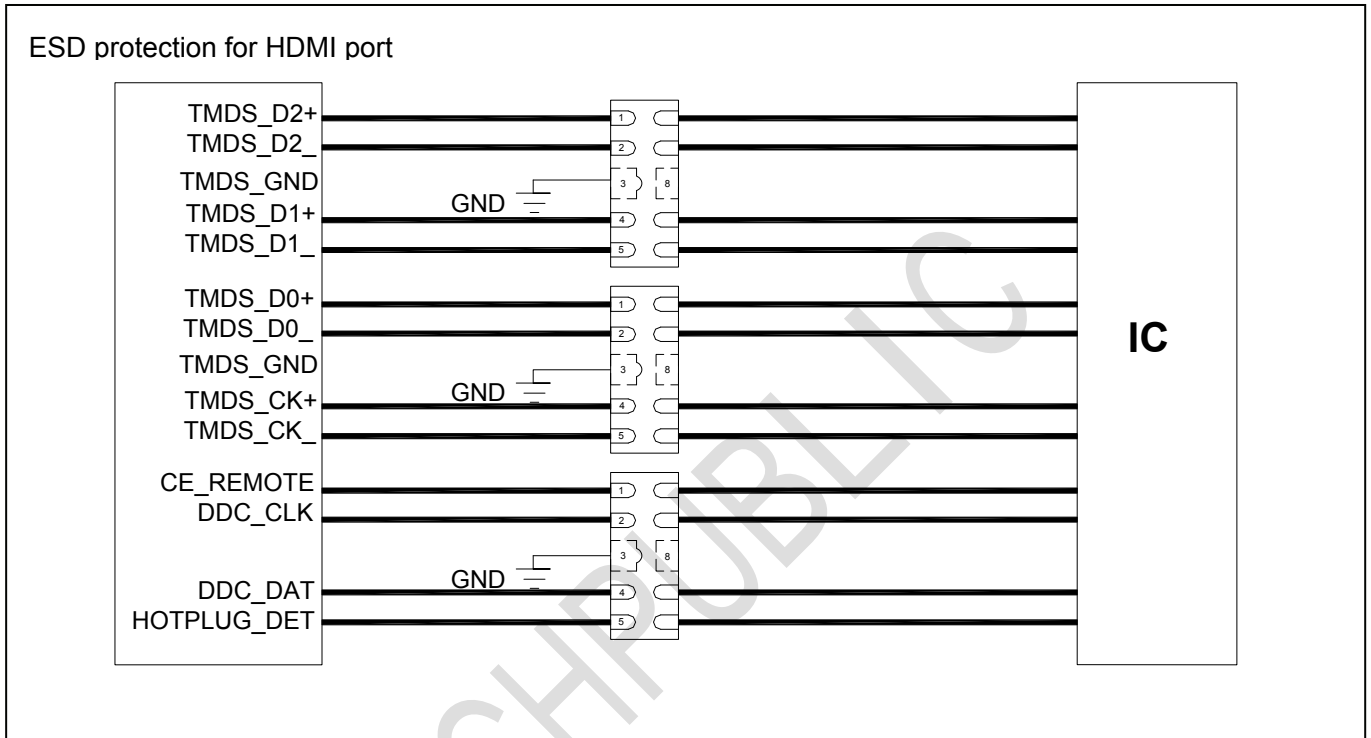


Fig4. Normalized Capacitance vs. Reverse Voltage

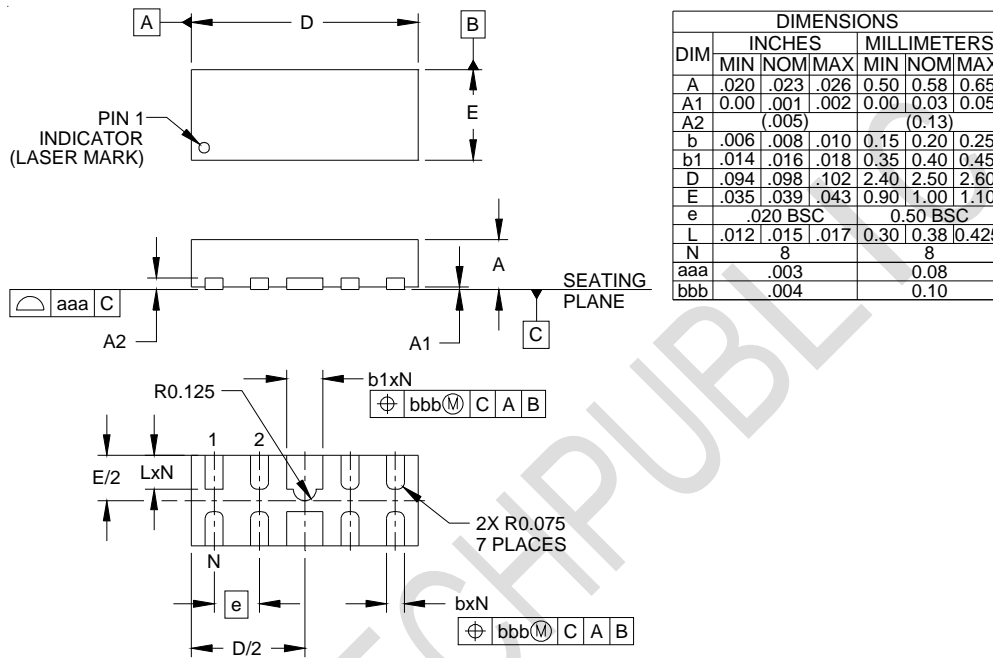


Application Information

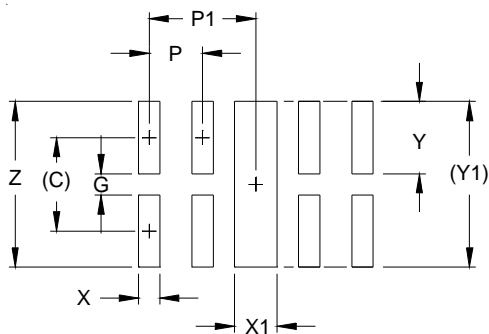
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Outline Drawing - DFN2510-10



Land Pattern - DFN2510-10



DIM	DIMENSIONS	
	INCHES	MILLIMETERS
C	(.034)	(0.875)
G	.008	0.20
P	.020	0.50
P1	.039	1.00
X	.008	0.20
X1	.016	0.40
Y	.027	0.675
Y1	(.061)	(1.55)
Z	.061	1.55