

APPLICATIONS

- USB2.0,USB3.0,Ethernet
- HDMI1.4,Displayport 1.3,eSATA
- Unified Display Interface
- Digital Visual Interface
- High Speed Serial Interface

IECCOMPATIBILITY

- IEC61000-4-2 (ESD) $\pm 14\text{kV}$ (air), $\pm 12\text{kV}$ (contact)
- IEC61000-4-5 (Lightning) $4.0\text{A}(8/20\mu\text{s})$

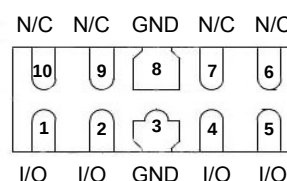
FEATURES

- 40.0 Watts Peak Pulse Power per Line ($t_p=8/20\mu\text{s}$)
- Protects Four I/O lines
- Operating Voltage: 5.0V
- Ultra Low Capacitance: 0.7pF typical (I/O to GND)
- Weight: 8.0mg

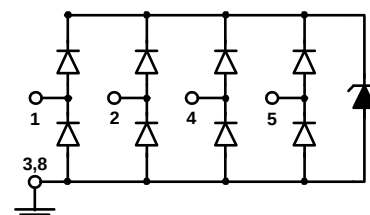
MECHANICALCHARACTERISTICS

- DFN2510P10 PACKAGE INFORMATION
- Quantity Per Reel : 3,000pcs
- Reel Size : 7 inch
- Lead Finish : Lead Free
- Marking : 1175

DFN-2510



PIN CONFIGURATION



Absolute maximum rating@25°C

Rating	Symbol	Value	Unit
Peak Pulse Power ($t_P = 8/20\mu\text{s}$)	Ppp	40	W
Lead Solder Temperature –Maximum (10 Seconds)	TL	260	°C
Operating Junction Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

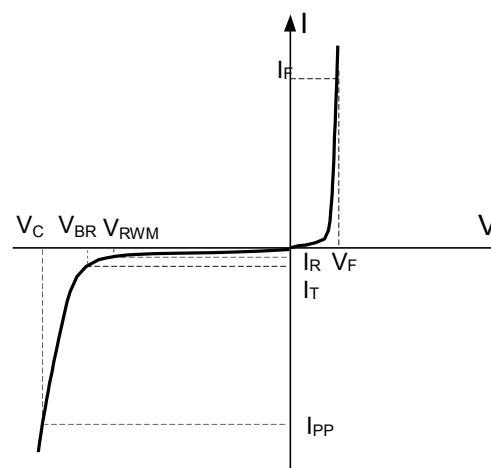
Electrical characteristics (TA=25 °C, unless otherwise noted)

Parameter	Symbol	Conditions	Min.	TYP.	Max.	Units
Reverse stand-off voltage	V_{RWM}				5.0	V
Reverse leakage current	I_R I/O to GND	$V_{RWM}=5V$			0.5	uA
Reveres breakdown voltage	V_{BR} I/O to GND	$I_T=1mA$	6.0	7.5		V
Reveres breakdown voltage	V_{BR} I/O to I/O	$I_T=1mA$		0.9		V
Forward Voltage	V_F GND to I/O	$I_T=15.0mA$		0.7	1.2	V
ESD Clamping Voltage	V_{clamp}	IEC 6100-4-2		12.0		V
ESD Dynamic Turn-on Resistance	$R_{dynamic}$	IEC 6100-4-2 -+8kV I/O-GND,Contact mode		0.3		Ω
Clamping voltage	V_C I/O to GND	$I_{PP}=1A(8/20us)$		9.0		V
		$I_{pp}= 4A(8/20us)$		10.0		V
Junction capacitance	C_J I/O to GND	$V_R=0V$ f=1MHz		0.6	1.0	pF
Junction capacitance	C_J I/O to I/O	$V_R=0V$ f=1MHz		0.3	0.5	pF

ELECTRICAL CHARACTERISTICS

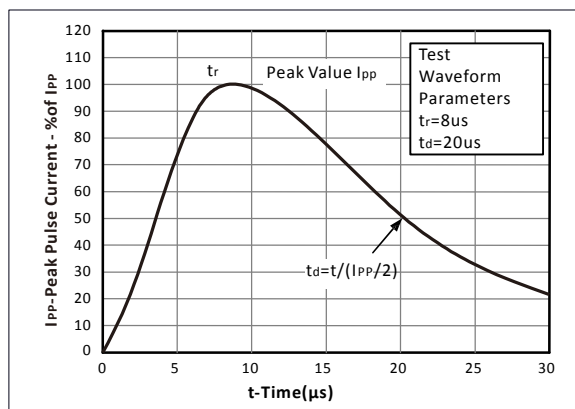
(TA = 25°C unless otherwise noted)

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
P_{PP}	Peak Pulse Power
C_J	Junction Capacitance
I_F	Forward Current
V_F	Forward Voltage @ I_F

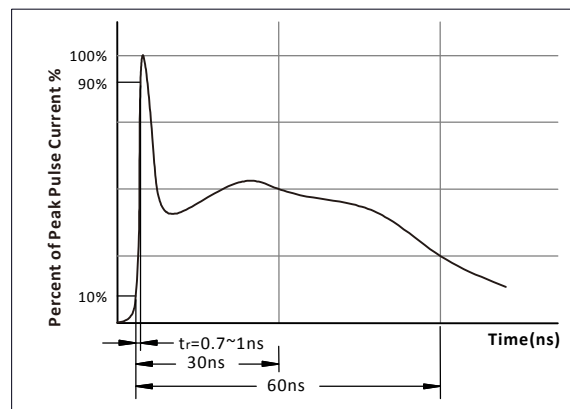


Uni -Directional TVS

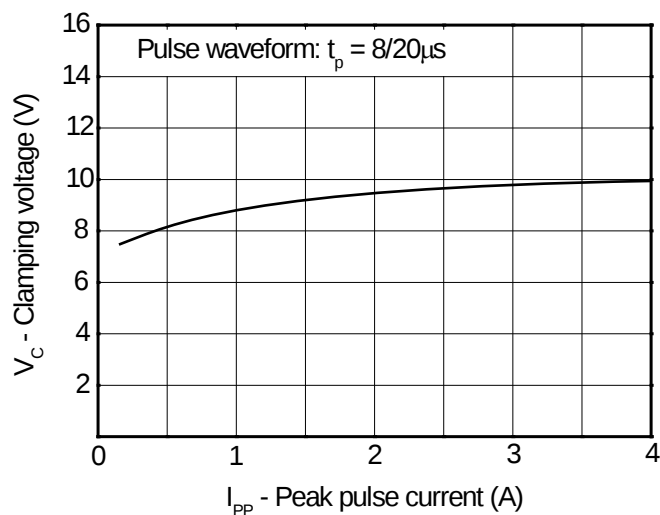
Typical characteristics ($T_A=25^\circ\text{C}$, unless otherwise noted)



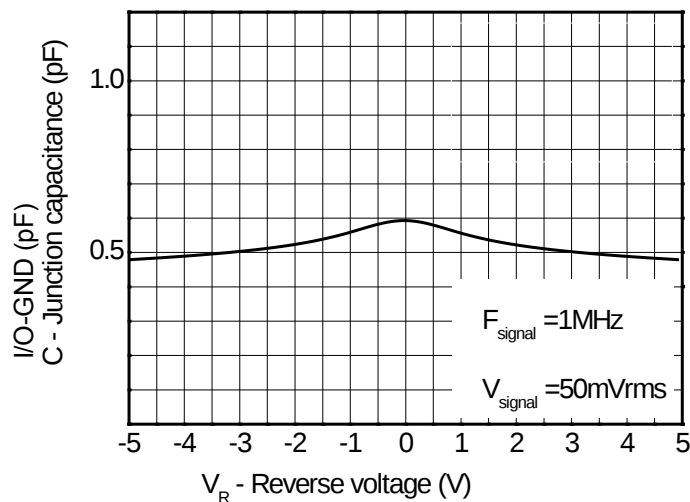
8/20 μs Pulse Waveform



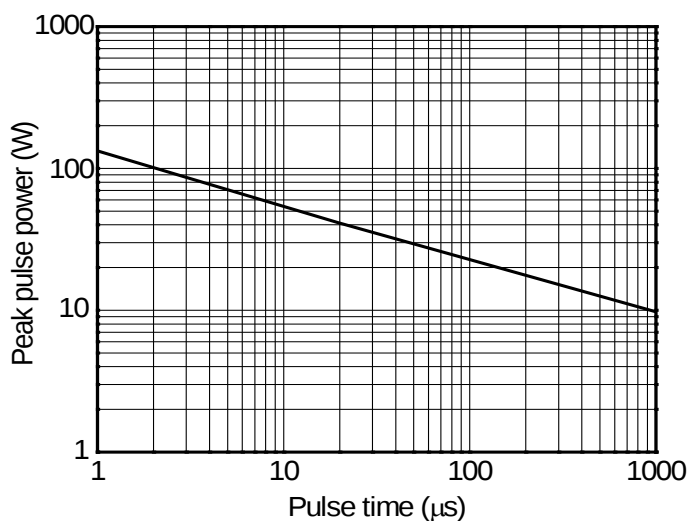
ESD Pulse Waveform (according to IEC 61000 4 2)



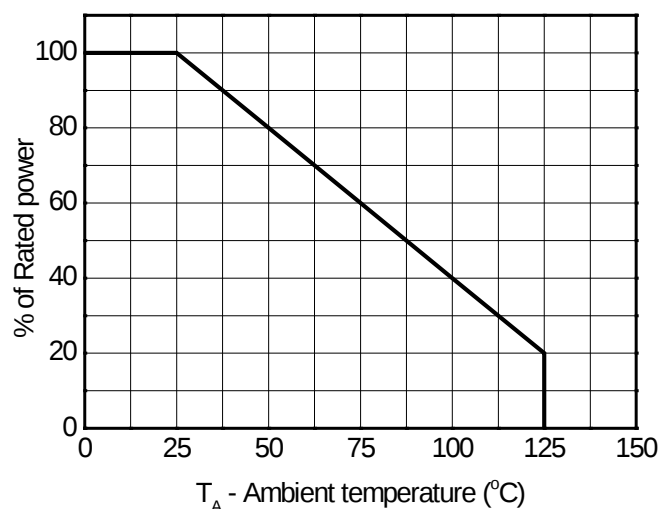
Clamping voltage vs. Peak pulse current



Capacitance vs. Reverse voltage

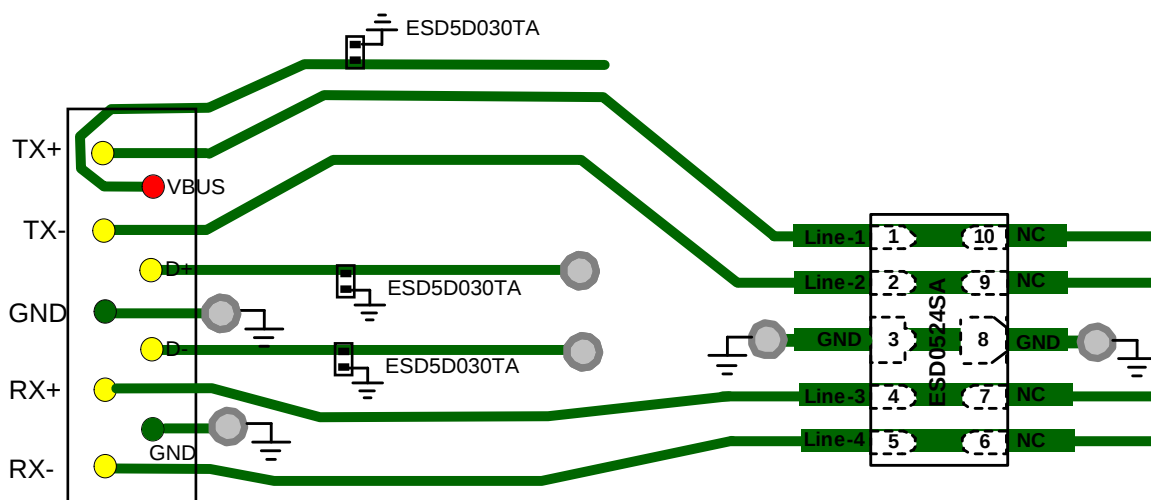
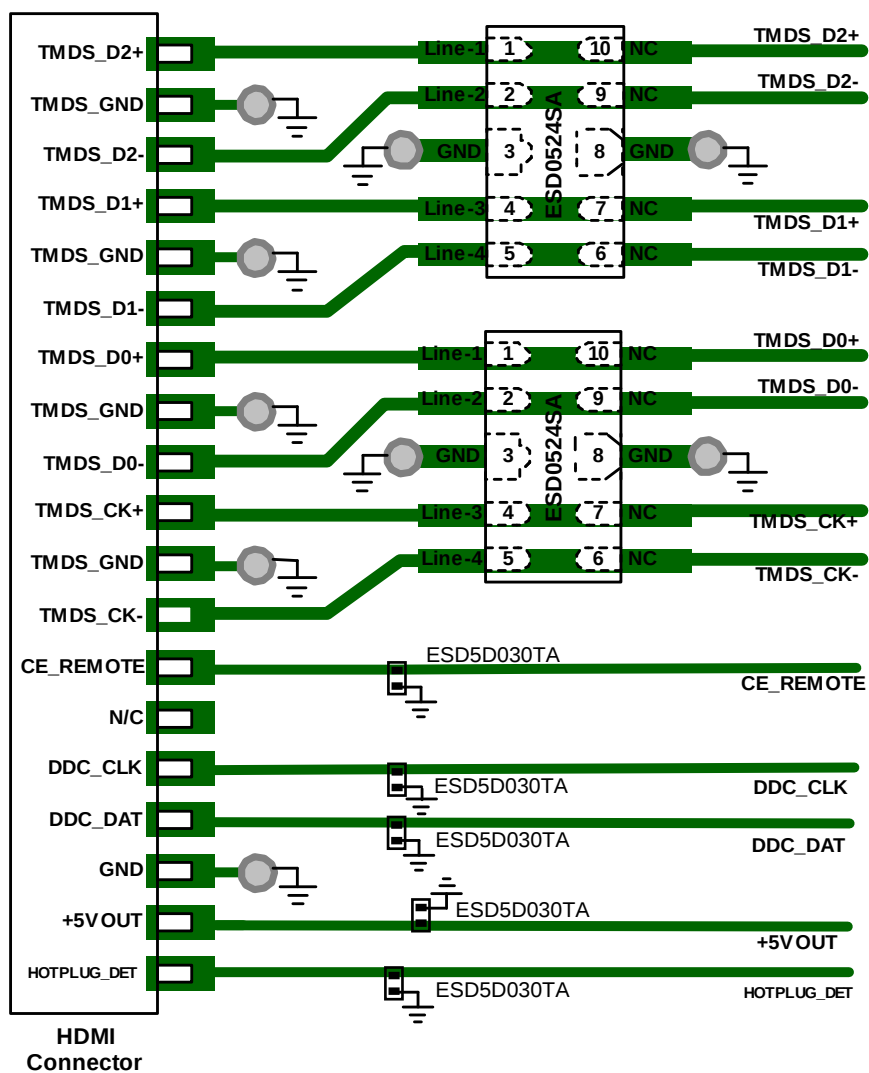


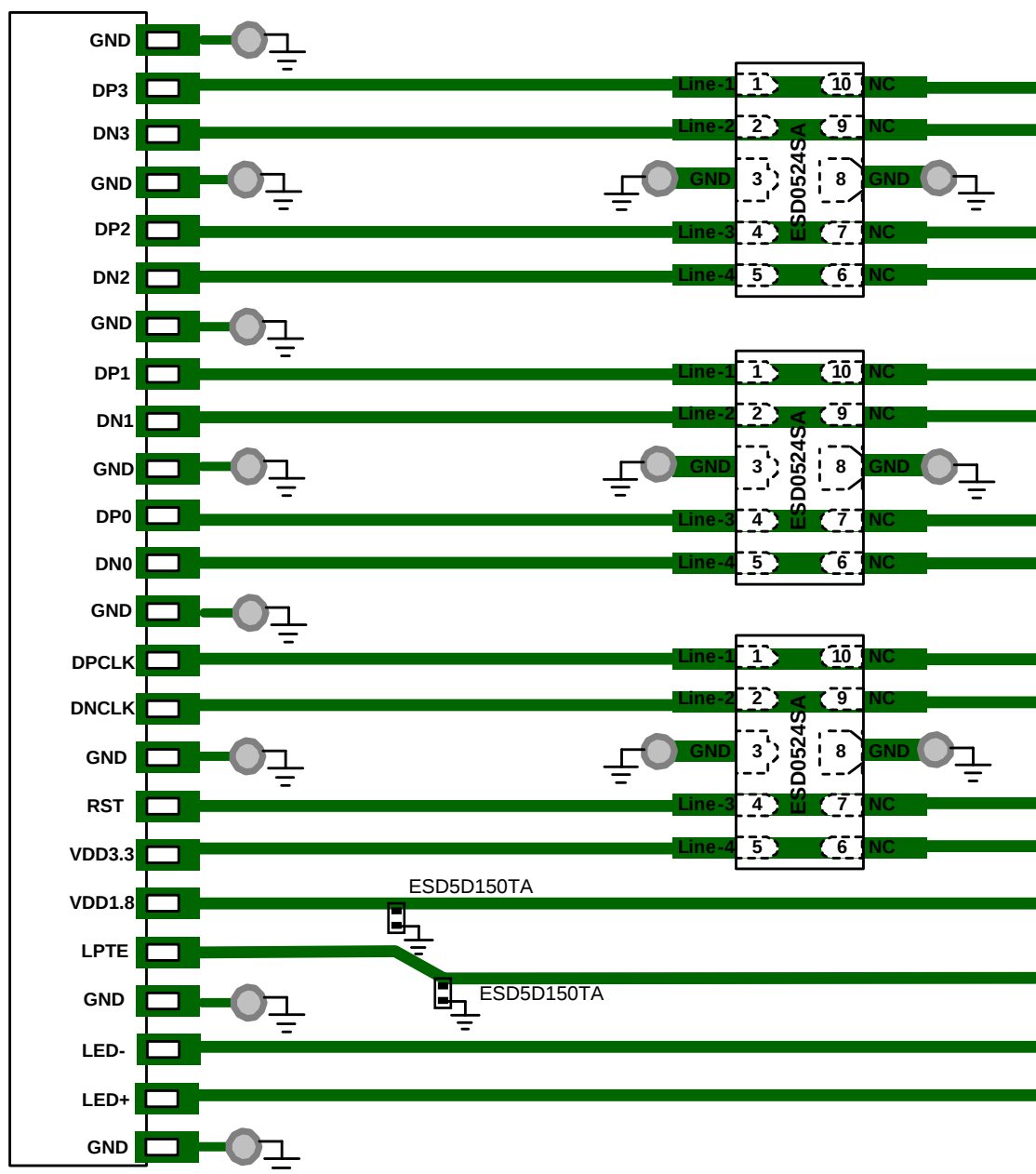
Non-repetitive peak pulse power vs. Pulse time



Power derating vs. Ambient temperature

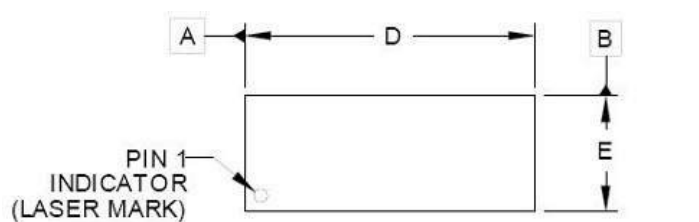
APPLICATION INFORMATION



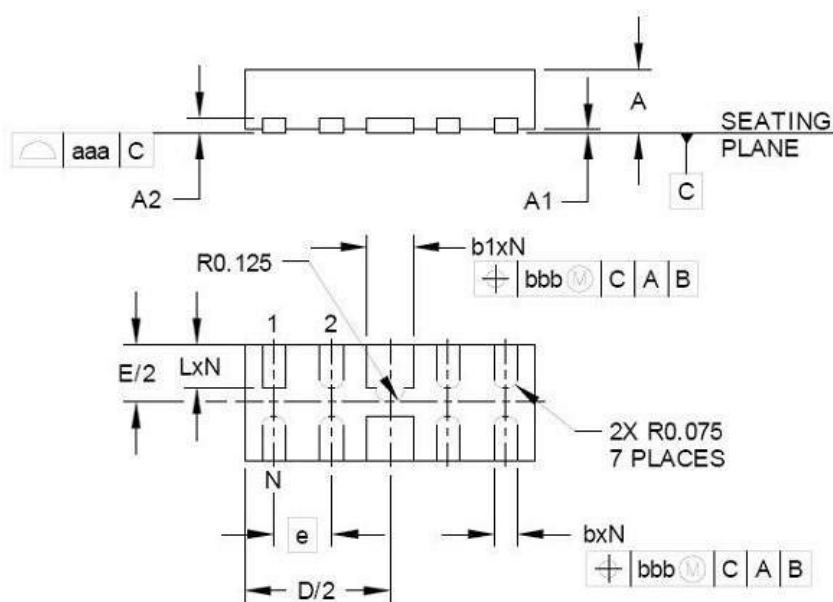


MIPI Protection circuit

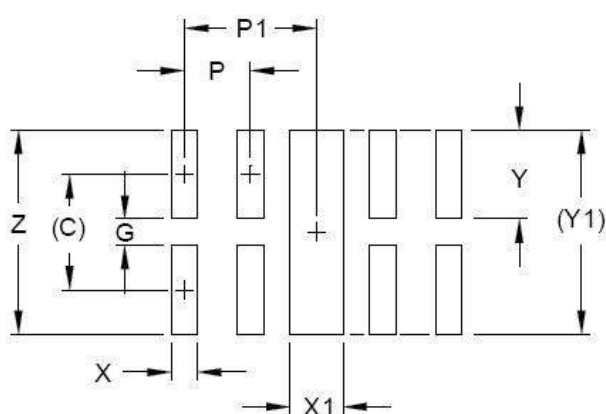
DFN2510PACKAGEOUTLINE DIMENSIONS



DIM	DIMENSIONS					
	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.020	.023	.026	0.50	0.58	0.65
A1	0.00	.001	.002	0.00	0.03	0.05
A2		(.005)			(0.13)	
b	.006	.008	.010	0.15	0.20	0.25
b1	.014	.016	.018	0.35	0.40	0.45
D	.094	.098	.102	2.40	2.50	2.60
E	.035	.039	.043	0.90	1.00	1.10
e	.020 BSC			0.50 BSC		
L	.012	.015	.017	0.30	0.38	0.425
N	10			10		
aaa	.003			0.08		
bbb	.004			0.10		



*SOLDERINGFOOTPRINT



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