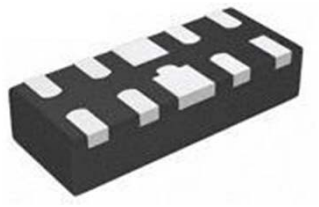
EZ0P33P2NA

Four Channel Ultra-Low Capacitance TVS Array



DFN2510-10L

Features

- Reverse Working Voltage：3.3V
- Ultra-Low Capacitance：0.28pF (typ.)
- IEC 61000-4-2 (ESD)：±15kV (air)
- IEC 61000-4-2 (ESD)：±14kV (contact)
- IEC 61000-4-4 (EFT)：40A (5/50ns)
- IEC 61000-4-5 (Surge)：6A (8/20μs)

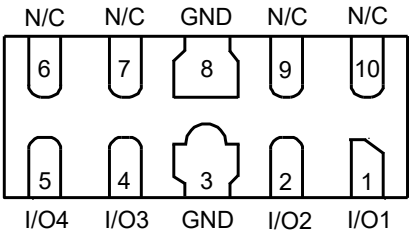
Application

- V-By-One Interface
- SATA / eSATA Interface
- USB 3.0 / 3.1
- Thunderbolt Interface
- Display Ports Interface

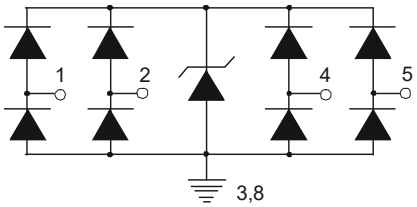
Pinning Information

Pin	Symbol	Description
1	I/O 1	Channel 1 ESD protection
2	I/O 2	Channel 2 ESD protection
3	GND	Ground
4	I/O 3	Channel 3 ESD protection
5	I/O 4	Channel 4 ESD protection
6	N.C	Not connected
7	N.C	Not connected
8	GND	Ground
9	N.C	Not connected
10	N.C	Not connected

Simplified outline



Graphic symbol



Ordering Information

Part No.	Remark	Package	Packing
EZ0P33P2NA-H	Halogen Free	DFN2510-10L	3000 / Tape & Reel

Maximum Ratings (TA=25°C unless otherwise noted)

Parameter	Symbol	Test conditions	Limit	Unit
ESD Rating per IEC 61000-4-2	V_{ESD}	Contact	±14	kV
		Air	±15	
Peak Pulse Current	I_{PP}	tp = 8/20 μs	6	A
Operating Temperature Range	T_J		-55~+ 105	°C
Storage Temperature Range	T_{STG}		-55~+ 150	°C

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

Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Reverse Working Voltage	V_{RWM}	I/O Pin to GND	-	-	3.3	V
Breakdown Voltage	V_{BR}	I_T=1mA, I/O Pin to GND	6.5	-	16	V
Forward Voltage	V_F	I_F=15mA, I/O Pin to GND	-	1	-	V
Reverse Leakage Current	I_R	V_{RWM}=3.3V, I/O Pin to GND	-	-	1	uA
Surge Clamping Voltage (tp=8/20us)	V_C	I_{PP}=5A, I/O Pin to GND	-	11.5	-	V
TLP Clamping Voltage (tp=100ns, tr=1ns)	V_C	I_{TLP}=1A, I/O Pin to GND	-	2.5	-	V
		I_{TLP}=16A, I/O Pin to GND	-	5.5	-	
TLP Dynamic Resistance (tp=100ns, tr=1ns)	R_{DYN}	I/O Pin to GND	-	0.2	-	Ω
Junction Capacitance	C_J	V_R=1.5V, f=1MHz, I/O Pin to GND	-	0.28	0.33	pF
		V_R=1.5V, f=1MHz, Between I/O Pin	-	0.05	0.1	

Rating and Characteristics Curves

FIG. 1-Junction Capacitance (I/O Pin to GND)

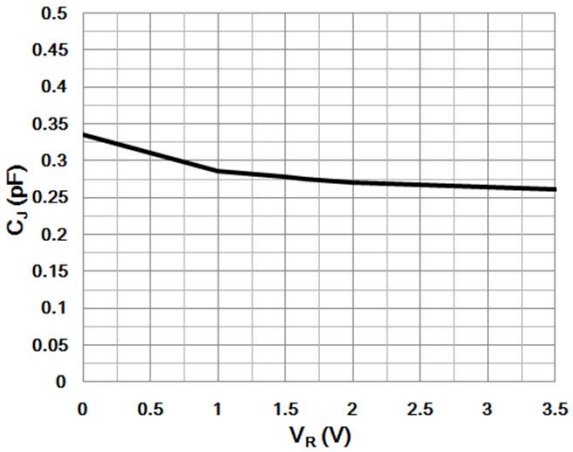
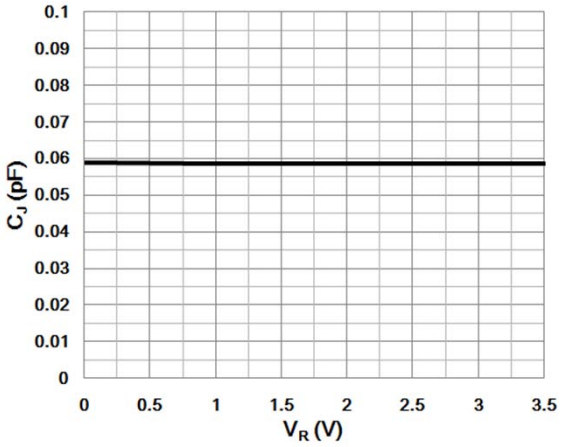


FIG. 2-Junction Capacitance (I/O Pin to I/O Pin)



Rating and Characteristics Curves

FIG. 3-Surge Clamping Voltage

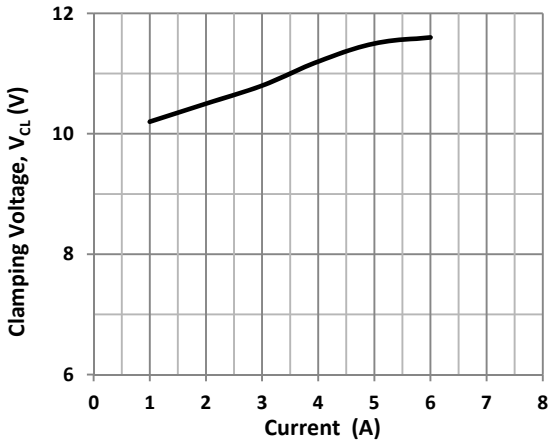


FIG. 4-TLP Clamping Voltage (tperiod=100ns,tr=1ns)

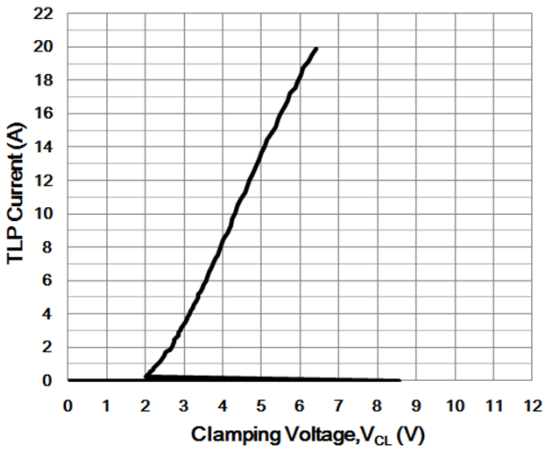


FIG. 5-10Gb/s USB3.1 Gen2 Eye Diagram with EZ0P33P2NA

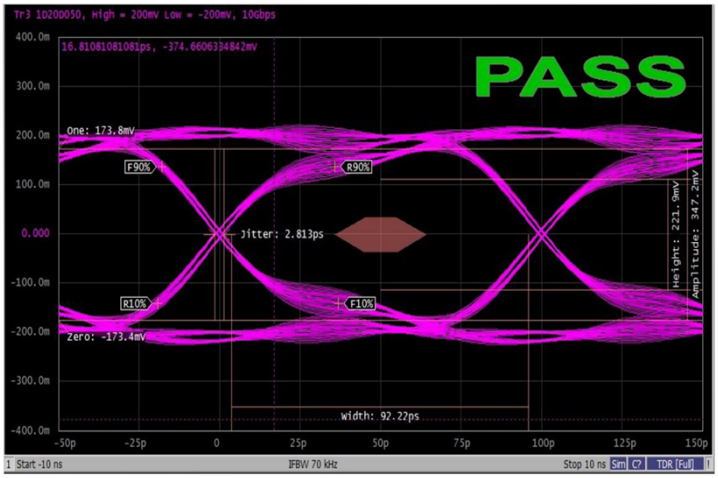
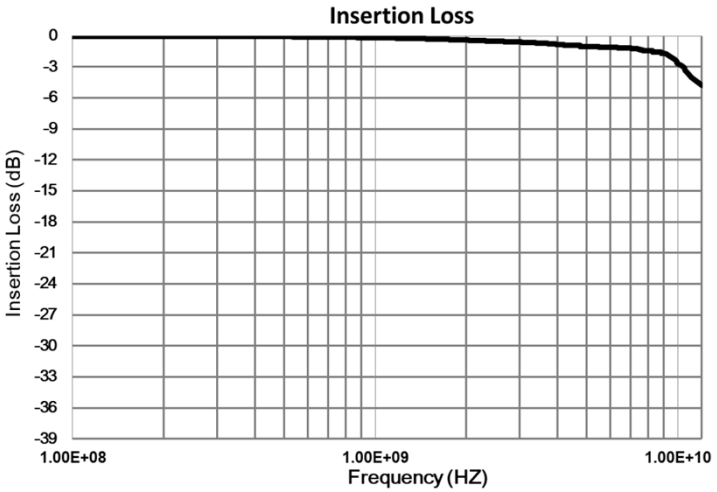
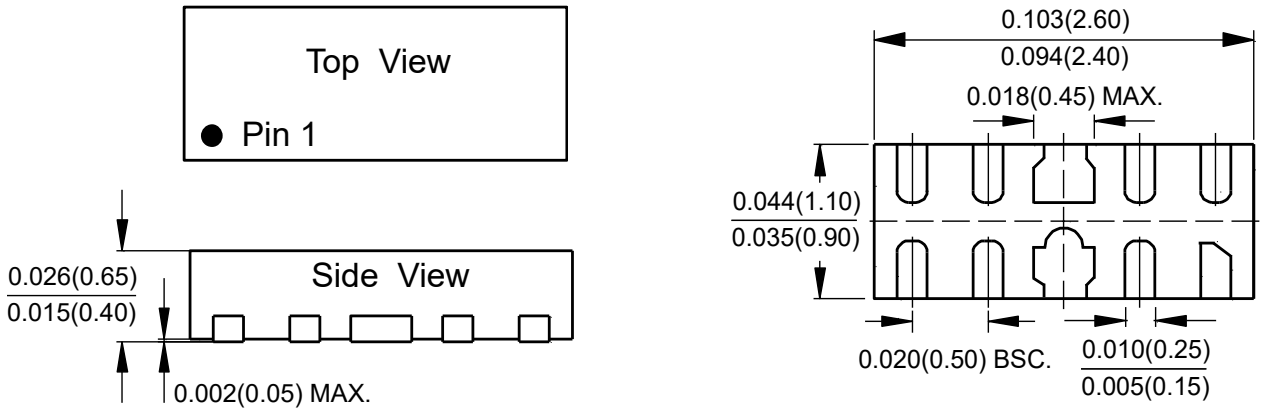


FIG. 6-Insertion Loss



Four Channel Ultra-Low Capacitance TVS Array

Package Outline Dimensions

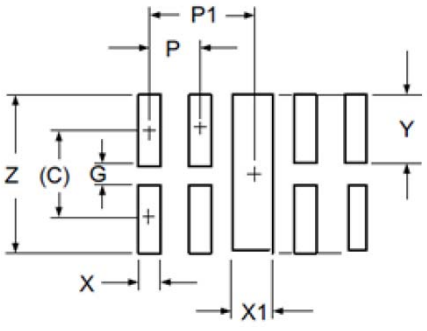


DFN2510-10L

Dimensions in inches and (millimeters)

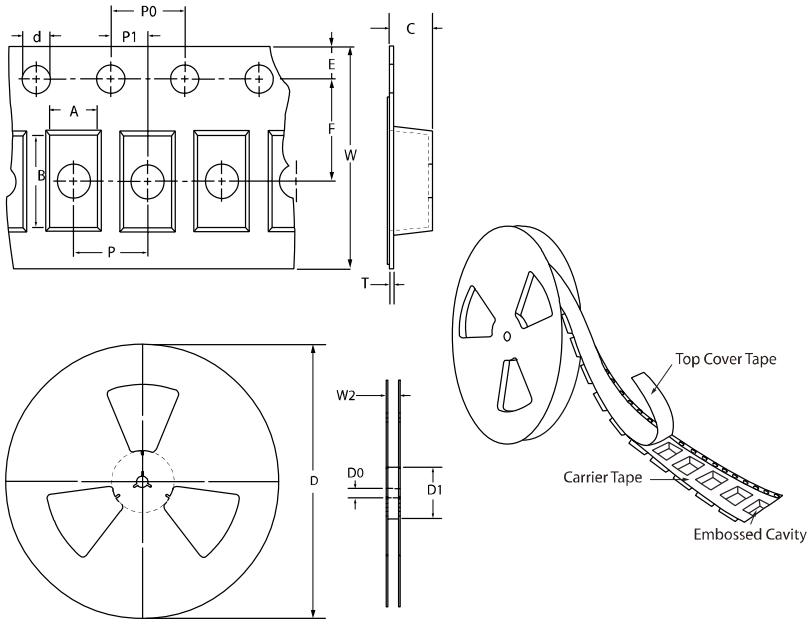
Suggested Pad Layout

Dimension \ Outline	DFN2510-10L (mm)
C	1.025
G	0.35
P	0.55
P1	1.00
X	0.30
X1	0.45
Y	0.675
Z	1.70



Tape & Reel Specification

Item	Symbol	DFN2510-10L (mm)
Carrier width	A	1.20 ± 0.1
Carrier length	B	2.7 ± 0.1
Carrier depth	C	0.7 ± 0.1
Sprocket hole	d	1.35 ± 0.25
Reel outside diameter	D	178 ± 2.0
Feed hole diameter	D0	13.25 ± 0.55
Reel inner diameter	D1	50 (min)
Sprocket hole position	E	1.75 ± 0.1
Punch hole position	F	3.5 ± 0.05
Sprocket hole pitch	P	4.0 ± 0.1
Sprocket hole pitch	P0	4.0 ± 0.1
Embossment center	P1	2.0 ± 0.1
Overall tape thickness	T	0.22 ± 0.06
Tape width	W	8.0 ± 0.3
Reel width	W2	15.4 (max)



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