

## **Low Capacitance ESD Protection**

Voltage

3.3V

#### **Features**

• IEC61000-4-2(ESD): ±15kV Air, ±15kV Contact

• IEC61000-4-4(EFT): 40A (5/50ns)

• IEC61000-4-5(Lightning): 6A (8/20uS)

• Low leakage current, maximum of 1uA at rated voltage

• Ultra Low clamping voltage

• Lead free in compliance with EU RoHS 2.0

• Green molding compound as per IEC 61249 standard

#### **Mechanical Data**

• Case: DFN2510A-10L Package

• Terminals : Solderable per MIL-STD-750, Method 2026

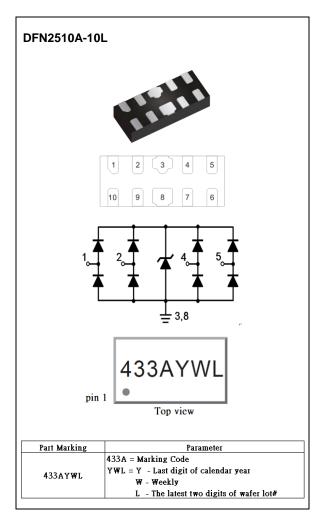
• Approx. Weight: 0.003 grams

### **Applications**

• USB 3.0, 3.1 and 3.2

• Notebook/Desktop Computers

• SATA/eSATA interface



## **Maximum Ratings**

PARAMETER	SYMBOL	VALUE	UNITS	
ESD IEC61000-4-2(Air)		±15	kV	
ESD IEC61000-4-2(Contact)	V <sub>ESD</sub>	±15		
Operating Junction Temperature Range	TJ	-55 to +125	۰C	
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C	



### **Electrical Characteristics**

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage <sup>(Note 1)</sup>	$V_{RWM}$	I/O Pin to GND	-	-	3.3	V
Reverse Breakdown Voltage	$V_{BR}$	I <sub>BR</sub> = 1mA, I/O Pin to GND	5	-	10	V
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 15mA, I/O Pin to GND	-	1	-	V
Reverse Leakage Current	I <sub>R</sub>	$V_R = 3.3V$ , I/O Pin to GND	-	0.5	1	uA
Clamping Voltage	V <sub>CL</sub>	I <sub>PP</sub> = 5A, t <sub>P</sub> =8/20μs, I/O pins to GND	-	3.2	4.2	V
Clamping Voltage TLP(Note 2)	VcL	I <sub>PP</sub> = 16A, t <sub>P</sub> = 100ns, I/O Pin to GND	-	4.1	-	V
Off State Junction Capacitance (Note 3)	Сл	1.5Vdc Bias, f = 1MHz, I/O Pins to GND	-	0.29	0.34	pF

#### NOTES:

- 1. A transient suppressor is selected according to the working peak reverse voltage(VRWM), which should be equal to or greater than the DC or continuous peak operation voltage level.
- 2. Testing using Transmission Line Pulse (TLP) conditions: Z0 =  $50\Omega$ ,  $t_P$  = 100 ns.
- 3. This parameter is guaranteed by design.

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## TYPICAL CHARACTERISTIC CURVES

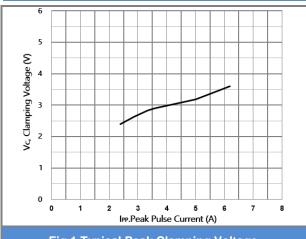


Fig.1 Typical Peak Clamping Voltage

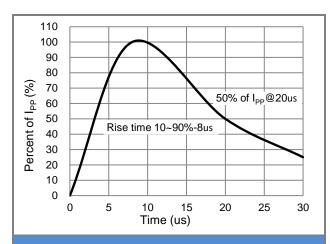
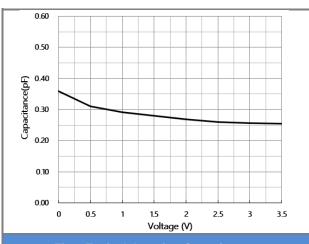


Fig.2 Pulse Waveform



**Fig.3 Typical Junction Capacitance** 

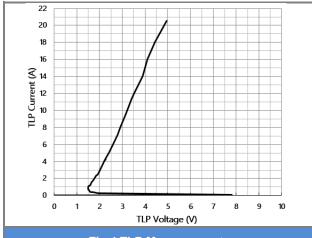


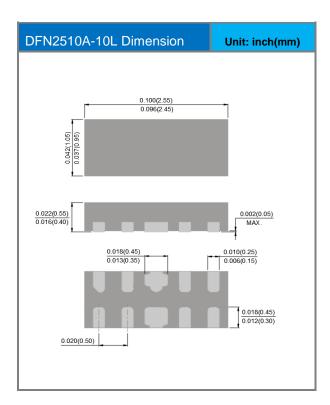
Fig.4 TLP Measurement

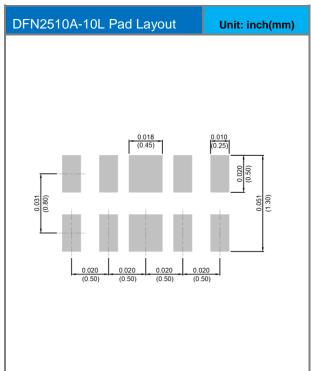


## **Product and Packing Information**

Part No.	Package Type	Packing Type	Marking
PS4313-DFA	DFN2510A-10L	3K pcs / 7" reel	433A

## **Packaging Information & Mounting Pad Layout**





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