

PB4213-DFA

Low Capacitance ESD Protection

Voltage

3.3 V

Features

- IEC61000-4-2(ESD) : $\pm 12\text{kV}$ Air, $\pm 9\text{kV}$ Contact
- IEC61000-4-4(EFT) : 40A(5/50ns)
- IEC61000-4-5(Lightning) : 4A(8/20uS)
- Low leakage current, maximum of 1uA at rated voltage
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard
- Pb-Free/Halogen Free/BFR Free and RoHS Compliant

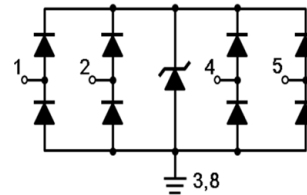
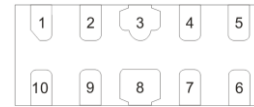
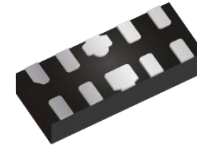
Mechanical Data

- 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

DFN2510A-10L



Part Marking	Parameter
423BYWX	423B = Marking Code YWX = Y - Last digit of calendar year W - Weekly X - Tracking Code

Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
ESD IEC61000-4-2(Air)	V _{ESD}	± 12	kV
ESD IEC61000-4-2(Contact)		± 9	
Operating Junction Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

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

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage ^(Note 1)	V _{RWM}	I/O Pin to GND	-	-	3.3	V
Reverse Breakdown Voltage	V _{BR}	I _{BR} = 1mA, I/O Pin to GND	5	-	10	V
Forward Voltage	V _F	I _F = 15mA, GND to I/O Pin	-	1	-	V
Reverse Leakage Current	I _R	V _R = 3.3V, I/O Pin to GND	-	0.5	1	uA
Clamping Voltage	V _{CL}	I _{PP} = 4A, t _P = 8/20μs, I/O pin to GND	-	7	8	V
Clamping Voltage TLP ^(Note 2)	V _C	I _{TLP} = 16A, t _P = 100ns, I/O Pin to GND	-	11	-	V
Off State Junction Capacitance ^(Note 3)	C _J	1.65Vdc Bias, f = 1MHz, I/O Pin to GND	-	0.22	0.27	pF

NOTES :

1. A transient suppressor is selected according to the working peak reverse voltage(V_{RWM}), 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 = 50Ω, t_P = 100 ns.
3. This parameter is guaranteed by design.

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TYPICAL CHARACTERISTIC CURVES

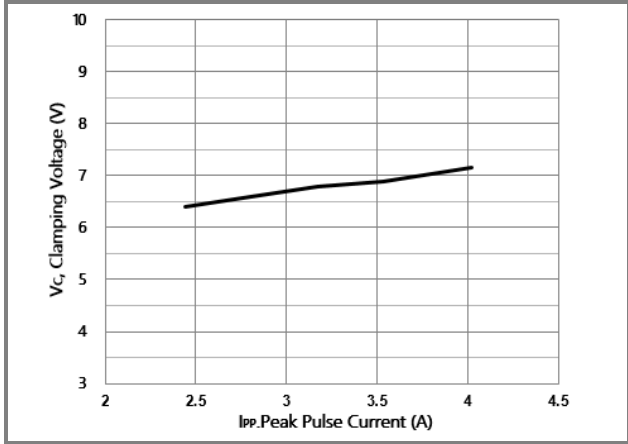


Fig.1 Typical Peak Clamping Voltage

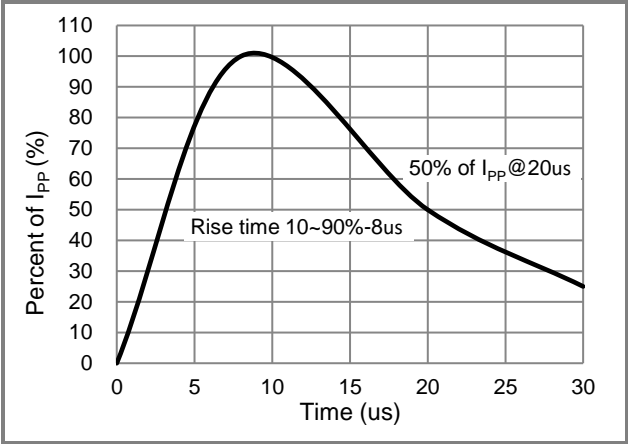


Fig.2 Pulse Waveform

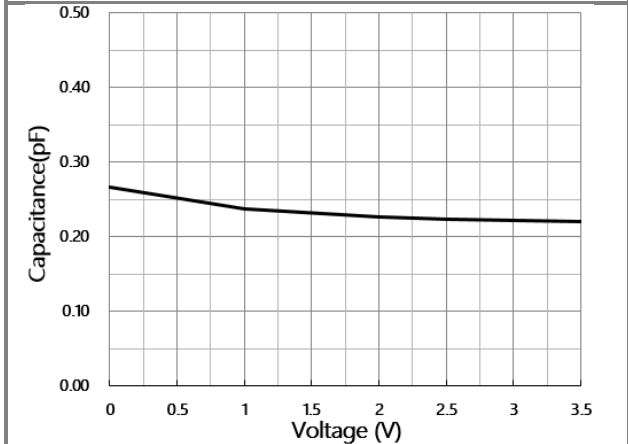


Fig.3 Typical Junction Capacitance

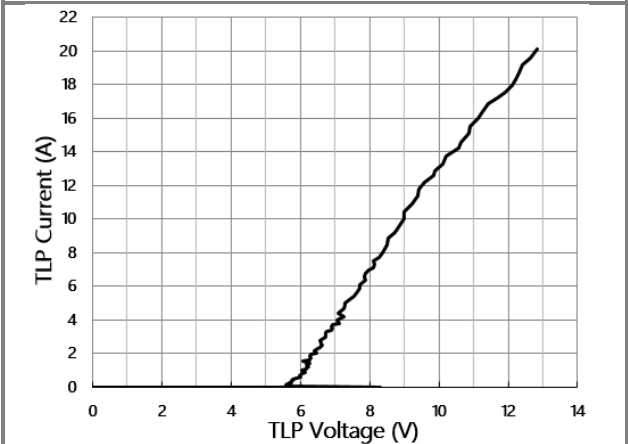


Fig.4 Positive TLP Measurement

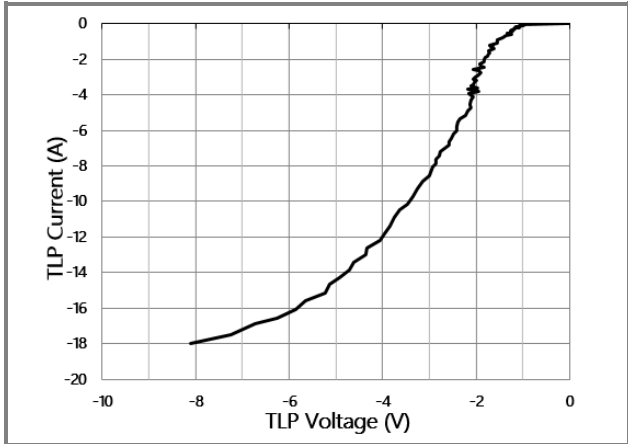


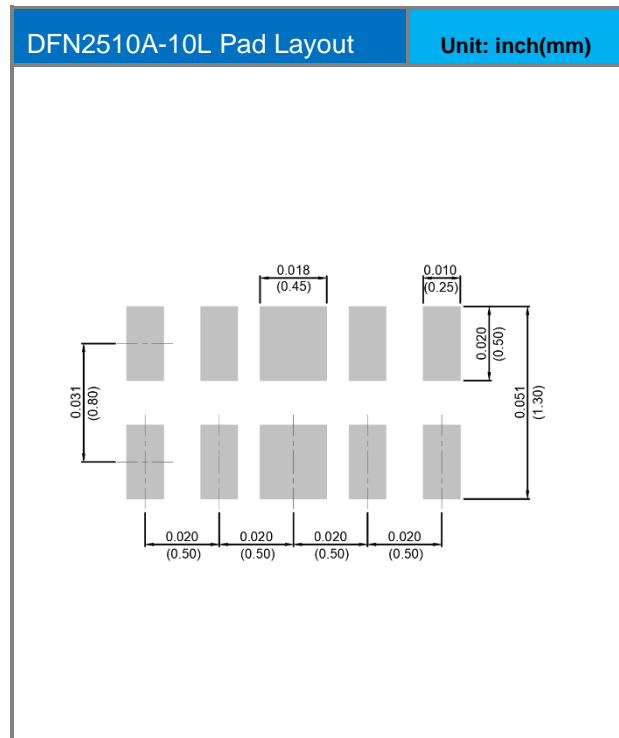
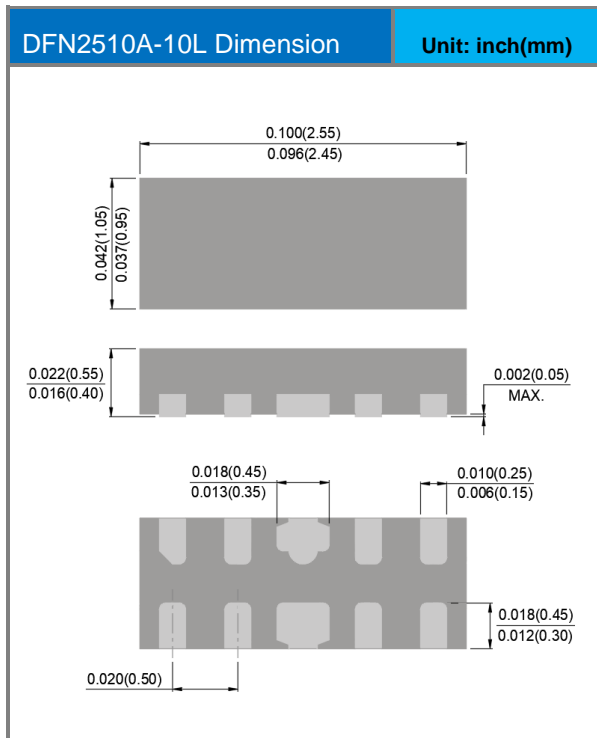
Fig.5 Negative TLP Measurement

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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
PB4213-DFA	DFN2510A-10L	3K pcs / 7" reel	423B

Packaging Information & Mounting Pad Layout



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