PE1403S8Q

Ultra Low Capacitance ESD Protection

Voltage **3.3 V**

Features

- IEC61000-4-2(ESD) ：±18kV Air, ±15kV Contact
- IEC61000-4-4(EFT)：40A(5/50ns)
- IEC61000-4-5(Lightning)：3A(8/20μS)
- Low leakage current, maximum of 50nA at rated voltage
- Ultra low capacitance
- Low clamping voltage
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

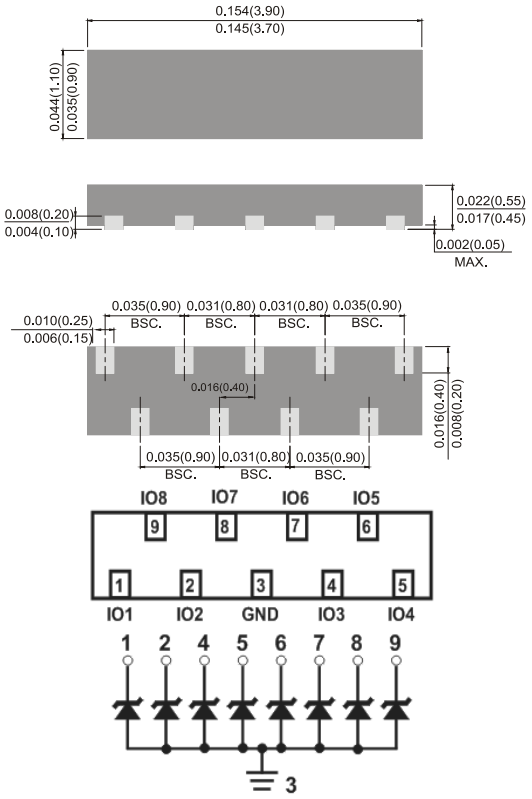
Mechanical Data

- Case: DFN3810-9L, Plastic
- Approx. Weight: 0.0002 ounces, 0.005 grams

Applications

- USB Type-C Interface
- HDMI Interface 2.0 version
- V-By-One Interface
- LVDS Interface
- Display Port Interface

DFN3810-9L **Unit: inch(mm)**



(TOP VIEW)

Maximum Ratings

PARAMETER	SYMBOL	VALUE	UNITS
ESD IEC61000-4-2(Air) ESD IEC61000-4-2(Contact)	V_{ESD}	±18 ±15	kV
Operating Junction Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

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Electrical Characteristics

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage (Note 1)	V_{RWM}	-	-	-	3.3	V
Reverse Breakdown Voltage	V_{BR}	I_{BR}=1mA	4	-	-	V
Reverse Leakage Current	I_R	V_R=3.3V	-	-	50	nA
Clamping Voltage	V_{CL}	I_{PP}=1A, t_P=8/20μs	-	-	9	V
		I_{PP}=3A, t_P=8/20μs	-	-	13	V
Clamping Voltage TLP (Note 2)	V_{CL}	I_{PP}=8A, t_P=100ns	-	15	-	V
		I_{PP}=16A, t_P=100ns	-	22	-	V
Dynamic Resistance	R_{DYN}	t_P=100ns	-	0.88	-	Ω
Off State Junction Capacitance	C_J	0Vdc Bias f=1MHz, any I/O pins to GND	-	-	0.4	pF
		0Vdc Bias f=1MHz, Between any I/O pins	-	-	0.2	pF

Note：

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.

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TYPICAL CHARACTERISTIC CURVES

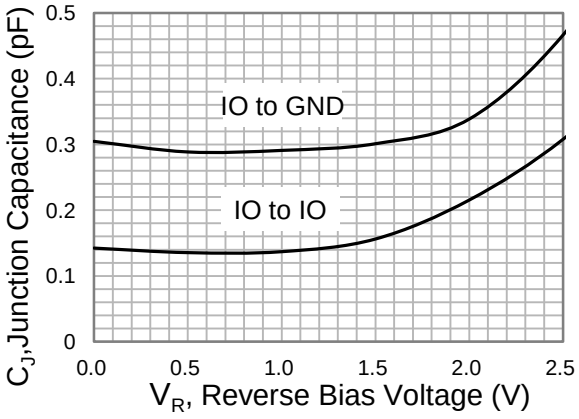

Fig.1 Typical Junction Capacitance

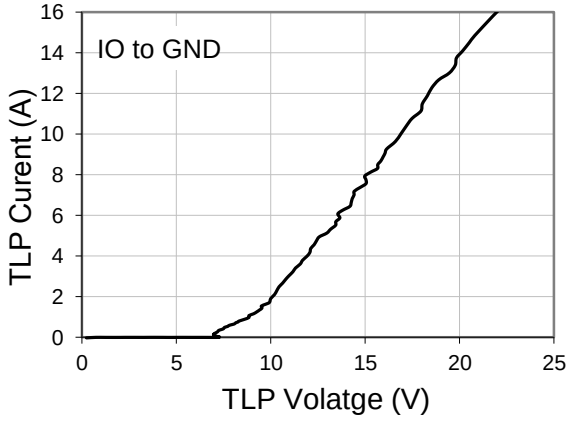

Fig.2 Transmission Line Pulsing (TLP) Measurement

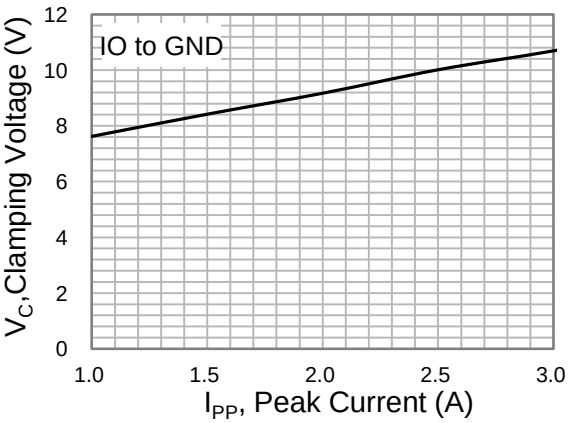

Fig.3 Typical Peak Clamping Voltage(8/20μs)

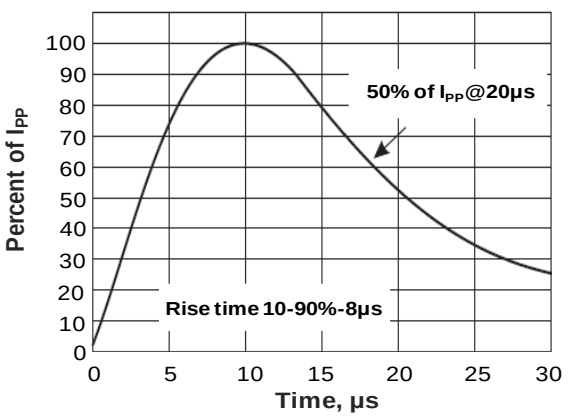

Fig.4 8/20μs Pulse Waveform

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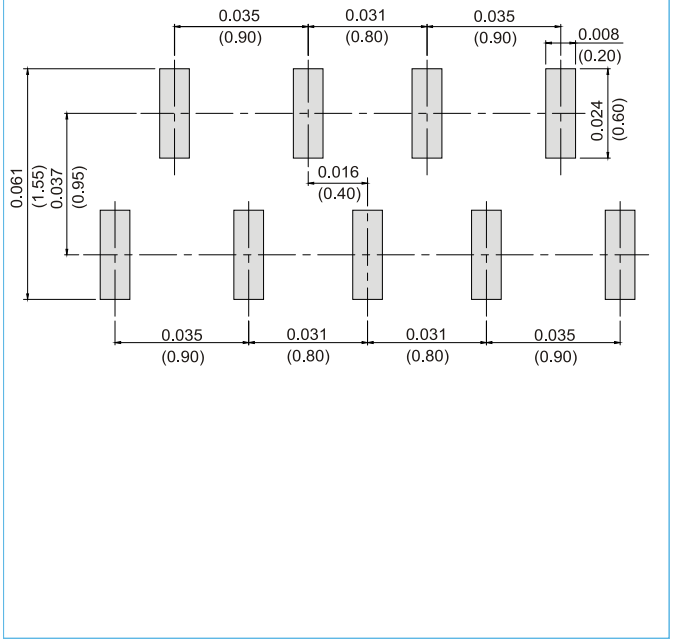
Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
PE1403S8Q_R1_00001	DFN3810-9L	3K pcs / 7” reel	1403	Halogen free

Mounting Pad Layout

DFN 3810-9L Unit : inch(mm)



Notes：This pad layout is for reference purposes only.

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