PE1605M4AQ

Low Capacitance ESD Protection

Voltage **5 V**

Features

- IEC61000-4-2(ESD)：±20kV Air, ±15kV Contact
- IEC61000-4-4(EFT)：40A(5/50ns)
- IEC61000-4-5(Lightning)：4A(8/20μS)
- Low leakage current, maximum of 50nA at rated voltage
- Low capacitance
- Low clamping voltage
- Lead free in compliance with EU RoHS2.0 (2011/65/EU & 2015/865/EU directive)
- Green molding compound as per IEC61249 Std.. (Halogen Free)

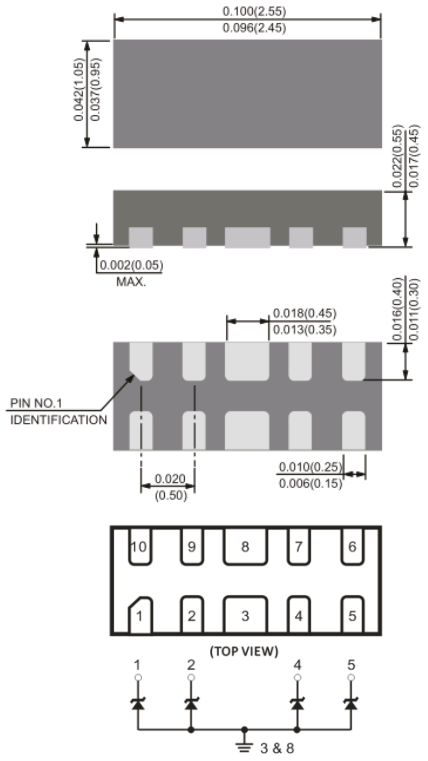
Mechanical Data

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

Applications

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

DFN2510-10L **Unit: inch(mm)**



Maximum Ratings

PARAMETER	SYMBOL	VALUE	UNITS
ESD IEC61000-4-2(Air) ESD IEC61000-4-2(Contact)	V_{ESD}	±20 ±15	kV
Operating Junction Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

PE1605M4AQ

Electrical Characteristics (TA=25℃ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage (Note 1)	V_{RWM}	-	-	-	5	V
Reverse Breakdown Voltage	V_{BR}	I_{BR}=1mA	5.5	-	-	V
Reverse Leakage Current	I_R	V_R=5.0V	-	-	50	nA
Clamping Voltage	V_{CL}	I_{PP}=1A, t_P=8/20us, any I/O pins to GND	-	-	10	V
		I_{PP}=4A, t_P=8/20us, any I/O pins to GND	-	-	15	V
Clamping Voltage TLP (Note 2)	V_{CL}	I_{PP}=8A, t_P=100ns, any I/O pins to GND	-	16	-	V
		I_{PP}=16A, t_P=100ns, any I/O pins to GND	-	23.5	-	V
Dynamic Resistance	R_{DYN}	t_P=100ns	-	0.94	-	Ω
Off State Junction Capacitance	C_J	2.5Vdc Bias f=1MHz, any I/O pins to GND	-	0.3	0.35	pF
		2.5Vdc 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.

PE1605M4AQ

TYPICAL CHARACTERISTIC CURVES

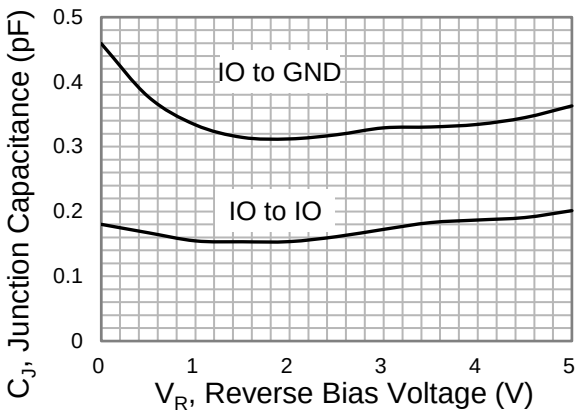


Fig.1 Typical Junction Capacitance

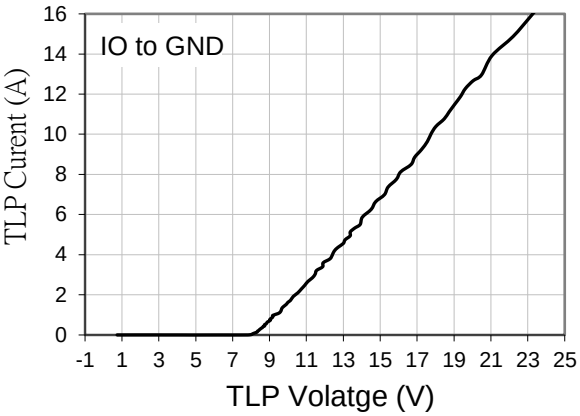


Fig.2 Transmission Line Pulsing (TLP) Measurement

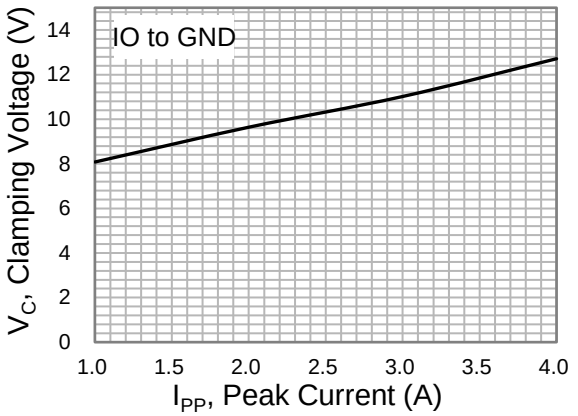


Fig.3 Typical Peak Clamping Voltage(8/20μs)

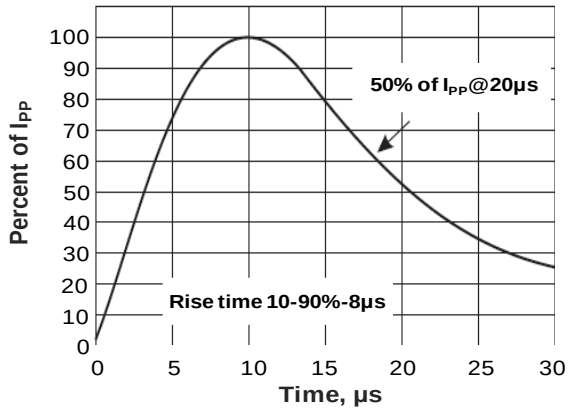


Fig.4 8/20μs Pulse Waveform

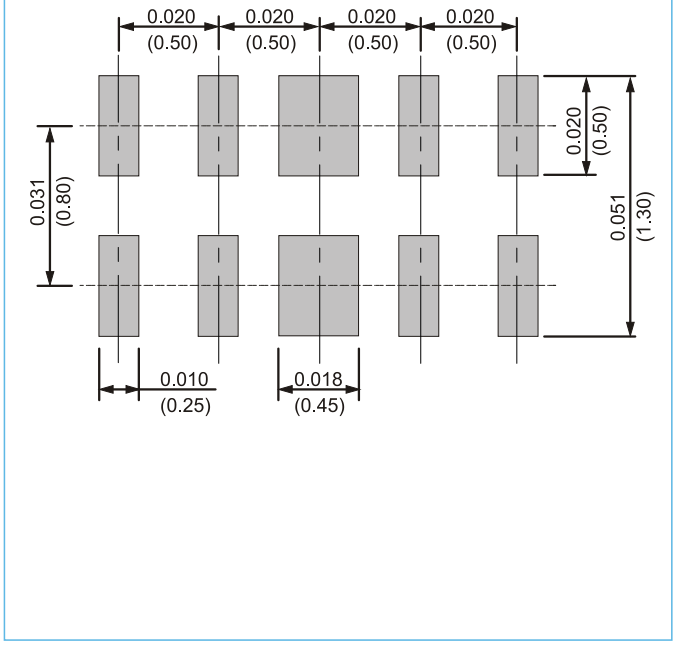
PE1605M4AQ

Product and Packing Information

Part No.	Package Type	Packing Type	Marking
PE1605M4AQ	DFN2510-10L	5K / 7" Reel	1605
PE1605M4AQ	DFN2510-10L	12K / 13" Reel	1605

Mounting Pad Layout

DFN2510-10L Unit：inch(mm)



Notes：This pad layout is for reference purposes only.

PE1605M4AQ

Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.