



# PE1605M2AQ

## Very Low Capacitance ESD Protection

**Voltage**

**5 V**

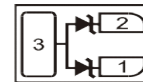
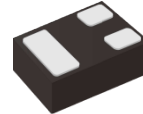
### Features

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

### Mechanical Data

- Case : Molded plastic, DFN1006-3L
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.00002 ounces, 0.0007 grams

DFN1006-3L



## Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
ESD IEC61000-4-2(Air)	V <sub>ESD</sub>	$\pm 20$	kV
ESD IEC61000-4-2(Contact)		$\pm 15$	
Operating Junction Temperature Range	T <sub>J</sub>	-55~150	°C
Storage Temperature Range	T <sub>STG</sub>	-55~150	°C



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## Electrical Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage	V <sub>RWM</sub> <sup>(1)</sup>	-	-	-	5	V
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>BR</sub> = 1mA	5.5	-	-	V
Reverse Leakage Current	I <sub>R</sub>	V <sub>R</sub> = 5V	-	-	50	nA
Clamping Voltage	V <sub>CL</sub>	I <sub>PP</sub> = 1A, t <sub>P</sub> = 8/20us any I/O pins to GND	-	-	10	V
		I <sub>PP</sub> = 4A, t <sub>P</sub> = 8/20us any I/O pins to GND	-	-	15	
Clamping Voltage TLP	V <sub>CL</sub> <sup>(2)</sup>	I <sub>PP</sub> = 8A, t <sub>P</sub> = 100ns any I/O pins to GND	-	16	-	V
		I <sub>PP</sub> = 16A, t <sub>P</sub> = 100ns any I/O pins to GND	-	23.5	-	
Dynamic Resistance	R <sub>DYN</sub>	t <sub>P</sub> = 100ns	-	0.94	-	Ω
Off State Junction Capacitance	C <sub>J</sub>	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

**NOTES:**

1. A transient suppressor is selected according to the working peak reverse voltage(V<sub>RWM</sub>), which should be equal to or greater than the DC or continuous peak operation voltage level.
2. Testing using Transmission Line Pulse (TLP) conditions: Z<sub>0</sub> = 50Ω, t<sub>P</sub> = 100 ns.



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## TYPICAL CHARACTERISTIC CURVES

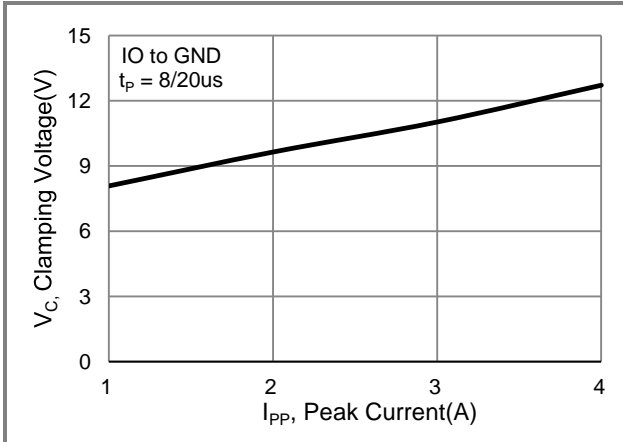


Fig.1 Typical Peak Clamping Voltage

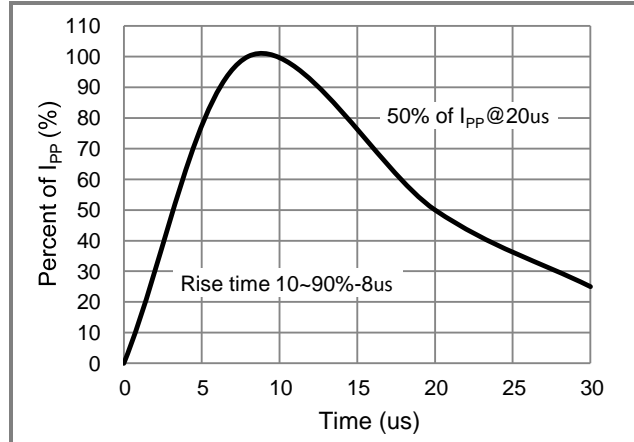


Fig.2 Pulse Waveform

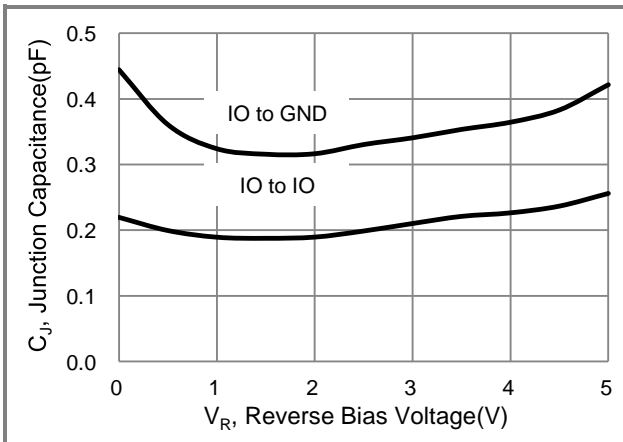


Fig.3 Typical Junction Capacitance

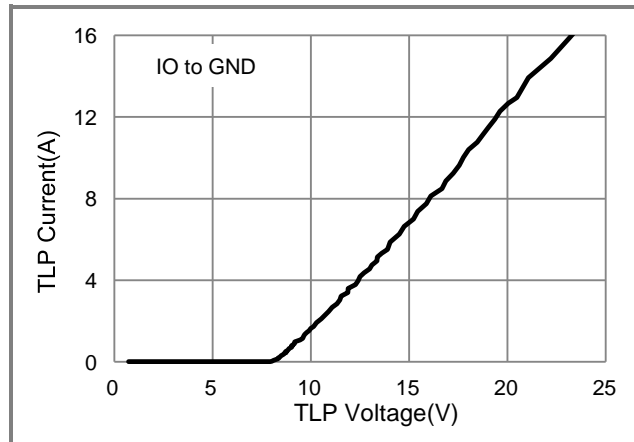


Fig.4 TLP Measurement

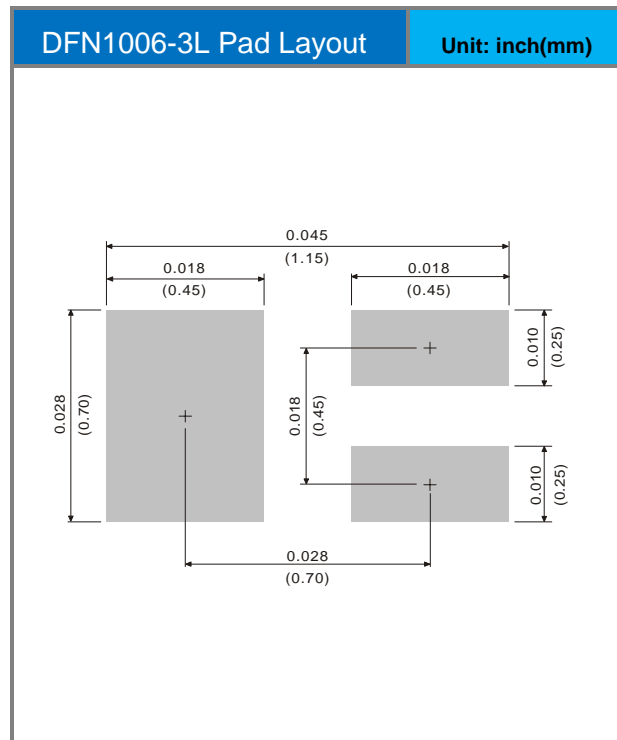
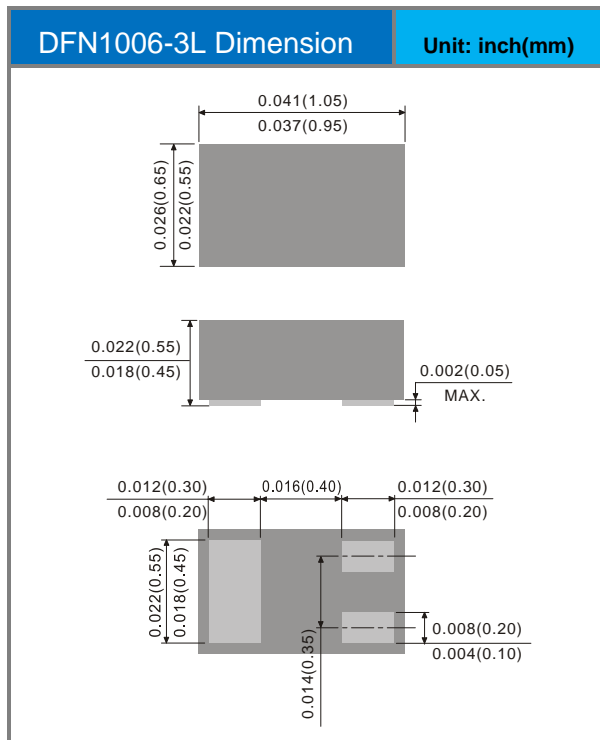


# PE1605M2AQ

Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
PE1605M2AQ_R1_00001	DFN1006-3L	10K / 7" Reel	HB	Halogen free RoHS compliant

## Packaging Information & Mounting Pad Layout





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