



# PE1403M1Q

## 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(8/20uS)
- 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 : DFN1006-2L Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0006 grams

DFN1006-2L



## 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>	±18	kV
ESD IEC61000-4-2(Contact)		±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 <sup>(Note 1)</sup>	V <sub>RWM</sub>	-	-	-	3.3	V
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>BR</sub> =1mA	4	-	-	V
Reverse Leakage Current	I <sub>R</sub>	V <sub>R</sub> =3.3V	-	-	50	nA
Clamping Voltage	V <sub>CL</sub>	I <sub>PP</sub> =1A, t <sub>P</sub> =8/20us	-	-	9	V
		I <sub>PP</sub> =3A, t <sub>P</sub> =8/20us	-	-	13	V
Clamping Voltage TLP <sup>(Note 2)</sup>	V <sub>CL</sub>	I <sub>PP</sub> =8A, t <sub>P</sub> =100ns	-	15	-	V
		I <sub>PP</sub> =16A, t <sub>P</sub> =100ns	-	22	-	V
Dynamic Resistance	R <sub>DYN</sub>	t <sub>P</sub> =100ns	-	0.88	-	Ω
Off State Junction Capacitance	C <sub>J</sub>	0Vdc Bias f=1MHz	-	0.3	0.4	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

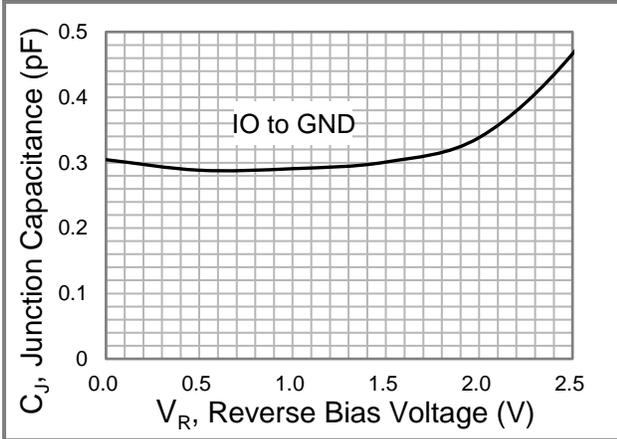


Fig.1 Typical Junction Capacitance

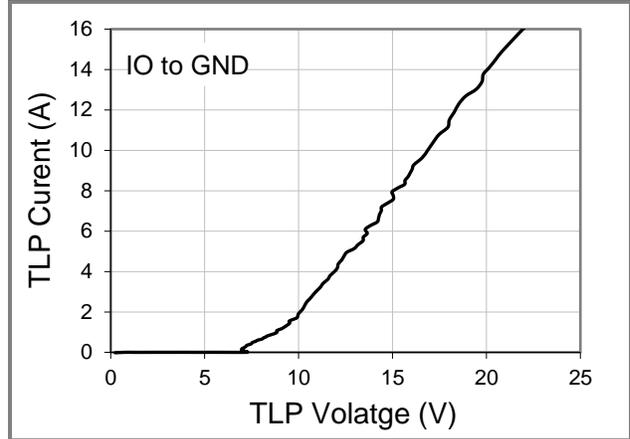


Fig.2 Transmission Line Pulsing (TLP) Measurement

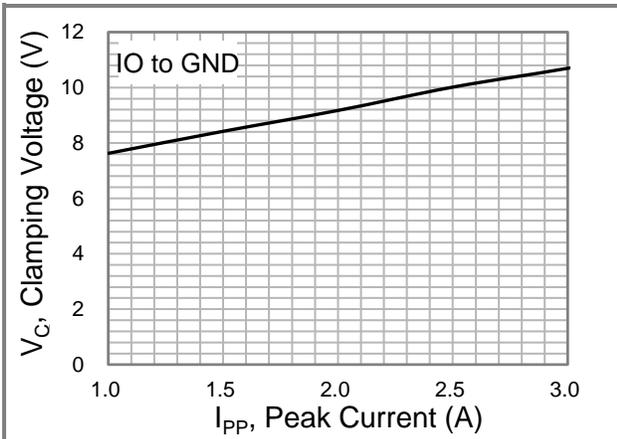


Fig.3 Typical Peak Clamping Voltage(8/20us)

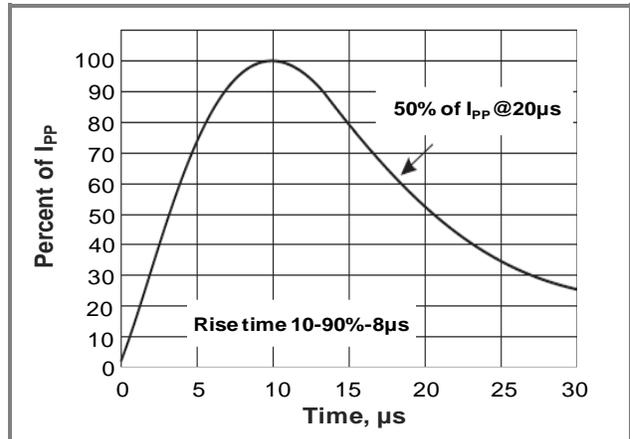


Fig.4 8/20us Pulse Waveform

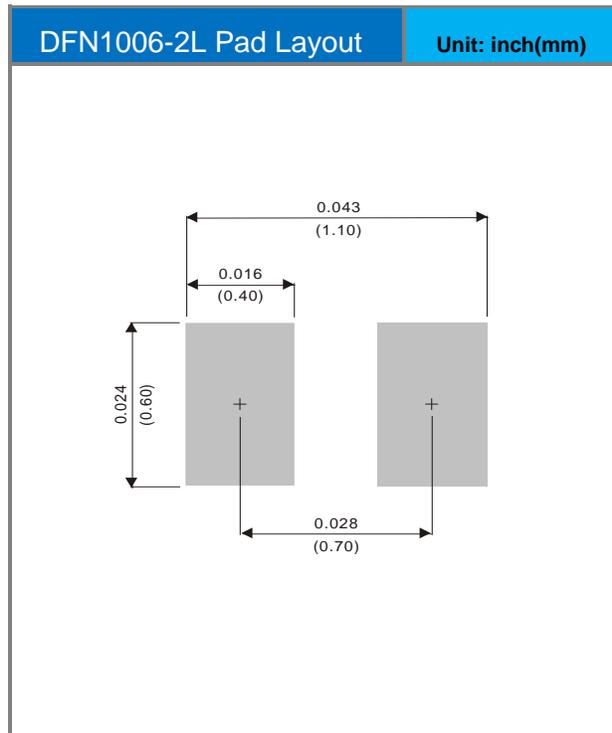
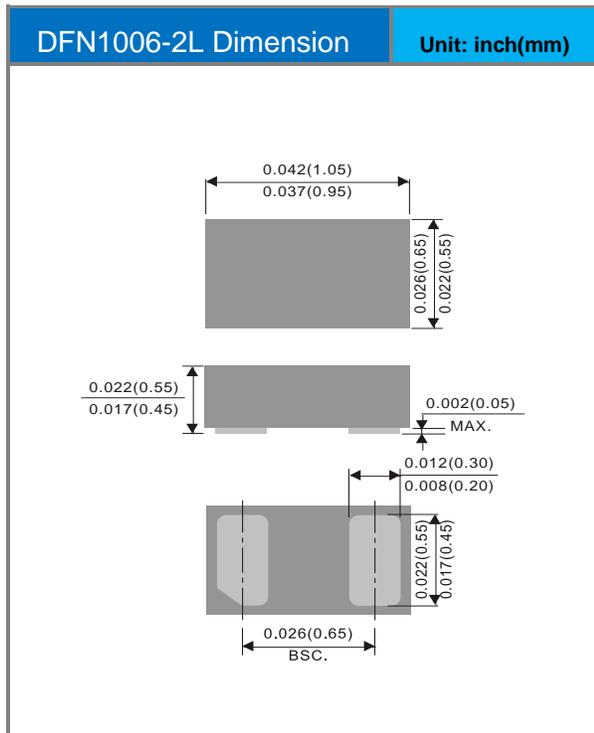


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## Product and Packing Information

Part No.	Package Type	Packing Type	Marking	Version
PE1403M1Q	DFN1006-2L	10K pcs / 7" Reel	RH	Halogen free RoHS compliant

## Packaging Information & Mounting Pad Layout





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