



PE1605M2Q

Ultra Low Capacitance ESD Protection

Voltage

5 V

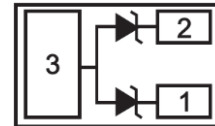
Features

- IEC61000-4-2(ESD) : ±20kV Air, ±15kV Contact
- IEC61000-4-4(EFT) : 40A(5/50ns)
- IEC61000-4-5(Lightning) : 4A(8/20uS)
- 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 : DFN1006-3L Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0007 grams

DFN1006-3L



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

PARAMETER	SYMBOL	VALUE	UNITS
ESD IEC61000-4-2(Air)	V _{ESD}	±20	kV
ESD IEC61000-4-2(Contact)		±15	
Operating Junction Temperature Range	T _J	-55~150	°C
Storage Temperature Range	T _{STG}	-55~150	°C



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Electrical Characteristics (T_A=25°C 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 =8/20μs, any I/O pins to GND	-	-	10	V
		I _{PP} =4A, t _P =8/20μs, 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

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.



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TYPICAL CHARACTERISTIC CURVES

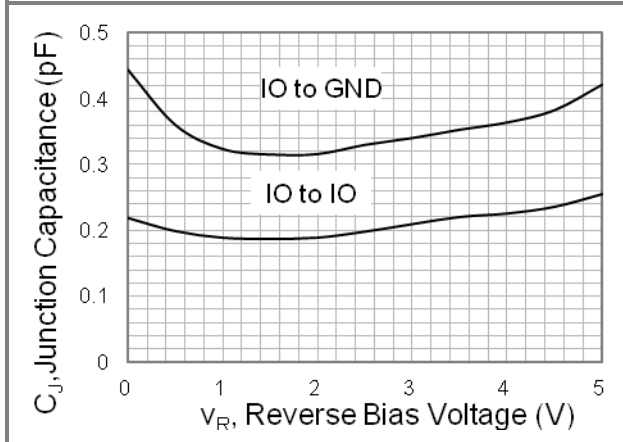


Fig.1 Typical Junction Capacitance

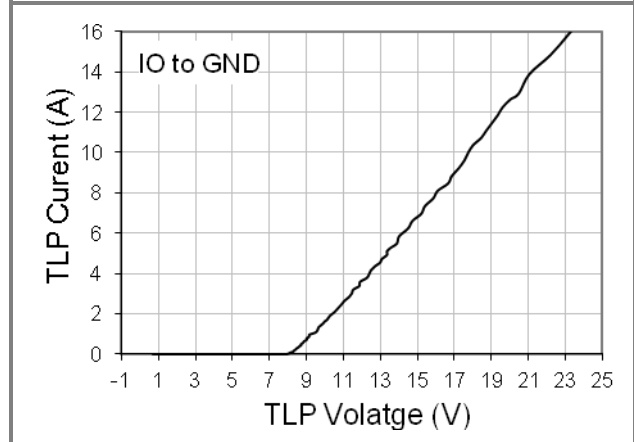


Fig.2 Transmission Line Pulsing (TLP) Measurement

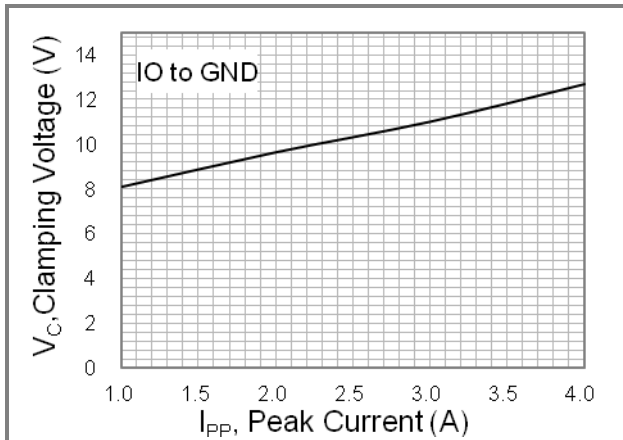


Fig.3 Typical Peak Clamping Voltage(8/20us)

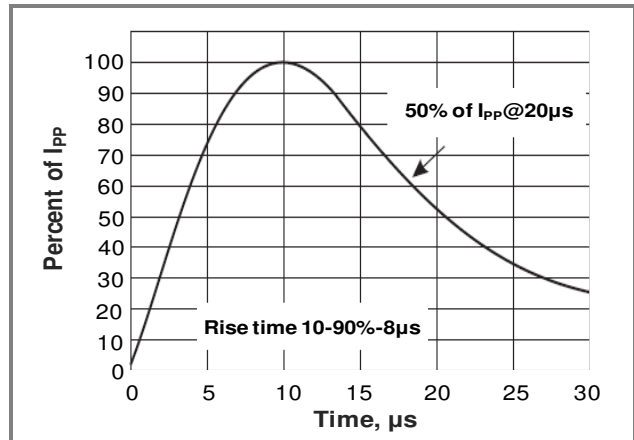


Fig.4 8/20us Pulse Waveform

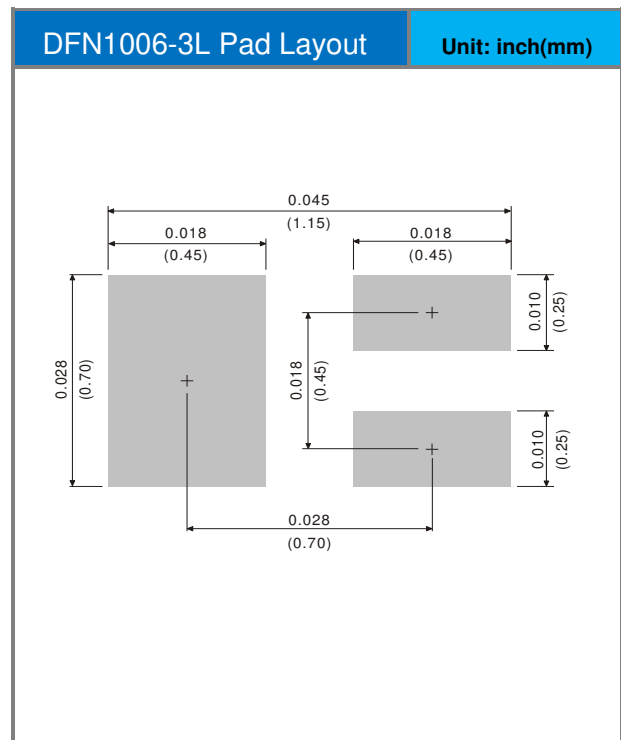
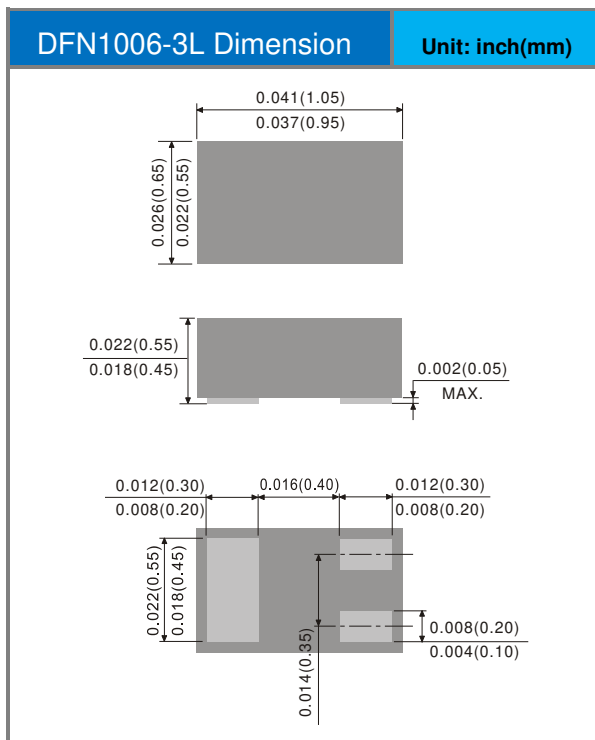


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Product and Packing Information

Part No.	Package Type	Packing Type	Marking	Version
PE1605M2Q	DFN1006-3L	10K pcs / 7" reel	U3	Halogen free RoHS compliant

Packaging Information & Mounting Pad Layout





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