



PE1605M2AQ

Very Low Capacitance ESD Protection

Voltage

5 V

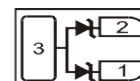
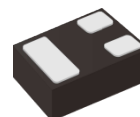
Features

- IEC61000-4-2(ESD) : $\pm 20\text{kV}$ Air, $\pm 15\text{kV}$ Contact
- IEC61000-4-4(EFT) : $40\text{A}(5/50\text{ns})$
- IEC61000-4-5(Lightning) : $4\text{A}(8/20\mu\text{s})$
- 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 ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
ESD IEC61000-4-2(Air)	V_{ESD}	± 20	kV
ESD IEC61000-4-2(Contact)		± 15	
Operating Junction Temperature Range	T_J	$-55 \sim 150$	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	$-55 \sim 150$	$^\circ\text{C}$



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Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage	$V_{RWM}^{(1)}$	-	-	-	5	V
Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1\text{mA}$	5.5	-	-	V
Reverse Leakage Current	I_R	$V_R = 5\text{V}$	-	-	50	nA
Clamping Voltage	V_{CL}	$I_{PP} = 1\text{A}$, $t_P = 8/20\mu\text{s}$ any I/O pins to GND	-	-	10	V
		$I_{PP} = 4\text{A}$, $t_P = 8/20\mu\text{s}$ any I/O pins to GND	-	-	15	
Clamping Voltage TLP	$V_{CL}^{(2)}$	$I_{PP} = 8\text{A}$, $t_P = 100\text{ns}$ any I/O pins to GND	-	16	-	V
		$I_{PP} = 16\text{A}$, $t_P = 100\text{ns}$ any I/O pins to GND	-	23.5	-	
Dynamic Resistance	R_{DYN}	$t_P = 100\text{ns}$	-	0.94	-	Ω
Off State Junction Capacitance	C_J	2.5Vdc Bias $f=1\text{MHz}$, any I/O pins to GND	-	0.3	0.35	pF
		2.5Vdc Bias $f=1\text{MHz}$, 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: $Z_0 = 50\Omega$, $t_P = 100\text{ ns}$.



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TYPICAL CHARACTERISTIC CURVES

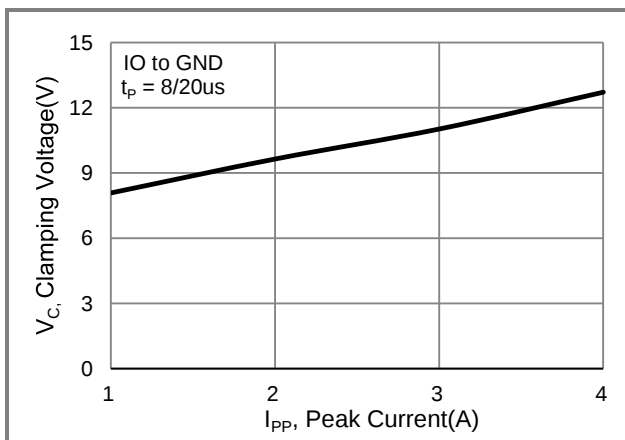


Fig.1 Typical Peak Clamping Voltage

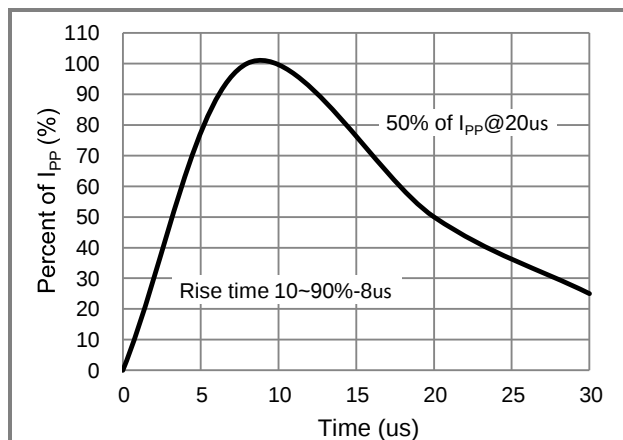


Fig.2 Pulse Waveform

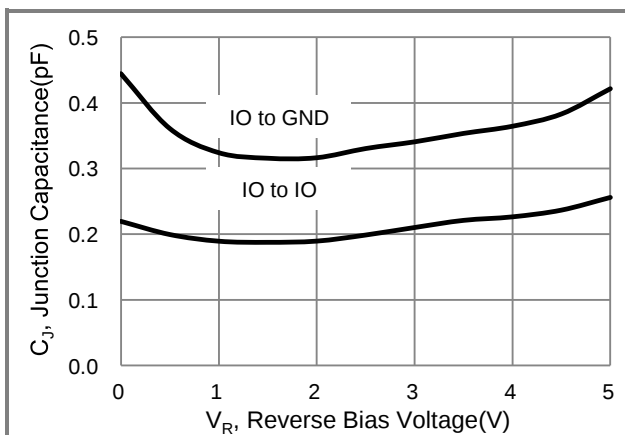


Fig.3 Typical Junction Capacitance

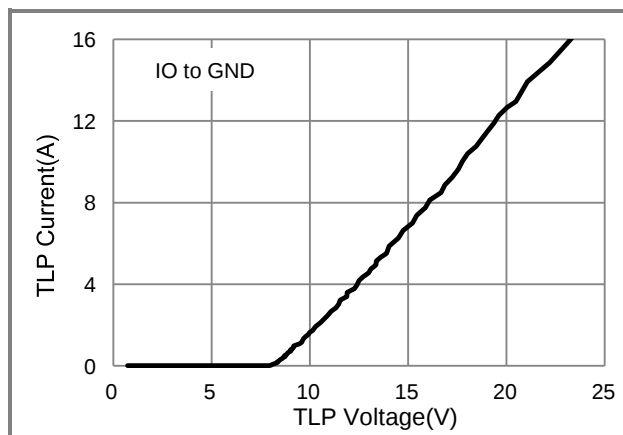


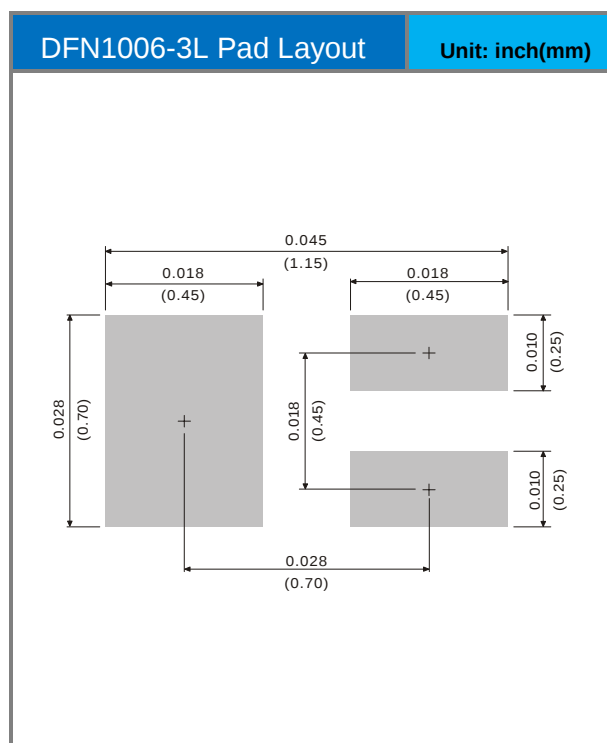
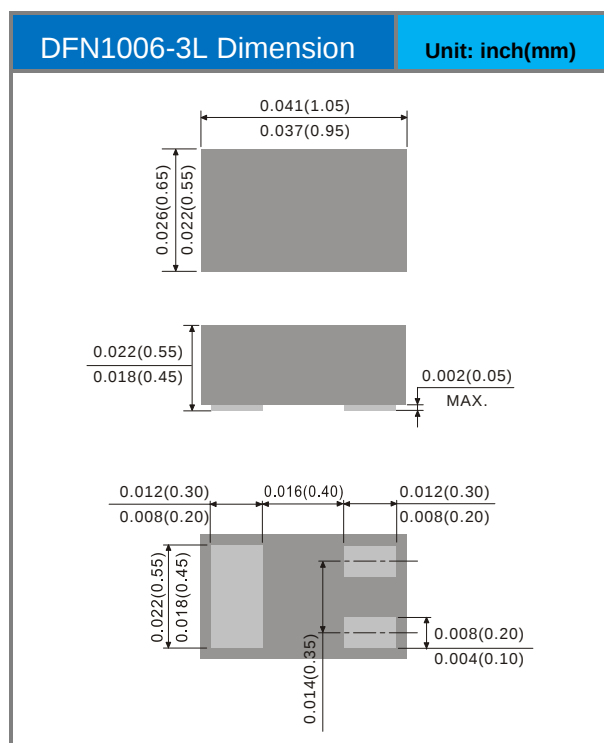
Fig.4 TLP Measurement

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





PE1605M2AQ

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