

PE1805M4Q

ULTRA LOW CAPACITANCE ESD PROTECTION

Voltage

5 V

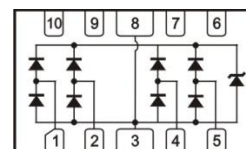
Features

- IEC61000-4-2(ESD): ± 20 kV Air, ± 15 kV Contact
- IEC61000-4-4(EFT): 40 A(5/50 ns)
- IEC61000-4-5(Lightning): 5 A(8/20 μ S)
- Low leakage current, maximum 1 μ A at rated voltage
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case: Molded plastic, DFN2510-10L
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0002 ounces, 0.005 grams

DFN2510-10L



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	-55~150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55~150	$^\circ\text{C}$



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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	$V_{RWM}^{(1)}$	-	-	-	5.5	V
Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1\text{ mA}$, any I/O to GND	6.5	-	11	V
Reverse Leakage Current	I_R	$V_R = 5.0\text{ V}$	-	-	0.1	μA
Clamping Voltage	V_{CL}	$I_{PP} = 1\text{ A}$, $t_P = 8/20\text{ }\mu\text{s}$, any I/O to GND	-	-	12	V
		$I_{PP} = 5\text{ A}$, $t_P = 8/20\text{ }\mu\text{s}$, any I/O to GND	-	-	20	
Clamping Voltage TLP	$V_{CL}^{(2)}$	$I_{PP} = 8\text{ A}$, $t_P = 100\text{ ns}$	-	17.1	-	V
		$I_{PP} = 16\text{ A}$, $t_P = 100\text{ ns}$	-	21.4	-	
Dynamic Resistance	R_{DYN}	$t_P = 100\text{ ns}$	-	0.53	-	Ω
Off State Junction Capacitance	C_J	0Vdc Bias $f = 1\text{ MHz}$, Between any I/O to GND	-	-	0.8	pF
		0Vdc Bias $f = 1\text{ MHz}$, Between any I/O pins	-	-	0.4	

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

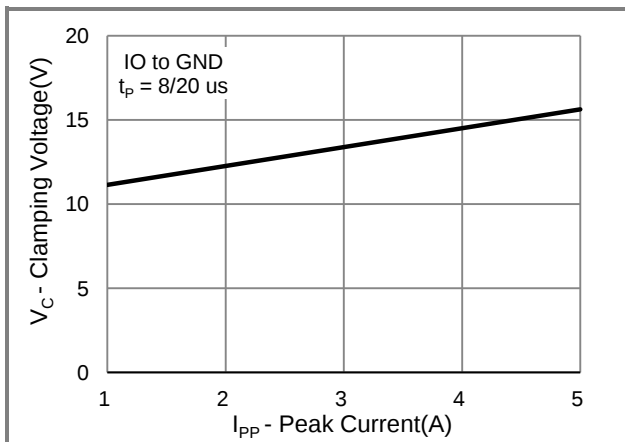


Fig.1 Typical Peak Clamping Voltage

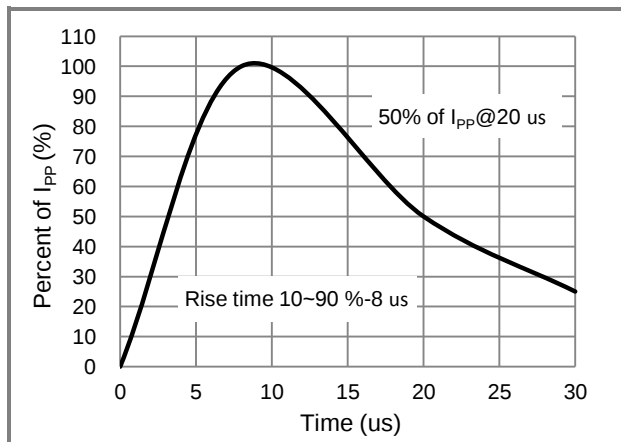


Fig.2 Pulse Waveform

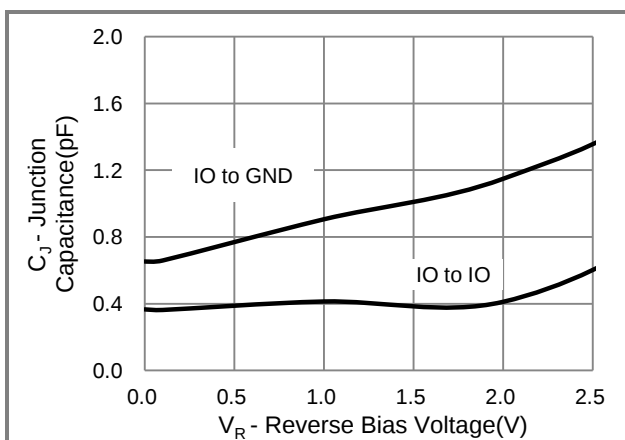


Fig.3 Typical Junction Capacitance

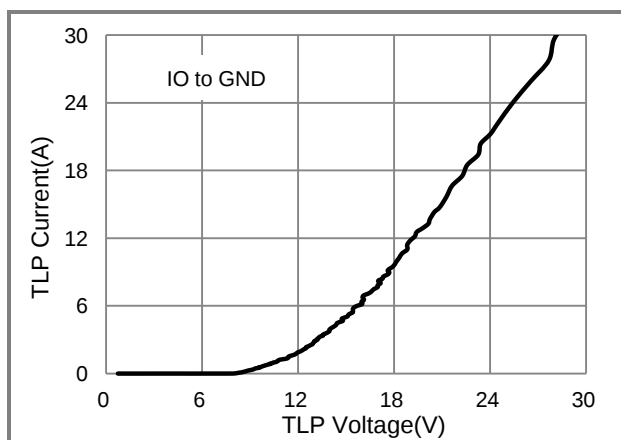


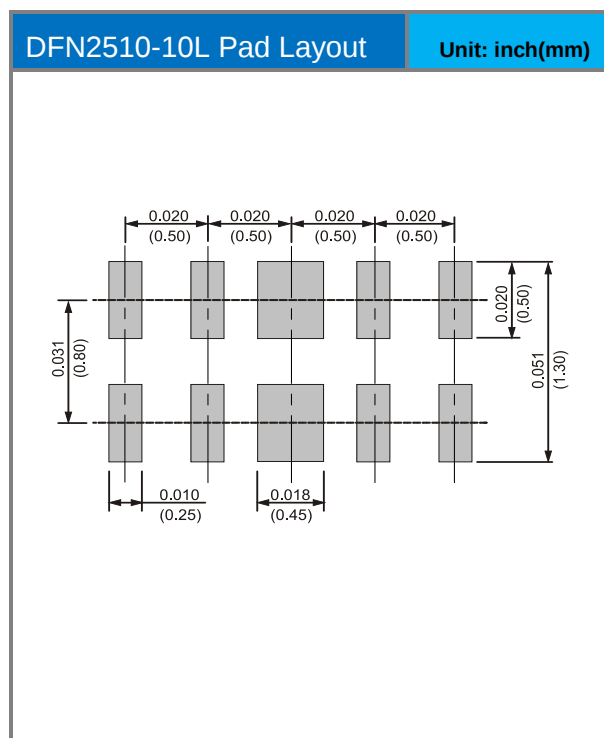
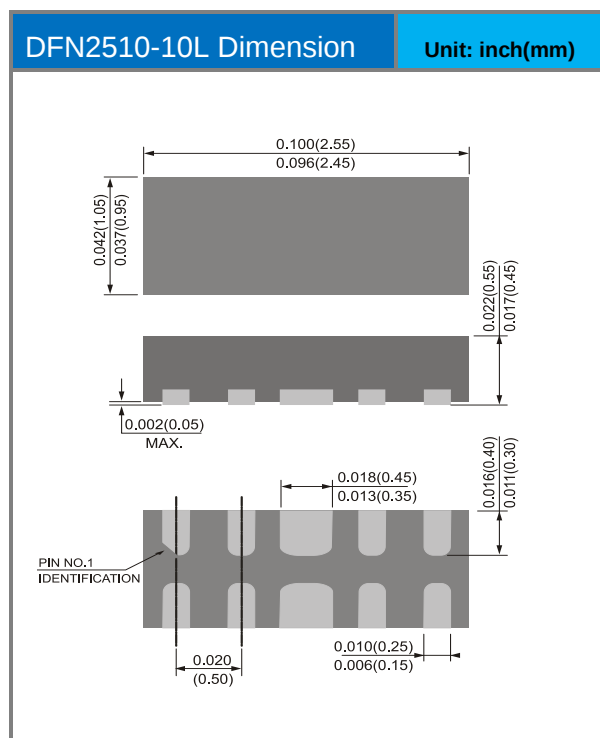
Fig.4 TLP Measurement

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Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
PE1805M4Q_R1_00001	DFN2510-10L	5K / 7" Reel	5M4Q	Halogen Free

Packaging Information & Mounting Pad Layout





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