PEC1605M1Q

Ultra Low Capacitance ESD Protection

Voltage **5 V**

Features

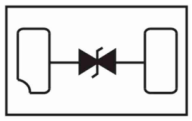
- IEC61000-4-2(ESD) ：±20kV Air, ±15kV Contact
- IEC61000-4-4(EFT)：40A(5/50ns)
- IEC61000-4-5(Lightning)：2A(8/20μS)
- Low leakage current, maximum of 75nA at rated voltage
- Ultra low capacitance
- Low clamping voltage
- Lead free in compliance with EU RoHS2.0 (2011/65/EU & 2015/865/EU directive)
- Green molding compound as per IEC61249 Std. . (Halogen Free)

Mechanical Data

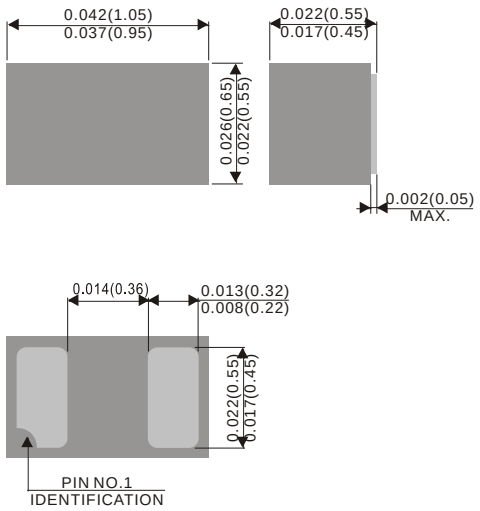
- Case: Molded plastic, DFN 2L
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00004 ounces, 0.0011 grams

Applications

- USB 3.0 Data Line Protection
- Mobile Phones and accessories
- Hand held portable
- Digital Cameras
- Computer Interfaces Protection
- Serial and Parallel Ports Protection
- Control Signal Lines Protection



DFN 2L Unit：inch(mm)



Maximum Ratings

PARAMETER	SYMBOL	VALUE	UNITS
ESD IEC61000-4-2(Air) ESD IEC61000-4-2(Contact)	V_{ESD}	±20 ±15	kV
Operating Junction Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

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Electrical Characteristics

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage (Note 1)	V_{RWM}	-	-	-	5.5	V
Reverse Breakdown Voltage	V_{BR}	I_{BR}=1mA	6.8	7.8	11.2	V
Reverse Leakage Current	I_R	V_R=5.0V	-	-	75	nA
Clamping Voltage	V_{CL}	I_{PP}=1A, t_P=8/20μs	-	-	12	V
		I_{PP}=2A, t_P=8/20μs	-	11	14	V
Clamping Voltage TLP (Note 2)	V_{CL}	I_{PP}=8A, t_P=100ns	-	14	-	V
		I_{PP}=16A, t_P=100ns	-	16	-	V
Dynamic Resistance	R_{DYN}	t_P=100ns	-	0.25	-	Ω
Off State Junction Capacitance	C_J	0Vdc Bias f=1MHz	-	-	0.6	pF

Note：

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 , tP = 100 ns.

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TYPICAL CHARACTERISTIC CURVES

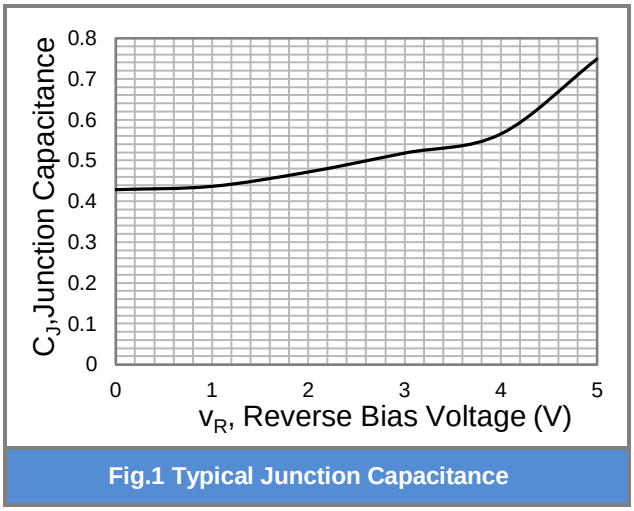


Fig.1 Typical Junction Capacitance

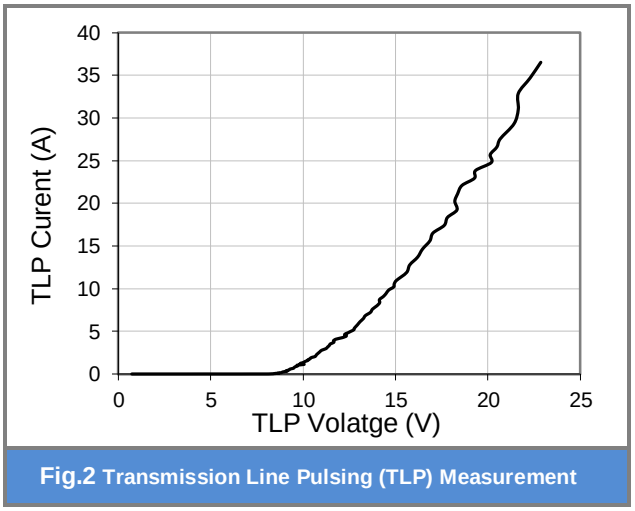


Fig.2 Transmission Line Pulsing (TLP) Measurement

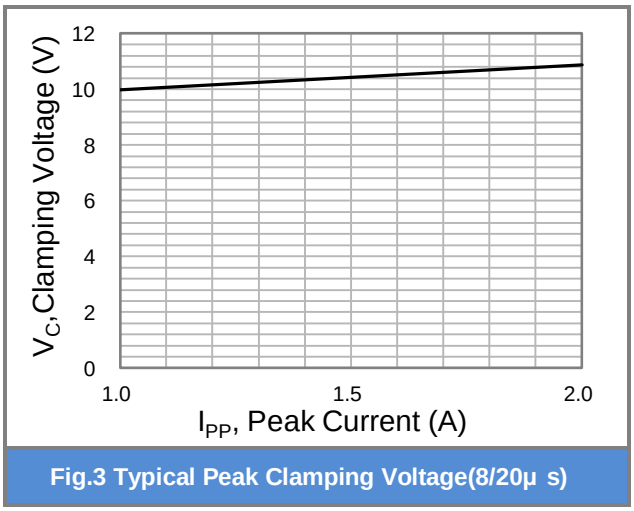


Fig.3 Typical Peak Clamping Voltage(8/20μ s)

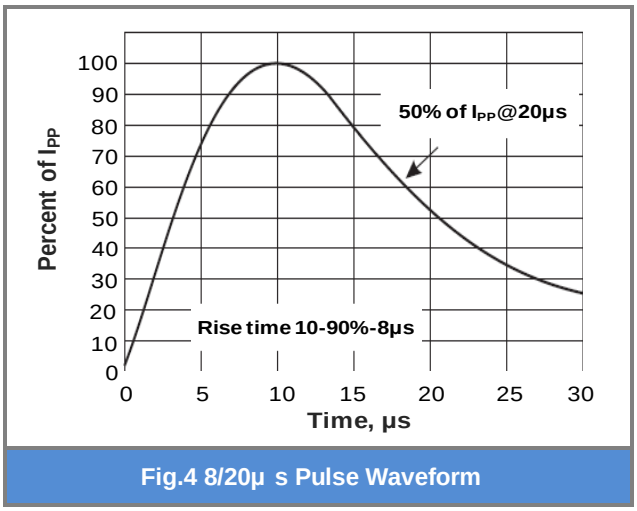


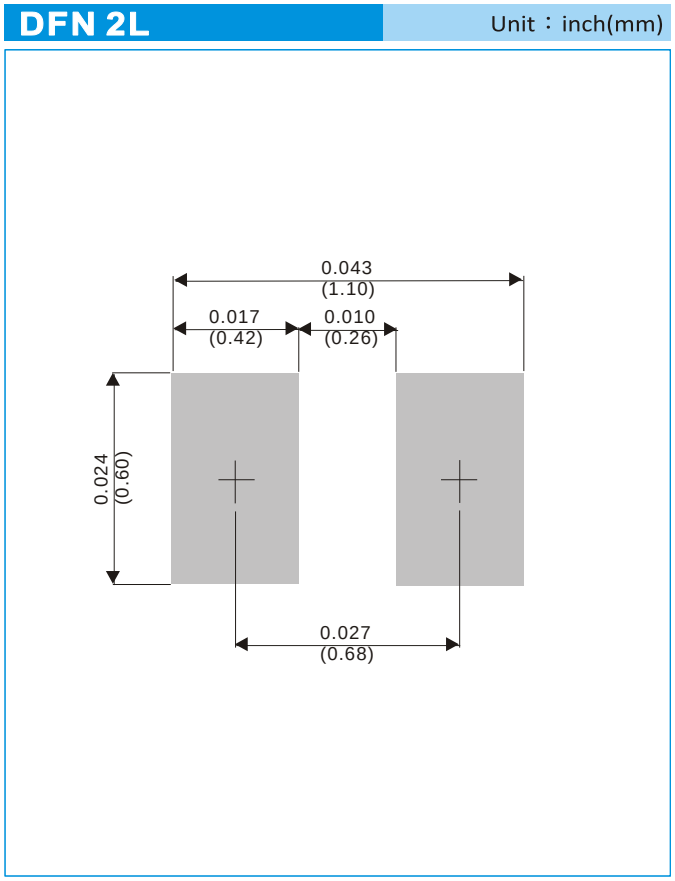
Fig.4 8/20μ s Pulse Waveform

PEC1605M1Q

Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
PEC1605M1Q_R1_00001	DFN 2L	8K pcs / 7” reel	BF	Halogen free

MOUNTING PAD LAYOUT



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