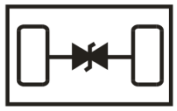
PEC11SD03M1Q

Ultra Low Capacitance ESD Protection

Voltage **5 V**

DFN1006-2L



Features

- IEC61000-4-2(ESD) : ±15kV Air, ±10kV Contact
- IEC61000-4-4(EFT) : 40A(5/50ns)
- IEC61000-4-5(Lightning) : 3.5A(8/20uS)
- Low leakage current, maximum of 0.5uA 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 : DFN1006-2L Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0006 grams

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

PARAMETER	SYMBOL	LIMIT	UNITS
ESD IEC61000-4-2(Air) ESD IEC61000-4-2(Contact)	V_{ESD}	±15 ±10	kV
Typical Thermal Resistance(Note 1)	$R_{\theta JA}$	430	°C/W
Typical Peak Pulse Power Dissipation(tp = 8/20 us)	P_{PP}	26.25	W
Peak Pulse Current on tp = 8/20 us waveform	I_{PPM}	3.5	A
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 2)	V_{RWM}	-	-	3.3	5	V
Reverse Breakdown Voltage	V_{BR}	I_{BR} = 1 mA	5.5	-	-	V
Reverse Leakage Current	I_R	V_R = 3.3 V	-	-	1	uA
Clamping Voltage	V_{CL}	I_{PP} = 1 A, t_P = 8/20 us	-	7.7	-	V
		I_{PP} = 3.5 A, t_P = 8/20 us	-	7.5	-	
Clamping Voltage TLP(Note 3)	V_{CL}	I_{PP} = 8 A, t_P = 100 ns,	-	4.3	-	V
		I_{PP} = 16 A, t_P = 100 ns,	-	7	-	
Dynamic Resistance	R_{DYN}	t_P = 100 ns	-	0.34	-	Ω
Off State Junction Capacitance(Note 4)	C_J	1.65Vdc Bias f = 1 MHz	-	0.19	-	pF

NOTES :

1. Mounted on a FR4 PCB, Single-sided copper, mini pad.
2. 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.
3. Testing using Transmission Line Pulse (TLP) conditions: Z0 = 50 Ω, t_P = 100 ns.
4. This parameter is guaranteed by design.
5. This snap-back behavior strongly reduces the clamping voltage to the system behind the ESD protection during an ESD event. Do not connect unlimited DC current sources to the data lines to avoid the ESD protection device maintain in snap-back state after exceeding breakdown voltage.

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TYPICAL CHARACTERISTIC CURVES

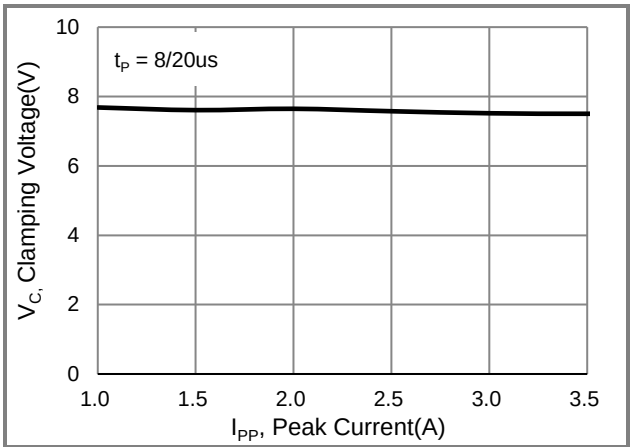

Fig.1 Typical Peak Clamping Voltage

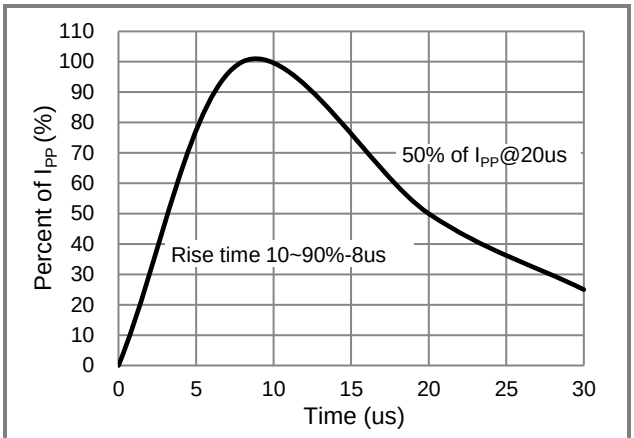

Fig.2 Pulse Waveform

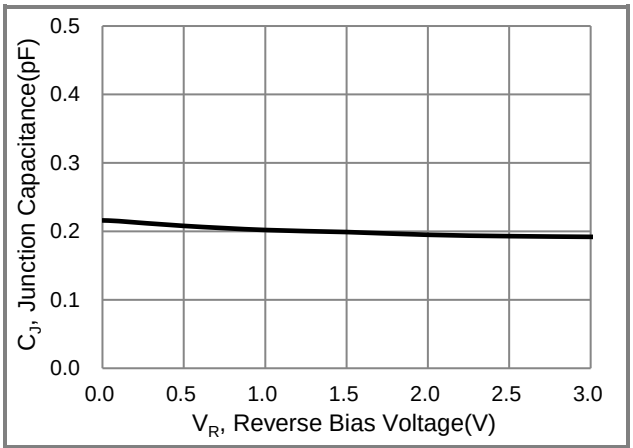

Fig.3 Typical Junction Capacitance

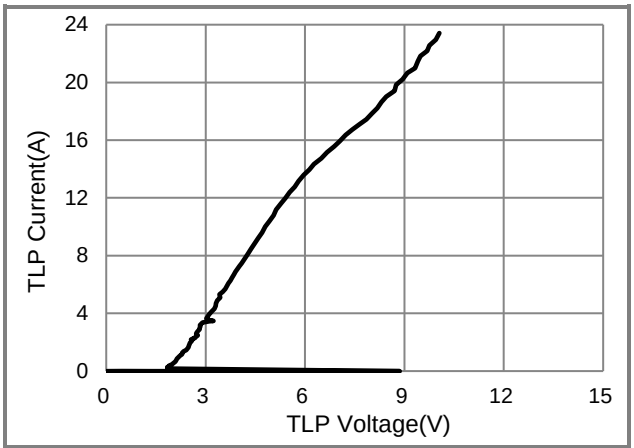

Fig.4 TLP Measurement

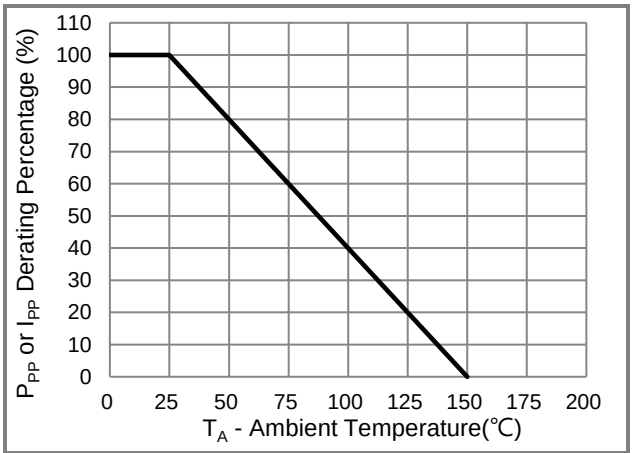

Fig.5 Derating Curve

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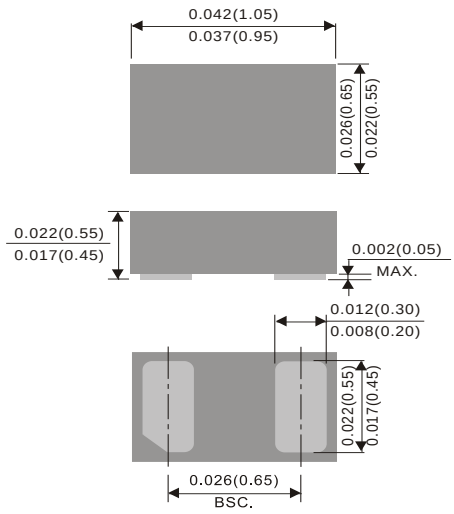
Product and Packing Information

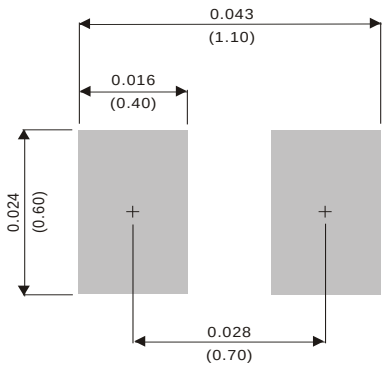
Part No.	Package Type	Packing Type	Marking
PEC11SD03M1Q	DFN1006-2L	10K / 7" Reel	SD

Packaging Information & Mounting Pad Layout

DFN1006-2L Dimension — Unit: inch(mm)



DFN1006-2L Pad Layout — Unit: inch(mm)



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