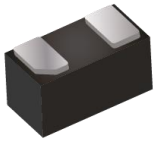
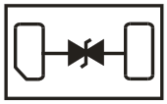
PEC3202M1Q ~ PEC3205M1Q Series

ESD Protection

Voltage **2.5~5 V**

DFN1006-2L





Features

- IEC61000-4-2(ESD) : ± 15 kV Air, ± 8 kV Contact Compliance with the capability up to ± 30 kV
- IEC61000-4-5(Lightning) : 5~10A(8/20uS)
- 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}	±30 ±30	kV
Typical Thermal Resistance(Note 1)	$R_{\theta JA}$	430	°C/W
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)

PEC3202M1Q						
PARAMETER	**SYMBOL**	**TEST CONDITION**	**MIN.**	**TYP.**	**MAX.**	**UNITS**
Reverse Stand-Off Voltage(Note 2)	V_{RWM}	-	-	-	2.5	V
Reverse Breakdown Voltage	V_{BR}	I_{BR} = 50 mA	2.6	-	4	V
Reverse Leakage Current	I_R	V_R = 2.5 V	-	-	0.5	uA
Clamping Voltage	V_{CL}	I_{PP} = 1 A, t_P = 8/20 us	-	-	4.5	V
		I_{PP} = 10 A, t_P = 8/20 us	-	-	9	
Clamping Voltage TLP(Note 3)	V_{CL}	I_{PP} = 8 A, t_P = 100 ns,	-	7.16	-	V
		I_{PP} = 16 A, t_P = 100 ns,	-	9.3	-	
Dynamic Resistance	R_{DYN}	t_P = 100 ns	-	0.27	-	Ω
Off State Junction Capacitance	C_J	0Vdc Bias f = 1 MHz	-	-	20	pF

PEC3203M1Q						
PARAMETER	**SYMBOL**	**TEST CONDITION**	**MIN.**	**TYP.**	**MAX.**	**UNITS**
Reverse Stand-Off Voltage(Note 2)	V_{RWM}	-	-	-	3.3	V
Reverse Breakdown Voltage	V_{BR}	I_{BR} = 50 mA	3.5	-	4.5	V
Reverse Leakage Current	I_R	V_R = 3.3 V	-	-	0.5	uA
Clamping Voltage	V_{CL}	I_{PP} = 1 A, t_P = 8/20 us	-	-	5.5	V
		I_{PP} = 10 A, t_P = 8/20 us	-	-	9	
Clamping Voltage TLP(Note 3)	V_{CL}	I_{PP} = 8 A, t_P = 100 ns,	-	7.2	-	V
		I_{PP} = 16 A, t_P = 100 ns,	-	9.2	-	
Dynamic Resistance	R_{DYN}	t_P = 100 ns	-	0.25	-	Ω
Off State Junction Capacitance	C_J	0Vdc Bias f = 1 MHz	-	-	20	pF

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PEC3205M1Q						
PARAMETER	**SYMBOL**	**TEST CONDITION**	**MIN.**	**TYP.**	**MAX.**	**UNITS**
Reverse Stand-Off Voltage(Note 2)	V_{RWM}	-	-	-	5	V
Reverse Breakdown Voltage	V_{BR}	I_{SB} = 50 mA	5.5	-	8	V
Reverse Leakage Current	I_R	V_R = 5 V	-	-	0.5	uA
Clamping Voltage	V_{CL}	I_{PP} = 1 A, t_P = 8/20 us	-	-	10	V
		I_{PP} = 5 A, t_P = 8/20 us	-	-	13	
Clamping Voltage TLP(Note 3)	V_{CL}	I_{PP} = 8 A, t_P = 100 ns,	-	11.8	-	V
		I_{PP} = 16 A, t_P = 100 ns,	-	15.9	-	
Dynamic Resistance	R_{DYN}	t_P = 100 ns	-	0.51	-	Ω
Off State Junction Capacitance	C_J	0Vdc Bias f = 1 MHz	-	-	20	pF

NOTES :

1. Mounted on a FR4 PCB, single-sided copper, standard footprint.
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.

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TYPICAL CHARACTERISTIC CURVES

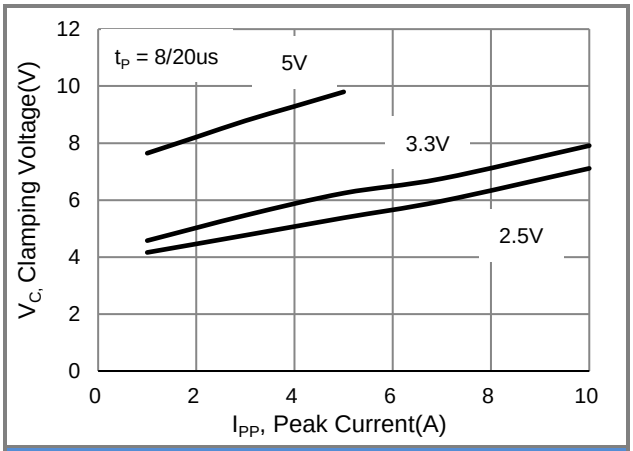

Fig.1 Typical Peak Clamping Voltage

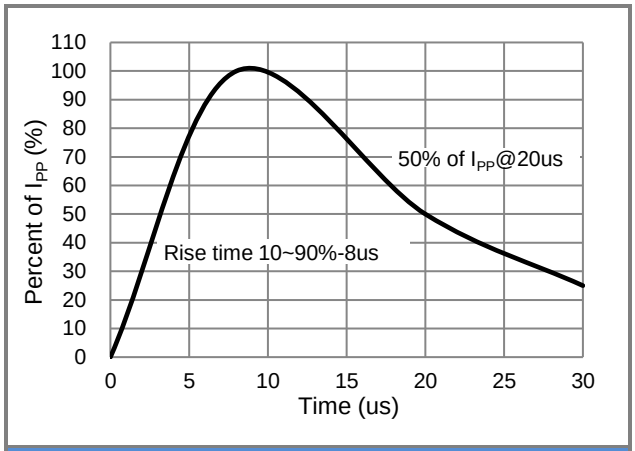

Fig.2 Pulse Waveform

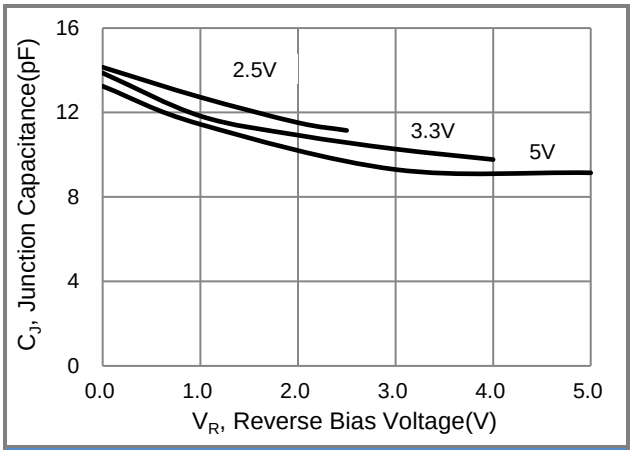

Fig.3 Typical Junction Capacitance

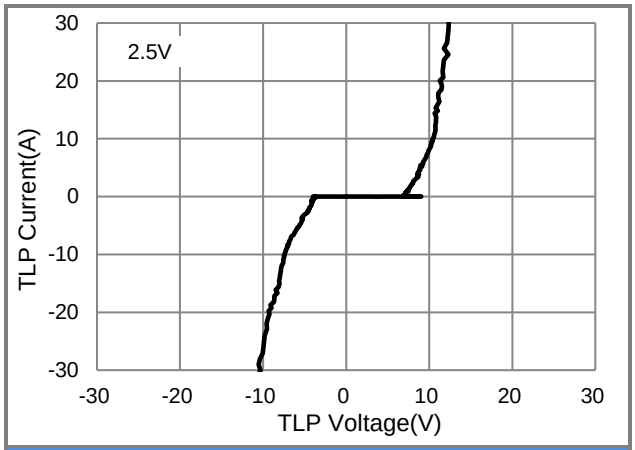

Fig.4 TLP Measurement

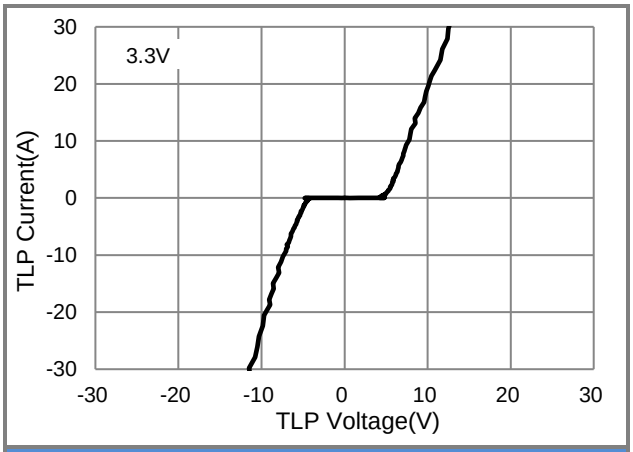

Fig.5 TLP Measurement

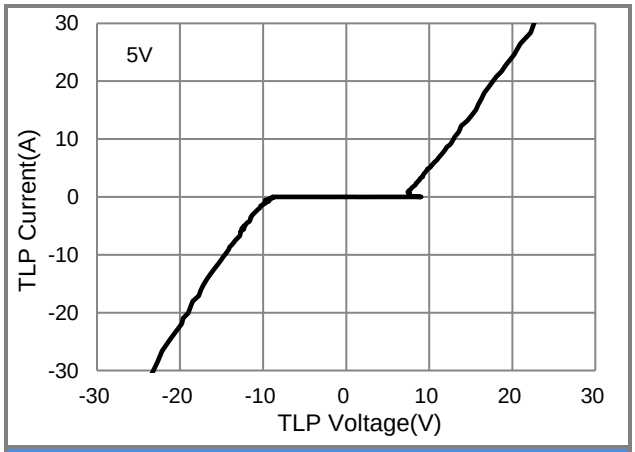

Fig.6 TLP Measurement

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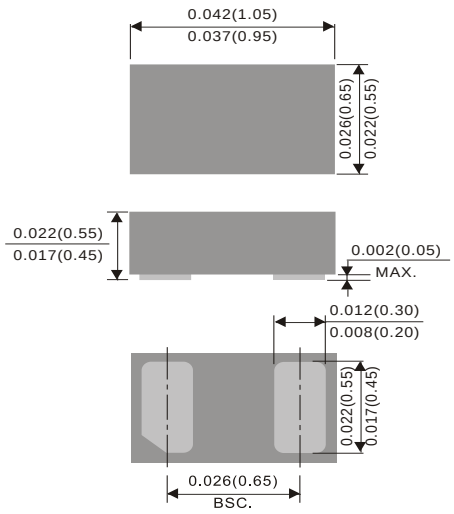
Product and Packing Information

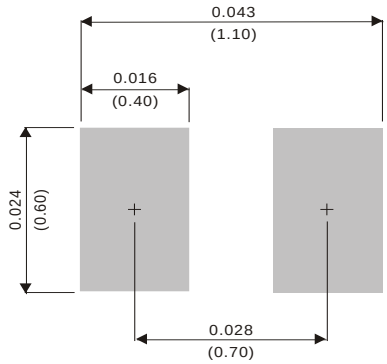
Part No.	Package Type	Packing Type	Marking
PEC3202M1Q	DFN1006-2L	10K pcs / 7" Reel	KJ
PEC3203M1Q	DFN1006-2L	10K pcs / 7" Reel	KK
PEC3205M1Q	DFN1006-2L	10K pcs / 7" Reel	HE

Packaging Information & Mounting Pad Layout

DFN1006-2L Dimension — Unit: inch(mm)



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



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