

# PEC22SD24M1Q-AU

## ESD Protection

Voltage

24 V

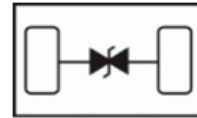
## Features

- ISO10605(C=330pF, R=330Ω) : ±30kV Air, ±30kV Contact
- HBM ≥ ±8kV & CDM ≥ ±2kV
- 1000 contact discharges (OPEN Alliance specification) with 15 kV (ISO10605 C=150pF, R=330Ω)
- OPEN Alliance 100BASE-T1 and 1000BASE-T1 qualified
- IEC61000-4-5(Lightning) : 2.3A(8/20uS)
- AEC-Q101 qualified
- 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

DFN1006-2L



## Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNIT
ESD IEC61000-4-2(Contact) <sup>(Note 2)</sup>	V <sub>ESD</sub>	±30	kV
ESD ISO10605 C=150pF, R=2kΩ(Contact) <sup>(Note 1)</sup>	V <sub>ESD</sub>	±30	kV
ESD ISO10605 C=330pF, R=330Ω(Contact) <sup>(Note 1)</sup>	V <sub>ESD</sub>	±30	kV
ESD ISO10605 C=330pF, R=2kΩ(Contact) <sup>(Note 1)</sup>	V <sub>ESD</sub>	±30	kV
ESD ISO10605 C=150pF, R=330Ω(1000 contact discharges) , OPEN Alliance specification <sup>(Note 1)</sup>	V <sub>ESD</sub>	±15	kV
Operating Junction Temperature Range	T <sub>J</sub>	-55~150	°C
Storage Temperature Range	T <sub>STG</sub>	-55~150	°C

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### Electrical Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

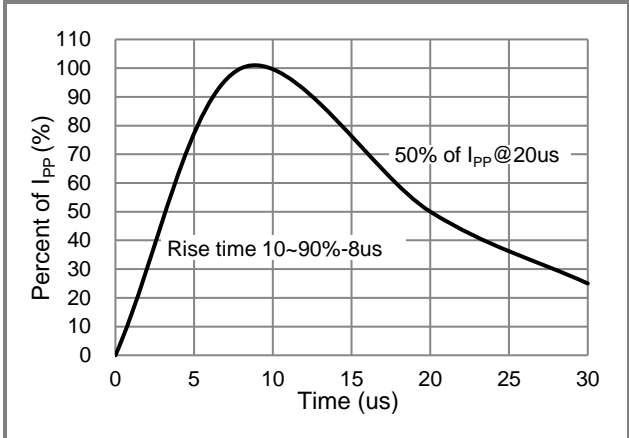
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage	V <sub>RWM</sub>	-	-	-	24	V
Reverse Leakage Current	I <sub>R</sub>	V <sub>R</sub> = 24 V	-	-	100	nA
Clamping Voltage	V <sub>CL</sub>	I <sub>PP</sub> = 2 A, t <sub>P</sub> = 8/20 us	-	55	-	V
Clamping Voltage TLP <sup>(Note 3)</sup>	V <sub>CL</sub>	I <sub>PP</sub> = 8 A, t <sub>P</sub> = 100 ns	-	51	-	V
		I <sub>PP</sub> = 16 A, t <sub>P</sub> = 100 ns	-	52	-	V
Peak Pulse Current <sup>(Note 2)</sup>	I <sub>PP</sub>	t <sub>P</sub> = 8/20us	-	2	2.3	A
Holding Voltage <sup>(Note 3)</sup>	V <sub>h</sub>	t <sub>p</sub> = 100ns	28	-	-	V
Trigger Voltage <sup>(Note 3)</sup>	V <sub>t</sub>	t <sub>p</sub> = 100ns	100	-	-	V
Dynamic Resistance <sup>(Note 3)</sup>	R <sub>DYM</sub>	t <sub>p</sub> = 100ns	-	0.13	-	Ω
Off State Junction Capacitance	C <sub>J</sub>	0Vdc Bias f = 1 MHz	-	-	2.5	pF

NOTES :

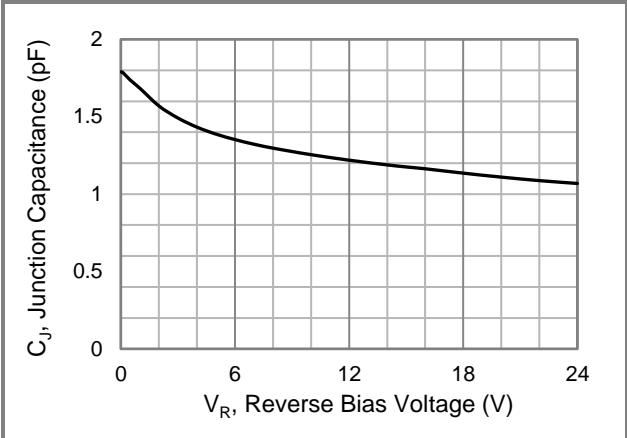
1. Device stressed with ten non-repetitive ESD pulses.
2. Device stressed with non-repetitive 8/20 us exponential decay waveform.
3. Testing using Transmission Line Pulse (TLP) conditions: Z<sub>0</sub> = 50 Ω, t<sub>P</sub> = 100 ns.

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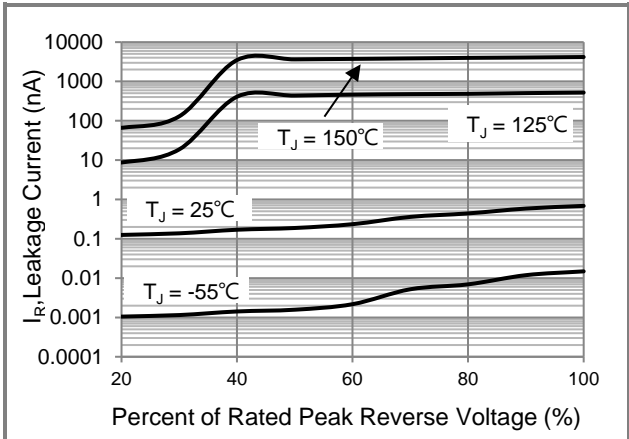
## TYPICAL CHARACTERISTIC CURVES



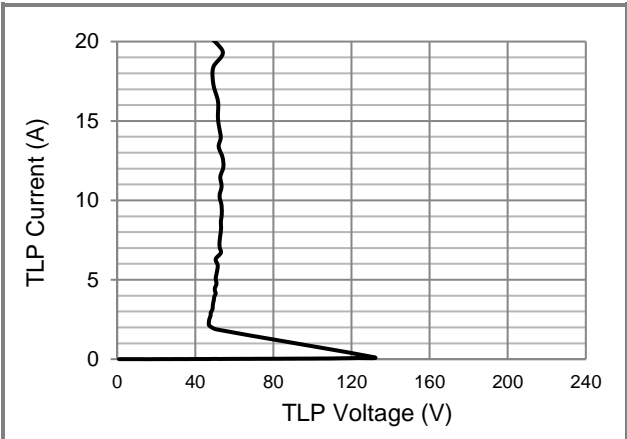
**Fig.1 Pulse Waveform**



**Fig.2 Typical Peak Clamping Voltage**



**Fig.3 Typical Reverse Characteristics**



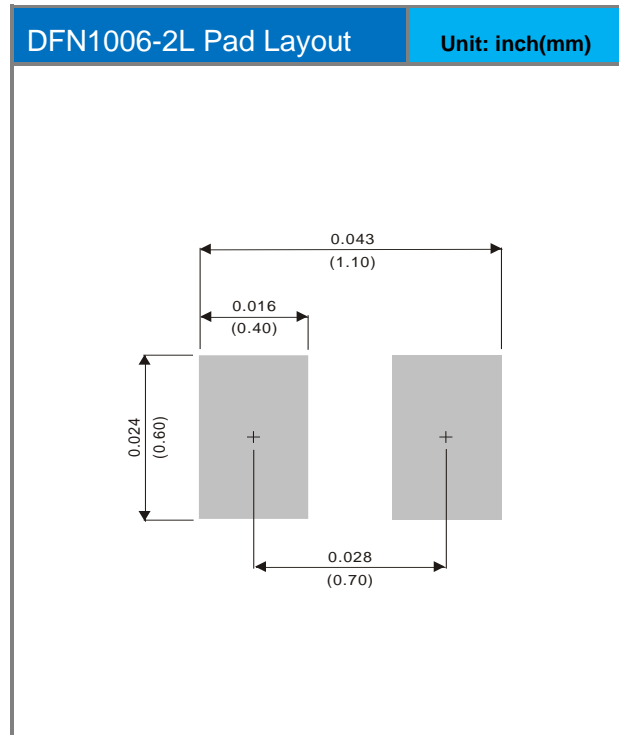
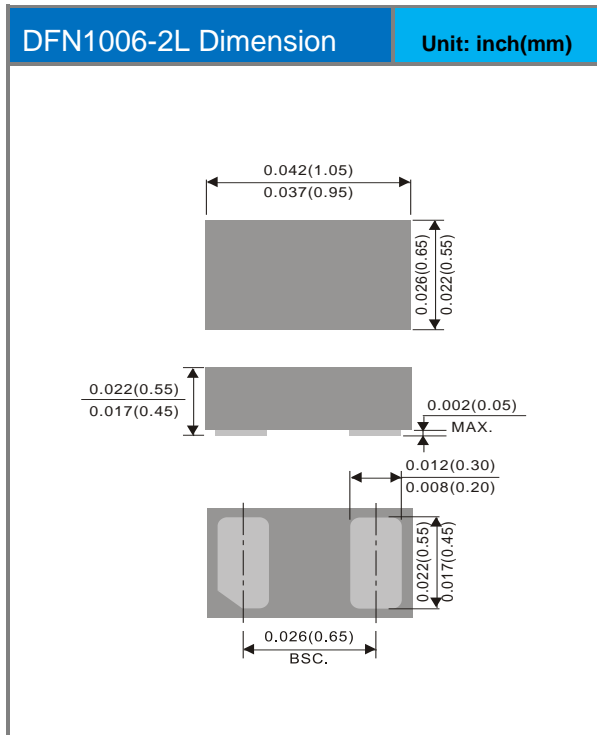
**Fig.4 TLP Measurement**

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## Product and Packing Information

Part No.	Package Type	Packing Type	Marking
PEC22SD24M1Q-AU	DFN1006-2L	10K pcs / 7" reel	YE

## Packaging Information & Mounting Pad Layout



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