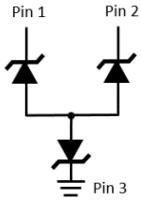
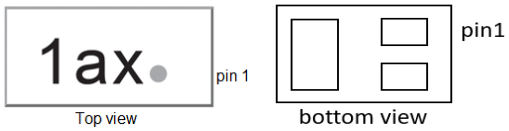
PS2405-D63

Low Capacitance ESD Protection

Voltage | **5V**

DFN1006-3L





Part Marking	Parameter
1ax	1a = Marking Code
	x = Tracking Code

Features

- IEC61000-4-2(ESD) : ±24kV Air, ±20kV Contact
- IEC61000-4-4(EFT) : 40A(5/50ns)
- IEC61000-4-5(Lightning) : 7A (8/20uS)
- Ultra-Low Capacitance: 0.42pF
- 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 : DFN1006-3L Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0007 grams

Applications

- USB 2.0 and 3.0/3.1/3.2
- Notebooks
- SATA ports

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}	±24 ±20	kV
Operating Junction Temperature Range	T_J	-55~125	°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 1)	V_{RWM}	any I/O Pin to GND	-	-	5	V
Reverse Breakdown Voltage	V_{BR}	I_{BR} = 1mA, any I/O Pin to GND	6	-	12	V
Reverse Leakage Current	I_R	V_{RWM} = 5V, any I/O Pin to GND	-	0.4	0.5	uA
Surge Clamping Voltage (8/20 us)	V_{CL}	I_{PP} = 5A, any I/O Pin to GND	-	3	4	V
Clamping Voltage TLP (tperiod=100ns,tr=1ns)(Note 2)	V_{CL}	I_{TLP} = 16A, any I/O Pin to GND	-	4.5	-	V
Off State Junction Capacitance (Note 3)	C_J	V_R = 2.5V, f = 1MHz, any I/O Pin to GND	-	0.39	0.44	pF

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: Z0 = 50 Ω, t_P = 100 ns.
3. This parameter is guaranteed by design.
4. 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

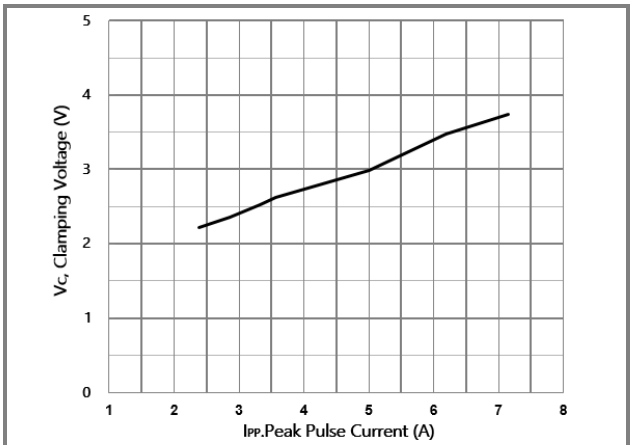

Fig.1 Typical Peak Clamping Voltage

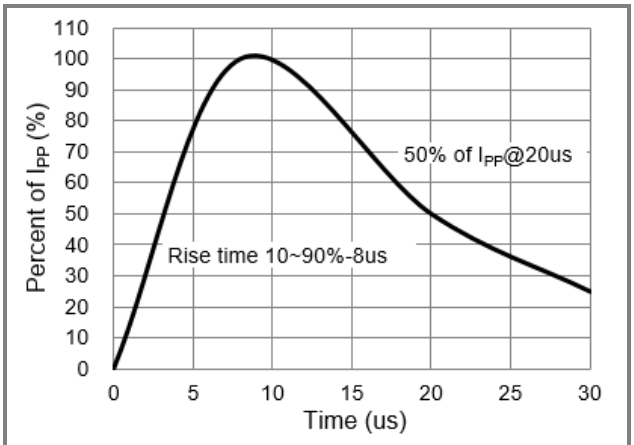

Fig.2 Pulse Waveform

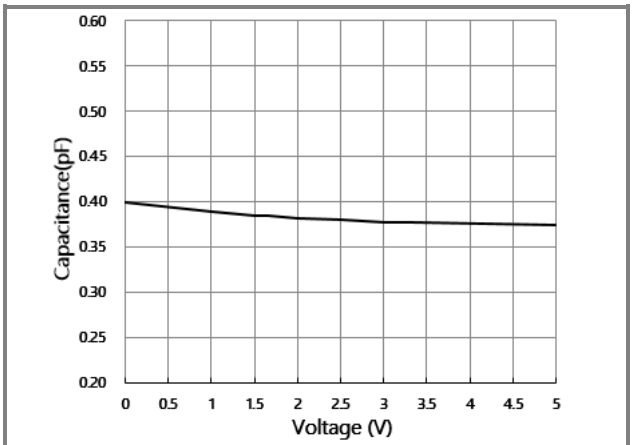

Fig.3 Typical Junction Capacitance

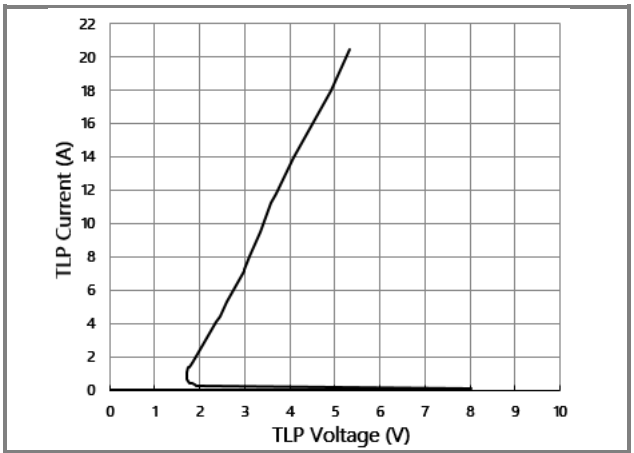

Fig.4 TLP Measurement

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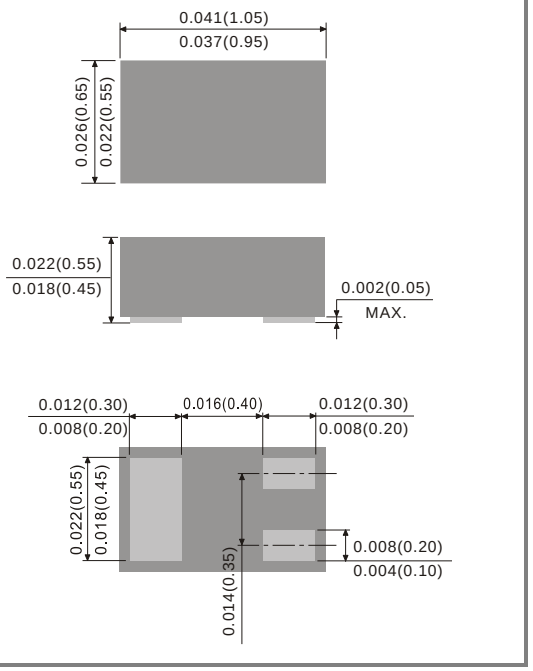
Product and Packing Information

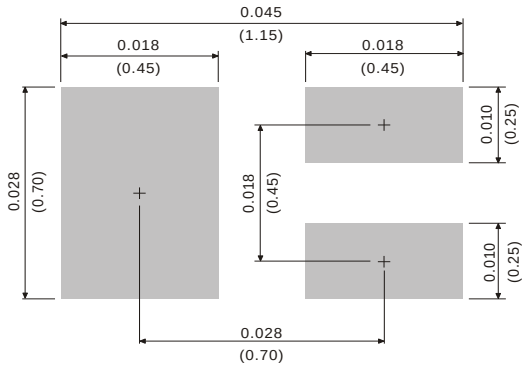
Part No.	Package Type	Packing Type	Marking
PS2405-D63	DFN1006-3L	10K pcs / 7” reel	1a

Packaging Information & Mounting Pad Layout

DFN1006-3L Dimension — Unit: inch(mm)



DFN1006-3L Pad Layout — Unit: inch(mm)



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