

Transient Voltage Suppressors Array for ESD Protection

Low Capacitance

LC3304NP10 & LC0504NP10

Description

The LC3304NP10 & LC0504NP10 is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

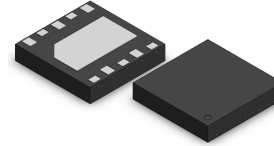
Feature

- u 450 Watts Peak Pulse Power per Line ($t_p=8/20\mu s$)
- u Protects four I/O lines
- u Low clamping voltage
- u RoHS Compliant
- u IEC61000-4-2 (ESD) $\pm 15kV$ (air), $\pm 8kV$ (contact)
- u IEC61000-4-4 (EFT) 40A (5/50ns)
- u IEC61000-4-5 (Lightning) 25A (8/20 μs)

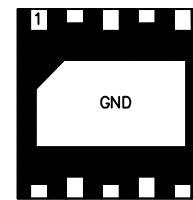
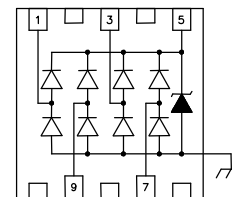
Applications

- u 10/100/1000 Ethernet
- u WAN/LAN Equipment
- u Test & Measurement Equipment
- u Switching Systems
- u Instrumentation
- u Audio/Video Inputs

DFN2626P10



Functional Diagram



Mechanical Characteristics

- u DFN2626P10 Package
- u Molding Compound Flammability Rating : UL 94V-0
- u Weight 12.0 Milligrams (Approximate)
- u Quantity Per Reel : 3,000pcs
- u Reel Size : 7 inch
- u Lead Finish : Lead Free

Mechanical Characteristics

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power ($t_p=8/20\mu s$ waveform)	450	W
T_L	Lead Soldering Temperature	260 (10sec)	$^{\circ}C$
T_{STG}	Storage Temperature Range	-55 to +150	$^{\circ}C$
T_{OP}	Operating Temperature Range	-55 to +150	$^{\circ}C$
	IEC61000-4-2 (ESD)	Air Discharge Contact Discharge	± 15 ± 8
	IEC61000-4-4 (EFT)		40 A
	IEC61000-4-5 (Lightning)		25 A

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Electrical Characteristics (@ 25°C Unless Otherwise Specified)

Part Number	Device Marking	V _{RWM} (V) (Max.)	V _B (V) (Min.)	I _T (mA)	V _C @1A (Max.)	V _C		I _R (μA) (Max.)	C (pF) (Typ.)
						(Max.)	(@A)		
LC3304NP10	LC3N	3.3	4.0	1	5.8	18	25	1	5
LC0504NP10	LC5N	5.0	6.0	1	9.8	20	25	1	5

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

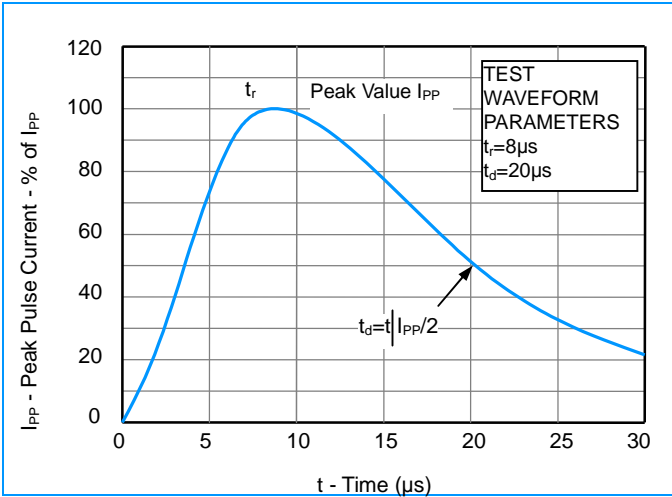


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

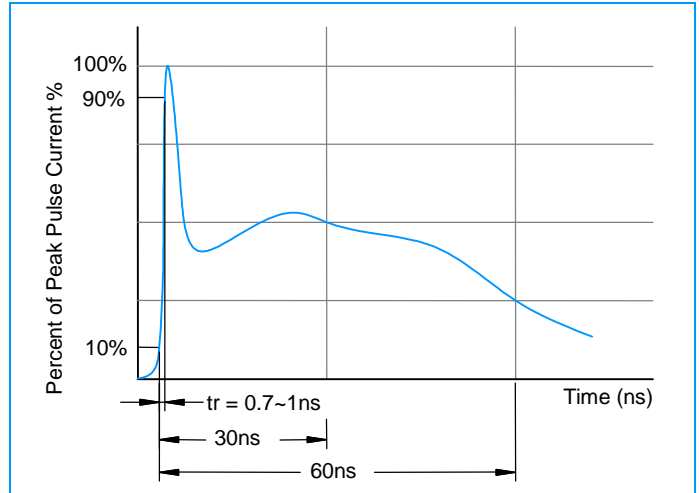


Fig3. ESD Clamping (+8KV Contac per IEC61000-4-2)

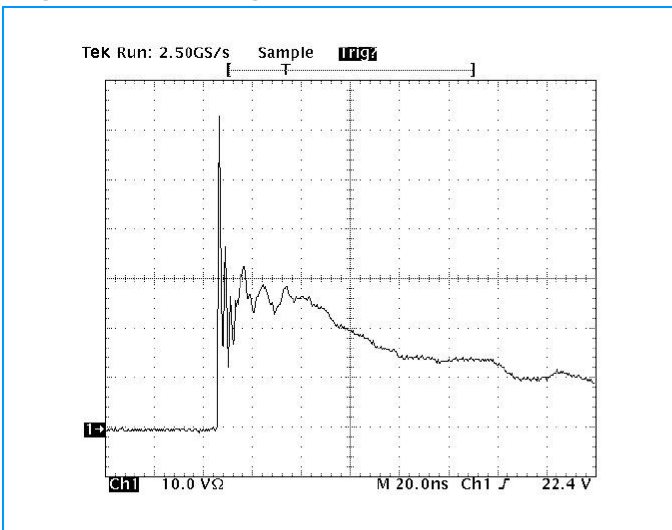
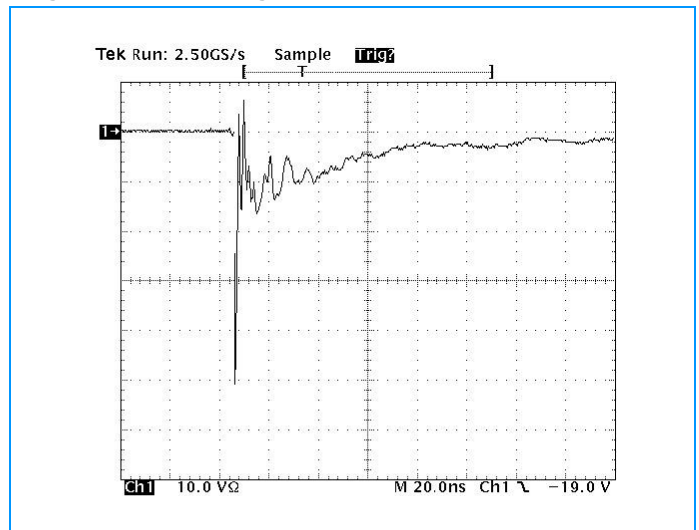


Fig4. ESD Clamping (-8KV Contac per IEC61000-4-2)

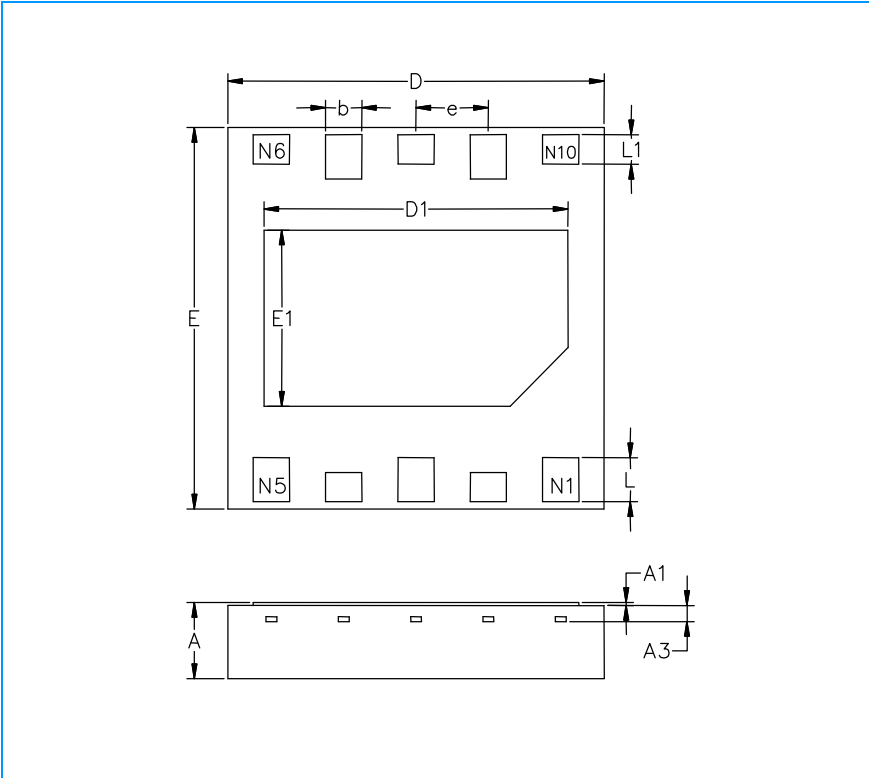


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DFN2626P10 Package Outline & Dimensions



Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.50	0.60	0.020	0.024
A1	-0.004	0.046	0.000	0.002
A3	0.110REF		0.004REF	
D	2.50	2.70	0.098	0.106
E	2.50	2.70	0.098	0.106
D1	2.00	2.20	0.079	0.087
E1	1.10	1.30	0.043	0.051
b	0.20	0.30	0.008	0.012
e	0.50TYP.		0.040TYP.	
L	0.25	0.35	0.010	0.014
L1	0.15	0.25	0.006	0.010