

Transient Voltage Suppressors for ESD Protection

ESDXXV88D-CDN Series

Description

The ESDXXV88D-CDN Series is ultra low capacitance TVS arrays designed to protect high speed data interfaces. This series has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from over-voltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).

Feature

- u 250 Watts Peak Pulse Power per Line (tp=8/20µs)
- u Protects One Bidirectional I/O Line
- u Low clamping voltage
- u Working voltages : 5V ~ 36V
- u Low leakage current
- u IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact) : 3.3V~ 15V
- u IEC61000-4-2 (ESD) ±25kV (air), ±15kV (contact) : 18V~ 36V
- u IEC61000-4-4 (EFT) 40A (5/50ns)

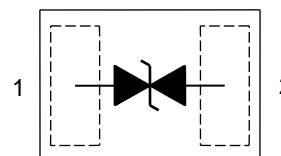
Applications

- u Cell Phone Handsets and Accessories
- u Microprocessor based equipment
- u Personal Digital Assistants (PDA's)
- u Notebooks, Desktops, and Servers
- u Portable Instrumentation
- u Peripherals
- u Pagers

DFN-1006DN



Functional Diagram



Mechanical Data

- u DFN1006DN (1.0x0.6x0.5mm) Package
- u Molding Compound Flammability Rating : UL 94V-0
- u Weight 0.5 Milligrams (Approximate)
- u Quantity Per Reel : 5,000pcs
- u Reel Size : 7 inch
- u Lead Finish : Lead Free

Mechanical Characteristics

Symbol	Parameter	Value	Units
P _{PP}	Peak Pulse Power (tp=8/20µs waveform)	250	W
T _L	Lead Soldering Temperature	260 (10sec)	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C
T _{OP}	Operating Temperature Range	-55 to +150	°C
	IEC61000-4-2 (ESD) 3.3V~ 15V	Air Discharge ±30 Contact Discharge ±30	KV
	IEC61000-4-2 (ESD) 18V~ 36V	Air Discharge ±25 Contact Discharge ±15	KV
	IEC61000-4-4 (EFT)	40	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)		
ESD3.3V88D-CDN	D3	3.3	4.5	1	7.0	12	15	30	95
ESD05V88D-CDN	D5	5.0	6.0	1	9.8	18	14	1	60
ESD08V88D-CDN	D8	8.0	8.5	1	13.4	22	10	1	45
ESD12V88D-CDN	DD	12.0	13.3	1	19.0	30	7	1	27
ESD15V88D-CDN	DE	15.0	16.7	1	24.0	37	6	1	25
ESD18V88D-CDN	DF	18.0	19.5	1	28.0	47	4	1	25
ESD24V88D-CDN	DH	24.0	36.7	1	43.0	55	3	1	24
ESD36V88D-CDN	DN	36.0	40.0	1	60.0	75	2	1	20

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

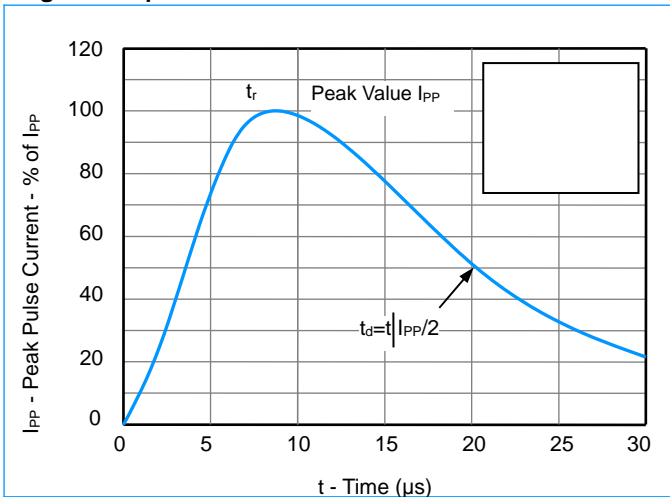


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

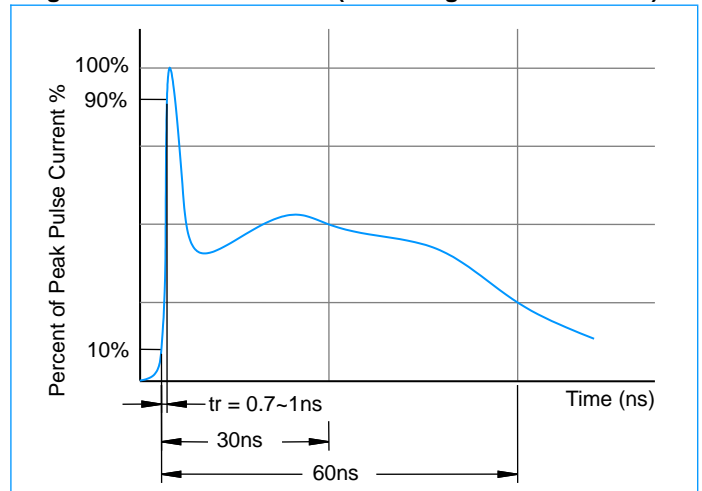


Fig3. ESD Clamping (+8KV Contac per IEC61000-4-2)

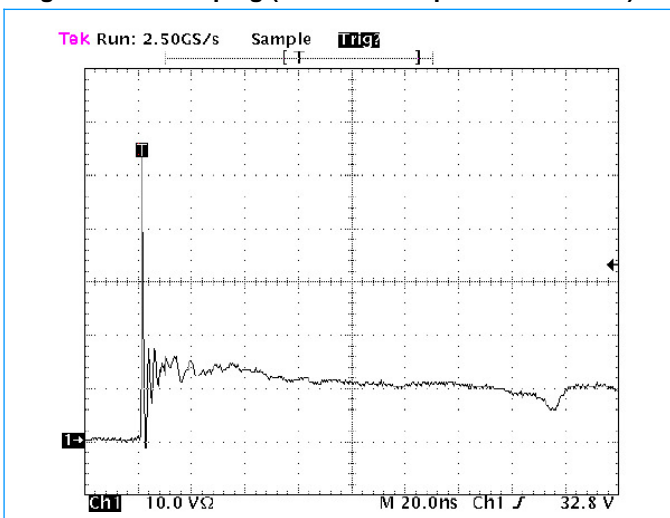
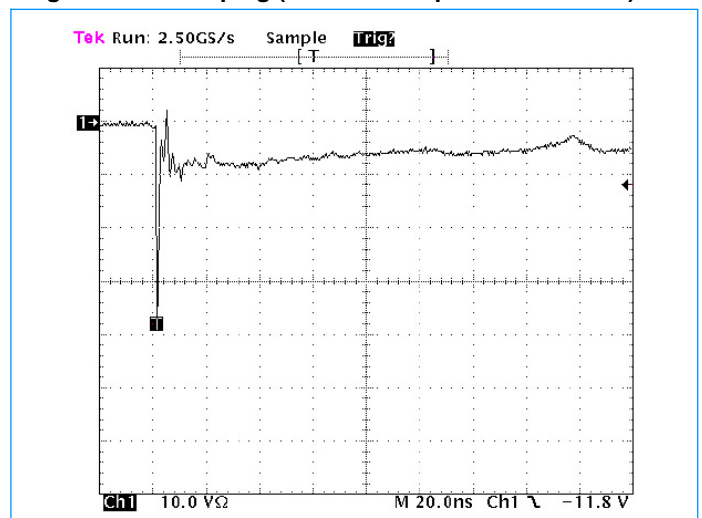


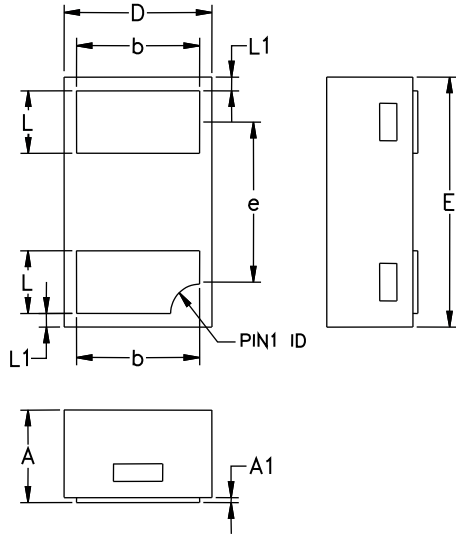
Fig4. ESD Clamping (-8KV Contac per IEC61000-4-2)



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DFN1006DN Package Outline & Dimensions



Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.450	0.550	0.016	0.020
A1	0.000	0.050	0.000	0.002
D	0.550	0.650	0.022	0.026
E	0.950	1.050	0.037	0.041
b	0.400	0.600	0.016	0.024
e	0.650TYP.		0.026TYP.	
L	0.150	0.350	0.006	0.014
L1	0.050REF		0.002REF	