

Transient Voltage Suppressors for ESD Protection

ESDXXV88D-CBP Series

Description

The ESDXXV88D-CBP 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 200 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) ±15kV (air), ±8kV (contact)
- u IEC61000-4-4 (EFT) 40A (5/50ns)

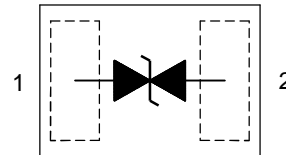
Applications

- 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-1006BP



Functional Diagram



Mechanical Data

- u DFN1006BP (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)	200	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)		
	Air Discharge	±15	KV
	Contact Discharge	±8	
	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)		
ESD05V88D-CBP	05	5	6.0	1	9.8	18	9	1	50
ESD08V88D-CBP	08	8	8.5	1	12	21	7	1	40
ESD12V88D-CBP	12	12	13.3	1	19	30	5	1	25
ESD15V88D-CBP	15	15	16.7	1	TBD	TBD	TBD	1	20
ESD24V88D-CBP	24	24	26.7	1	TBD	TBD	TBD	1	15
ESD36V88D-CBP	36	36	40.0	1	TBD	TBD	TBD	1	12

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

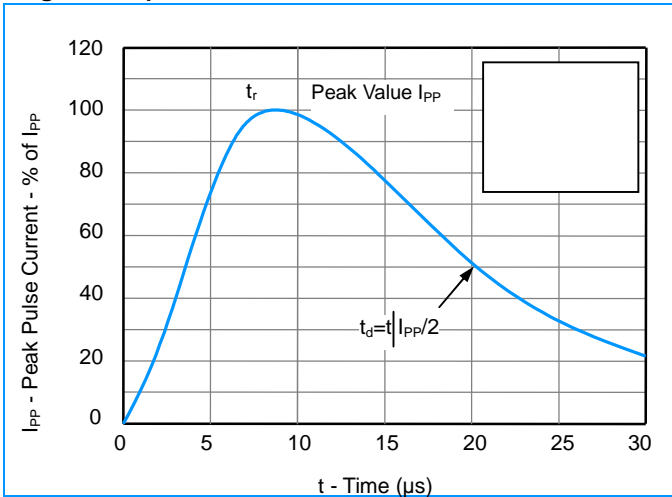


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

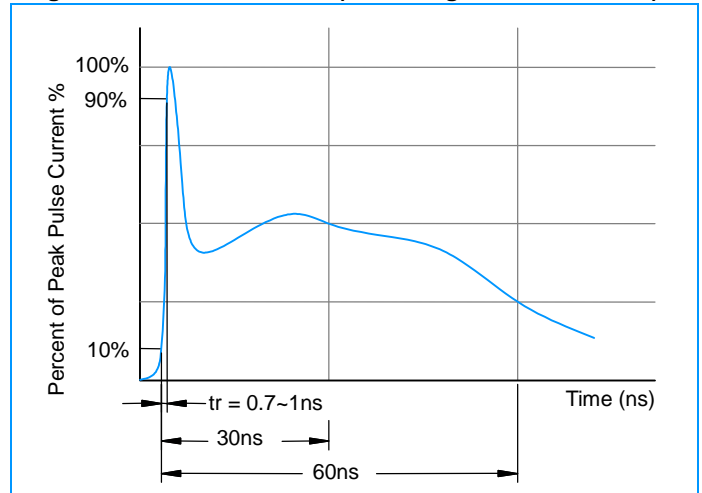


Fig3. ESD Clamping (+8KV Contac per IEC61000-4-2)

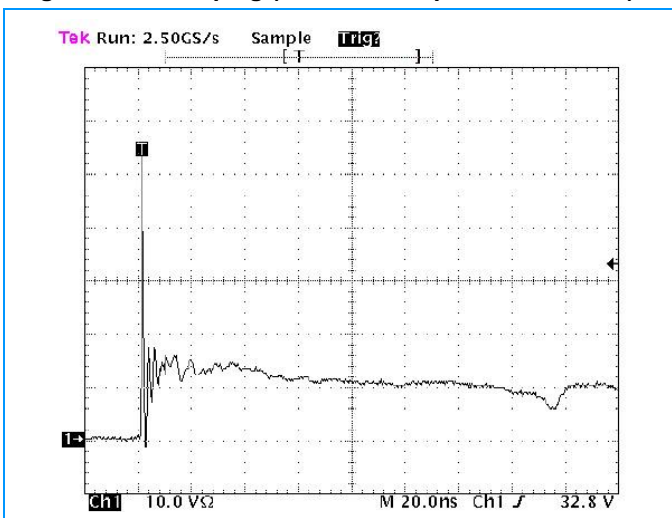
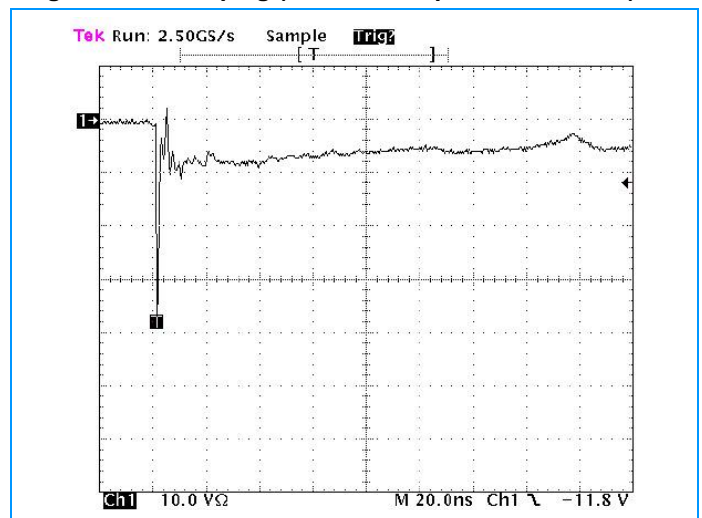


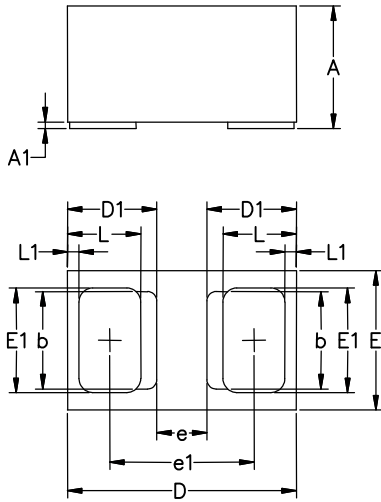
Fig4. ESD Clamping (-8KV Contac per IEC61000-4-2)



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DFN1006BP Package Outline & Dimensions



Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.450	0.550	0.018	0.022
A1	0.010	0.090	0.000	0.004
D	0.950	1.050	0.037	0.041
E	0.550	0.650	0.022	0.026
D1	0.390 REF		0.015REF	
E1	0.400	0.500	0.157	0.020
b	0.420REF		0.017REF	
e	0.360REF		0.014REF	
e1	0.580	0.68	0.023	0.027
L	0.270	0.370	0.011	0.015
L1	0.050 REF		0.002 REF	