

Transient Voltage Suppressors for ESD Protection

ESDXXV88D-CBP Series

Description

The ESDXXV88D-CBP 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. Because of its small size, ultra-low capacitance values, it is very suitable for signal port and board space speed transmission in very small places, such as Ethernet, mobile phones, MP3 players, digital cameras and other portable.

Feature

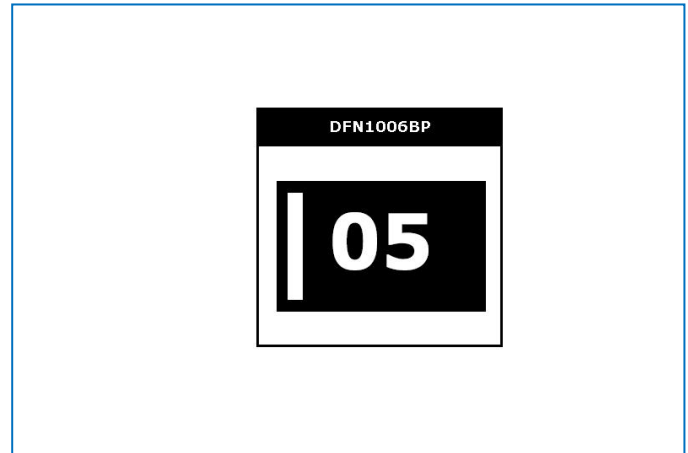
- ◆ 200 Watts Peak Pulse Power per Line (tp=8/20µs)
- ◆ Protects one I/O line (Bidirection)
- ◆ Low clamping voltage
- ◆ Working voltages: 5V ~ 36V
- ◆ Low leakage current
- ◆ IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50 ns)

Applications

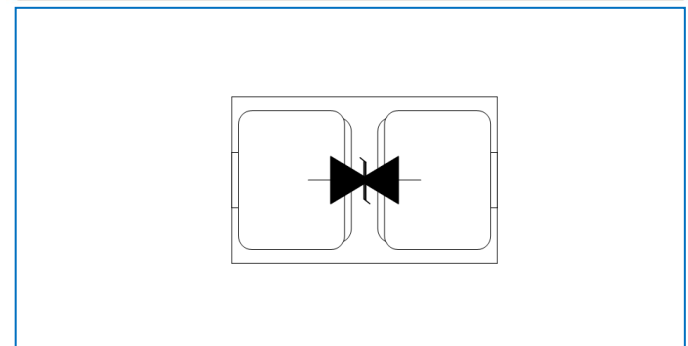
- ◆ Cell Phone Handsets and Accessories
- ◆ High Speed I/O Lines
- ◆ Notebooks & Handhelds
- ◆ Notebooks, Desktops, and Servers
- ◆ Portable Instrumentation
- ◆ Peripherals
- ◆ Pagers

Mechanical Characteristics

Symbol	Parameter	Value	Units
P _{pp}	Peak Pulse Power (tp=8/20µs waveform)	150	Watts
T _J	Operating Junction Temperature Range	-55 to +150	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C
T _L	Soldering Temperature	260	°C



Functional Diagram



Mechanical Data

- ◆ DFN1006BP (1.0x0.6x0.5mm) Package
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Weight 0.5 Milligrams (Approximate)
- ◆ Quantity Per Reel : 5,000pcs
- ◆ Reel Size : 7 inch
- ◆ Lead Finish : Lead Free

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Electrical Characteristics (@ 25°C Unless Otherwise Specified)

Part Number	Device Marking Code	Stand-Off Voltage V_{RWM} (V)	Breakdown Voltage V_{BR}	Test Current I_T (mA)	V_C @1A (Max.)	V_C		Maximum Reverse Leakage I_R @ V_{RWM} (uA)	Maximum Junction Capacitance @0 V (pF)
						(Max.)	(@A)		
ESD05V88D-CBP	05	5	6	1.0	9.8	18	9	1.0	50
ESD08V88D-CBP	08	8	8.5	1.0	12	21	7	1.0	40
ESD12V88D-CBP	12	12	13.3	1.0	19	30	5	1.0	25
ESD15V88D-CBP	15	15	16.7	1.0	TBD	TBD	TBD	1.0	20
ESD24V88D-CBP	24	24	26.7	1.0	TBD	TBD	TBD	1.0	15
ESD36V88D-CBP	36	36	40	1.0	TBD	TBD	TBD	1.0	12

Characteristic Curves

Fig1. 8/20µs Pulse Waveform

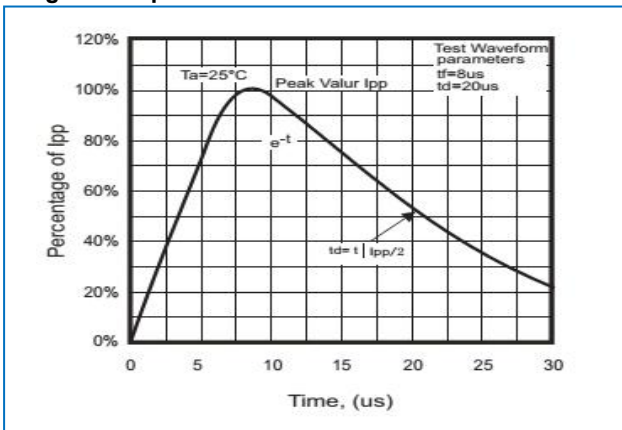


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

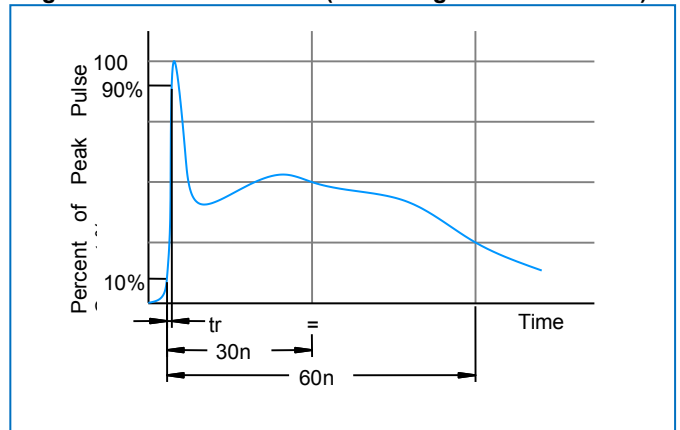


Fig3. ESD Clamping Voltage Screenshot
Positive 8 KV contact per IEC 61000-4-2

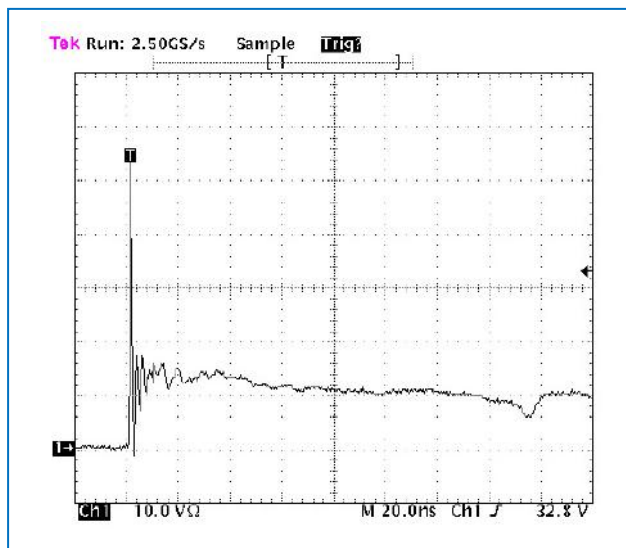
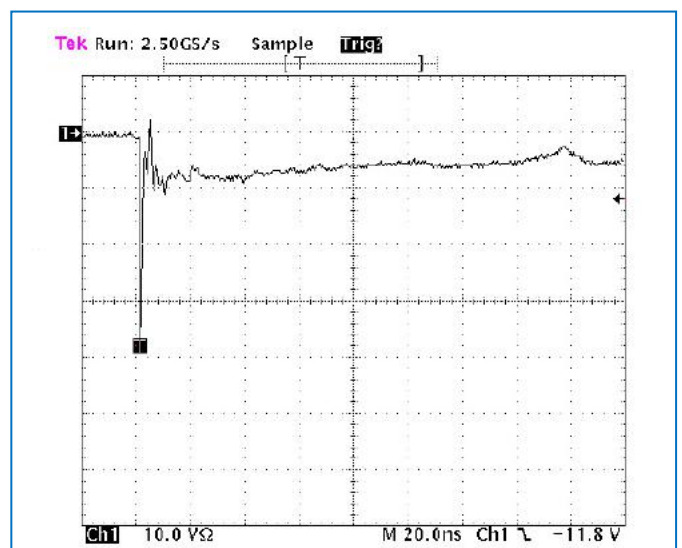


Fig4. ESD Clamping Voltage Screenshot
Negative 8 KV contact per IEC 61000-4-2



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DFN1006BP Package Outline & Dimensions

