

Transient Voltage Suppressors for ESD Protection

ESDXXV52D-AF Series

Description

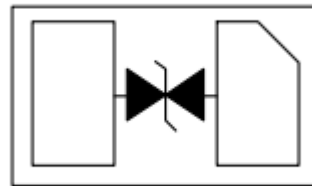
The ESDXXV52D-AF series is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, it is very suitable for signal port and board space speed transmission is very small places, such as Ethernet, mobile phones, digital cameras and other portable.



Feature

- ◆ 1100~1600 Watts Peak Pulse Power per Line ($t_p=8/20\mu s$)
- ◆ Protects One Unidirectional I/O Line
- ◆ Low clamping voltage
- ◆ Working voltages: 3.3V, 15V, 36V
- ◆ Low leakage current
- ◆ IEC61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ IEC61000-4-5 (LIGHTING) 80A, 40A, 16A (8/20 μs)

Functional Diagram



Applications

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

Mechanical Data

- ◆ DFN1610 Package (1.6x1.0x0.5mm)
- ◆ Molding Compound Flammability Rating: UL94V-0
- ◆ Weight 3.5 Milligrams (Approximate)
- ◆ Lead Finish: Lead Free

Mechanical Characteristics

Symbol	Parameter	Value	Units
P _{pp}	Peak Pulse Power ($t_p=8/20\mu s$ waveform) 03V/15V/36V	1600/1200/1100	Watts
TL	Lead Soldering Temperature	260 (10 sec.)	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C
T _J	Operating Junction Temperature Range	-55 to +150	°C

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Electrical Characteristics(@25°C Unless Otherwise Specified)

Part Number	Device Marking Code	Stand-Off Voltage VRMW (V)	Breakdown Voltage VBR(Min)	Test Current IT (mA)	V C@1A (V) Max	Vc		Maximum Reverse Leakage I R @V RWM (uA)
						(Max.)	(@A)	
ESD3.3V52D-AF	ST3	3.0	4.0	1.0	5.8	20.0	80.0	20.0
ESD15V52D-AF	STC	15.0	16.3	1.0	18.5	30.0	40.0	1.0
ESD36V52D-AF	STK	36.0	40.0	1.0	48.0	70.0	16.0	1.0

Characteristics Curves

Fig1: 8/20μs Pulse Waveform

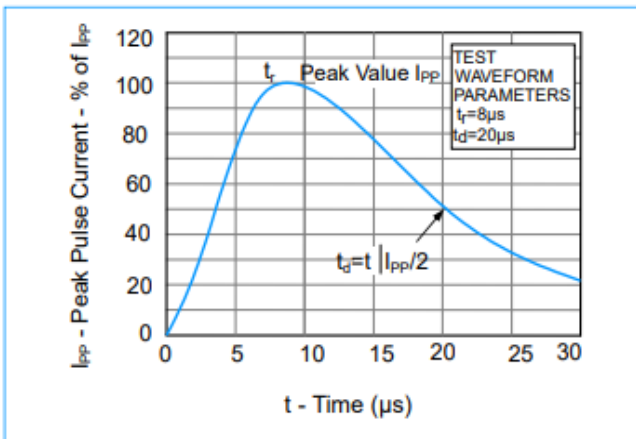


Fig2. Power Rating Derating Curve

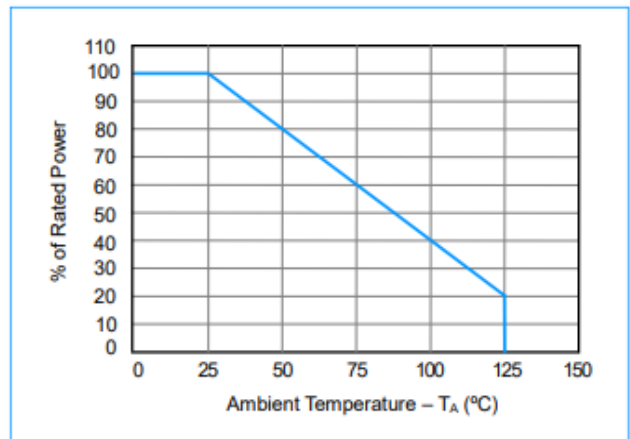
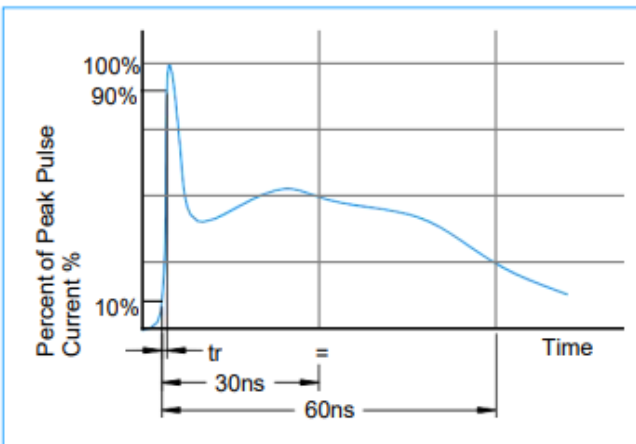


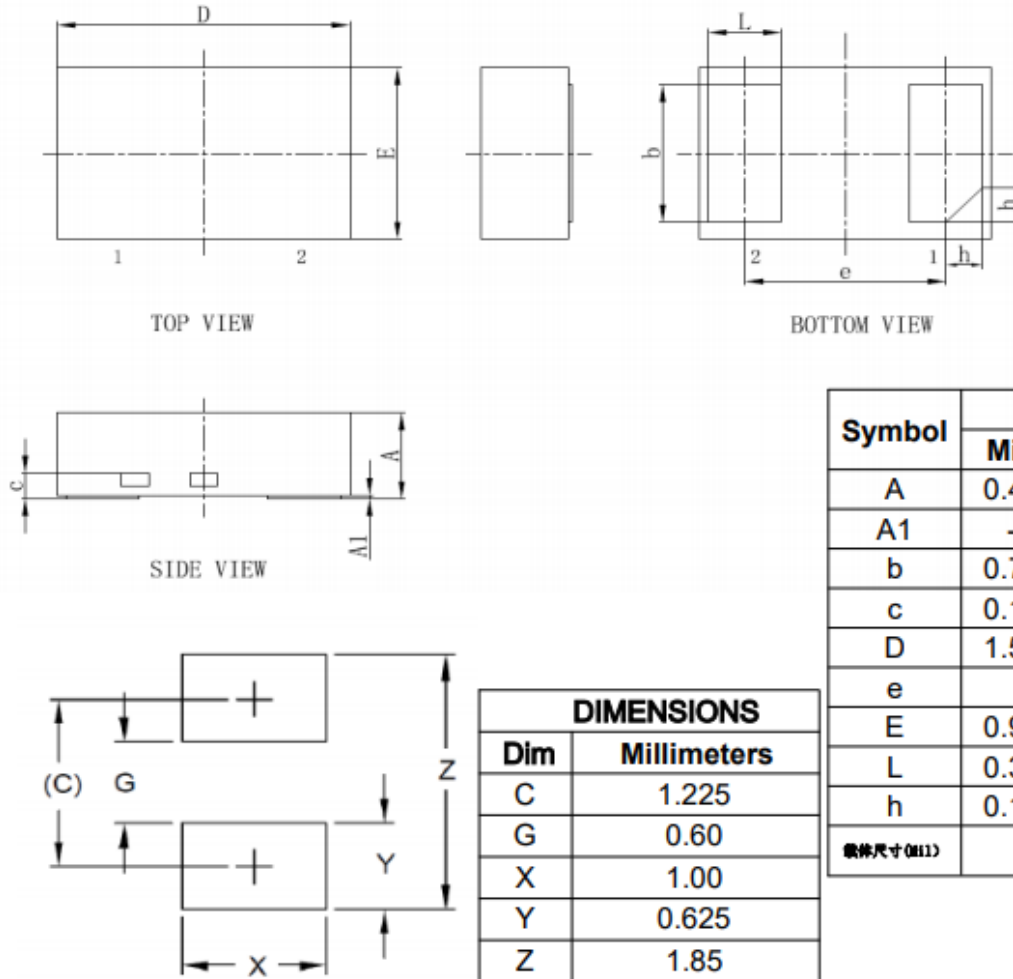
Fig3. ESD Pulse Waveform (according to IEC61000-4-2)



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DFN1610 Package Outline & Dimensions



Ordering Information

Device	Marking	Package	Quantity	Reel Size
ESDXXV52D-AF Series	---	DFN1610	3,000pcs/Reel	7 inch