

Transient Voltage Suppressors for ESD Protection

Low Capacitance

ESDXXV32D-LC Series

Description

The ESDXXV32D-LC 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 is very small places, such as Ethernet, mobile phones, MP3 players, digital cameras and other portable.

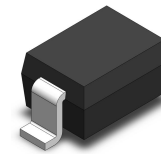
Feature

- ◆ 350 Watts Peak Pulse Power per Line (tp=8/20μs)
- ◆ Protects one bi-directional I/O line
- ◆ Low clamping voltage
- ◆ Working voltages: 3.3V, 5V, 8V, 12V, 15V, 24V
- ◆ Low leakage current
- ◆ RoHS compliant
- ◆ IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ IEC61000-4-5 (Lightning) 20A、17A、20A、11A、10A、6A(8/20μs)

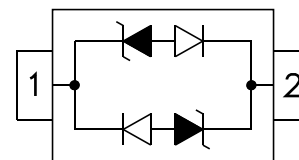
Applications

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

SOD-323



Functional Diagram



Mechanical Characteristics

- ◆ SOD-323 Package
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Weight 5.0 Milligrams (Approximate)
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Lead Finish : Lead Free

Absolute Maximum Ratings (T_A=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Units
Storage Temperature Range	T _{STG}	-55 to +150	°C
Operating Junction Temperature Range	T _J	-55 to +150	°C
Lead Soldering Temperature	T _L	260 (10sec.)	°C
Peak Pulse Power dissipation on 8/20μs waveform)	P _{PP}	350	W
ESD per IEC 61000-4-2 (Air)	V _{ESD}	±15	KV
ESD per IEC 61000-4-2 (Contact)		±8	

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Electrical Characteristics (T_A= 25°C)

Part Number	V _{RWM} (V)	I _R @ V _R (μA)	V _{BR} @ I _T =1mA Min(V)	V _C @1A Max(V)	V _C @ I _{PP} Max(V)	I _{PP} ^① (A)	C _j @ 0V,1MHz Typ(pF)
ESD03V32D-LC	3.3	1	4.0	7.5	19.0	20	1.2
ESD05V32D-LC	5.0	1	6.0	9.8	18.0	17	1.2
ESD08V32D-LC	8.0	1	8.5	13.5	27.0	20	1.2
ESD12V32D-LC	12.0	1	13.3	19.0	29.0	11	1.2
ESD15V32D-LC	15.0	1	16.7	24.0	40.0	10	1.5
ESD24V32D-LC	24.0	1	26.7	43.0	55.0	6	1.2

① Surge waveform: 8/20μs

Ratings and V-I Curve Characteristics Curves (T_A=25°C, unless otherwise noted)

Fig1. V- I Curve Characteristics

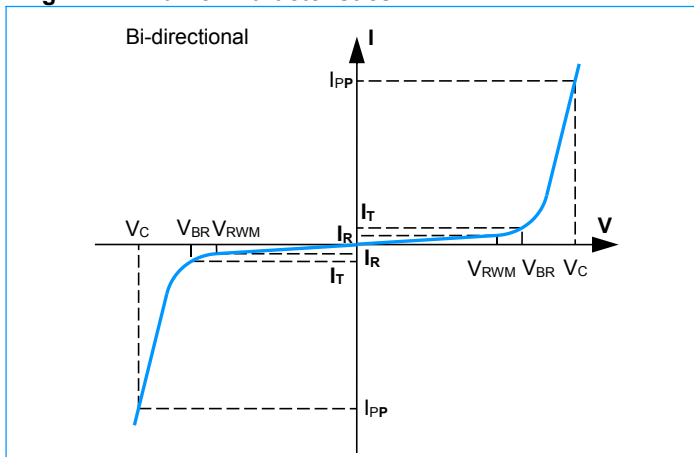


Fig2. Pulse Waveform

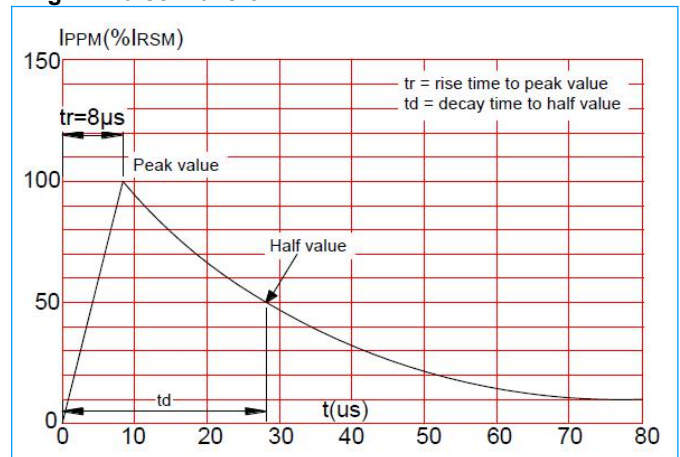


Fig3. Pulse Derating Curve

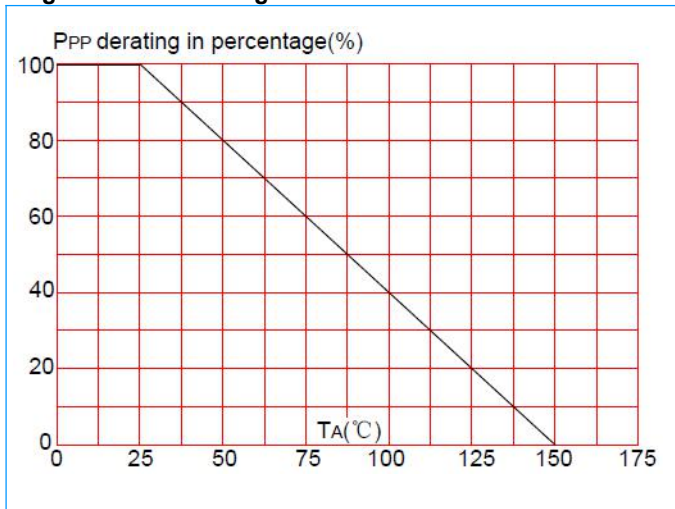
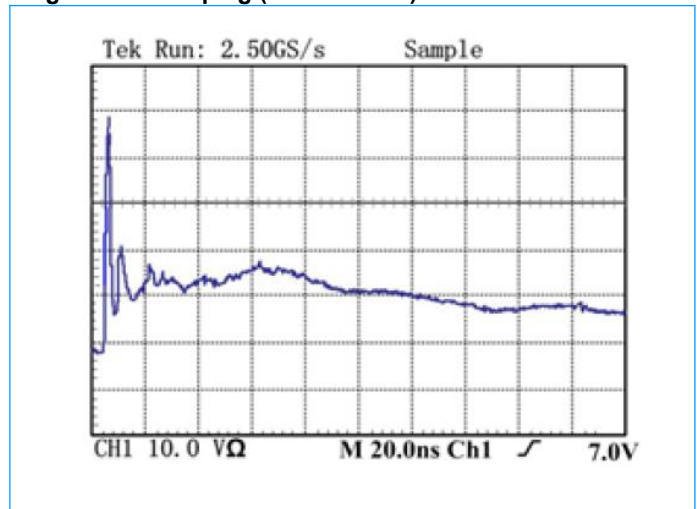
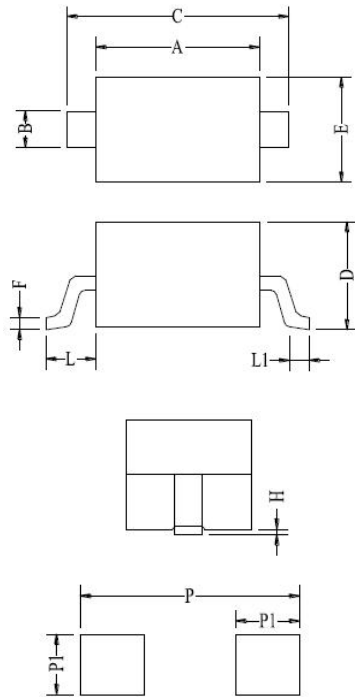


Fig4. ESD Clamping (8KV Contact)



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Package Mechanical Data


Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.60	1.80	0.063	0.071
B	0.25	0.35	0.010	0.014
C	2.50	2.70	0.098	0.106
D	0.00	1.00	0.000	0.039
E	1.20	1.40	0.047	0.055
F	0.08	0.15	0.003	0.006
L	0.475REF		0.019REF	
L1	0.25	0.40	0.010	0.016
H	0.00	0.10	0.000	0.004
P	3.00		0.118	
P1	0.80		0.031	