

Transient Voltage Suppressors for ESD Protection

ESDXXV32D-LC Series

Description

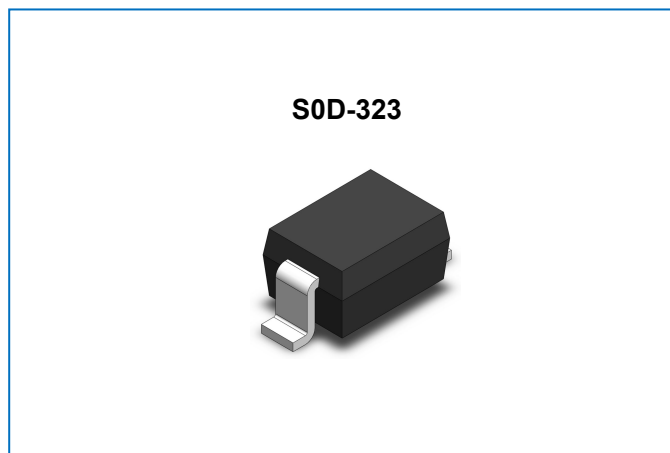
The ESDXXV32D-LC is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, ultra-low capacitance values, it is very suitable for signal port and board space speed transmission in very small places, such as Ethernet, mobile phones, MP3 players, digital cameras and other portable.

Feature

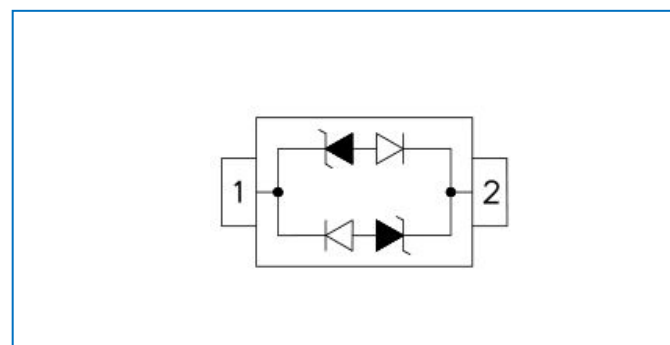
- ◆ 350 Watts (LC05CI) Peak Pulse Power per Line (tp=8/20μs)
- ◆ Protects one I/O line (bidirectional)
- ◆ Low clamping voltage
- ◆ Working voltages: 3.3V, 5V, 8V, 12V, 15V, 18V, 24V and 36V
- ◆ Low leakage current
- ◆ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact) : 3.3 ~ 15V
- ◆ IEC61000-4-2 (ESD) ±25kV (air), ±15kV (contact) : 24V
- ◆ IEC61000-4-4 (EFT) 40A (5/50 ns)

Applications

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



Functional Diagram



Mechanical Data

- ◆ SOD-323 Package
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Weight 5 Milligrams (Approximate)
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Reel Size : 7 inch
- ◆ Lead Finish : Lead Free

Symbol	Parameter	Value	Units
P _{pp}	Peak Pulse Power (tp=8/20μs waveform)	350	Watts
T _J	Operating Junction Temperature Range	-55 to +150	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C
T _L	Soldering Temperature, T max = 10s	260	°C

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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)		
ESD03V32D-LC	CC	3.3	4	1.0	7.5	24	15	40	1.2
ESD05V32D-LC	AC	5.0	6	1.0	9.8	25	14	5	1.2
ESD08V32D-LC	BC	8.0	8.5	1.0	13.4	26	12	2	1.2
ESD12V32D-LC	DC	12	13.3	1.0	19	30	7	1	1.2
ESD15V32D-LC	EC	15	16.7	1.0	24	35	6	1	1.2
ESD18V32D-LC	FC	18	19	1.0	27	40	5	1	1.2
ESD24V32D-LC	HC	24	26.7	1.0	43	56	3	1	1.2
ESD36V32D-LC	KC	36	40	1.0	60	75	2	1	1.2

Fig1. 8/20µs Pulse Waveform

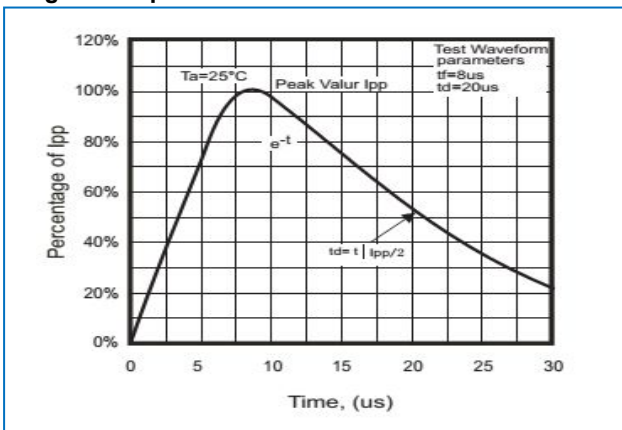


Fig2.ESD Pulse Waveform (according to IEC 61000-4-2)

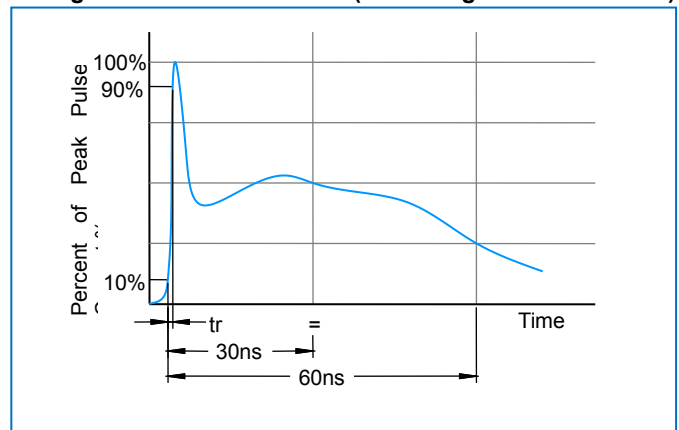


Fig3. ESD Clamping Voltage Screenshot Positive 8 KV contact per IEC 61000-4-2

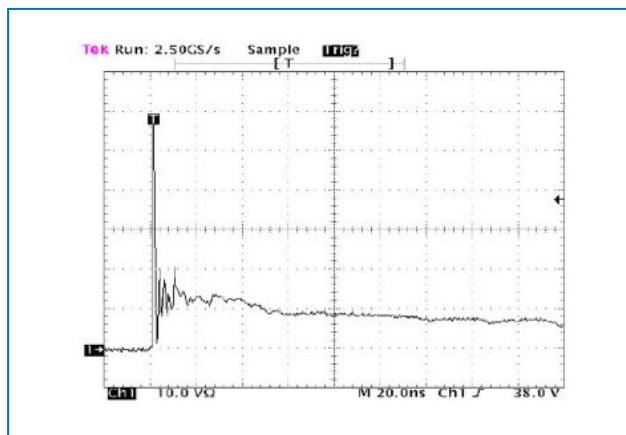
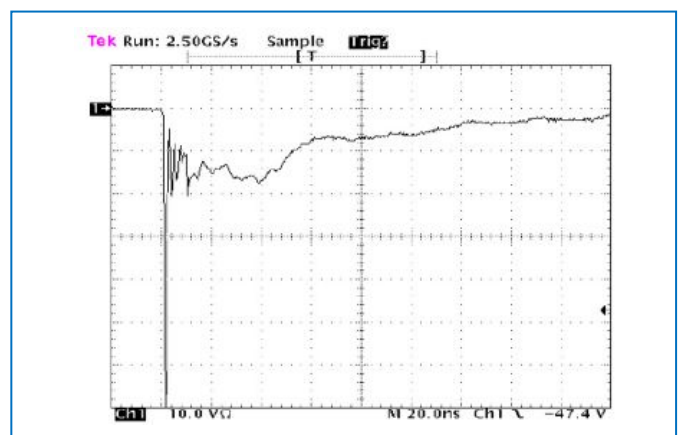


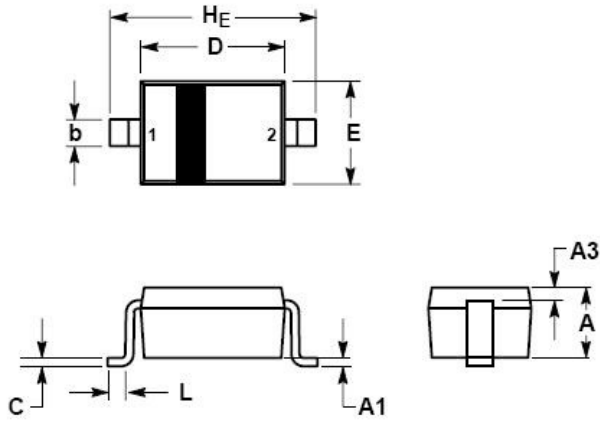
Fig4. ESD Clamping Voltage Screenshot Negative 8 KV contact per IEC 61000-4-2



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SOD-323 Package Outline & Dimensions



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.031	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A3	0.15 REF			0.006 REF		
b	0.25	0.32	0.4	0.010	0.012	0.016
C	0.089	0.12	0.177	0.003	0.005	0.007
D	1.60	1.70	1.80	0.062	0.066	0.070
E	1.15	1.25	1.35	0.045	0.049	0.053
L	0.08			0.003		
HE	2.30	2.50	2.70	0.090	0.098	0.105

* SOLDERING FOOTPRINT

