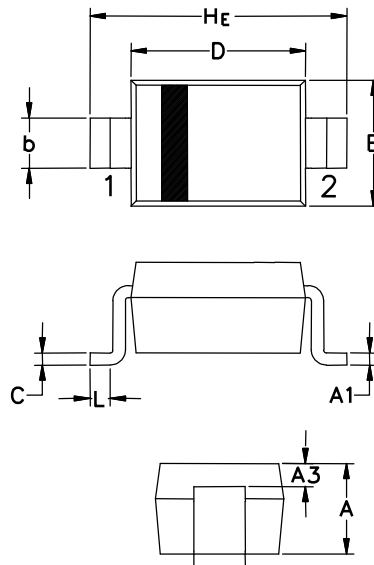


Transient Voltage Suppressors for ESD Protection

Description

The ESD03V32D-LCA 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.

SOD-323



Feature

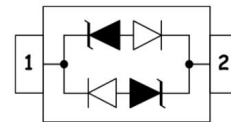
- ◆ 150 Watts Peak Pulse Power per Line ($t_p=8/20\mu s$)
- ◆ Protects One Bidirectional I/O line
- ◆ Low clamping voltage
- ◆ Working voltages : 3.3V
- ◆ Low leakage current
- ◆ IEC61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50 ns)

Applications

- ◆ Ethernet - 10/100/1000 Base T
- ◆ Cellular Phones
- ◆ I²C Bus Protection
- ◆ Parallel & Serial Port Protection
- ◆ Personal Digital Assistant (PDA)
- ◆ Microcontroller Input Protection
- ◆ ISDN S/T Interface

Symbol	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	0.40	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		
H_E	2.30	2.50	2.70	0.090	0.098	0.105

Functional Diagram



Mechanical Characteristics

Symbol	Parameter	Value	Units
P_{pp}	Peak Pulse Power ($t_p=8/20\mu s$ 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, T max = 10s	260	°C



Transient Voltage Suppressors for ESD Protection

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-LCA	CA1	3.3	3.5	1.0	6.0	15	10	0.5	1

◆ I_R : <0.5uA, T_C = 25°C

◆ I_R : <1.0uA, T_C = 125°C

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

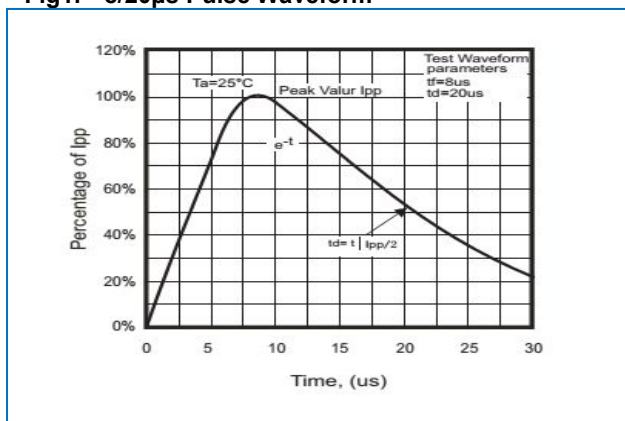


Fig2.ESD Pulse Waveform (according to IEC 61000-4-2)

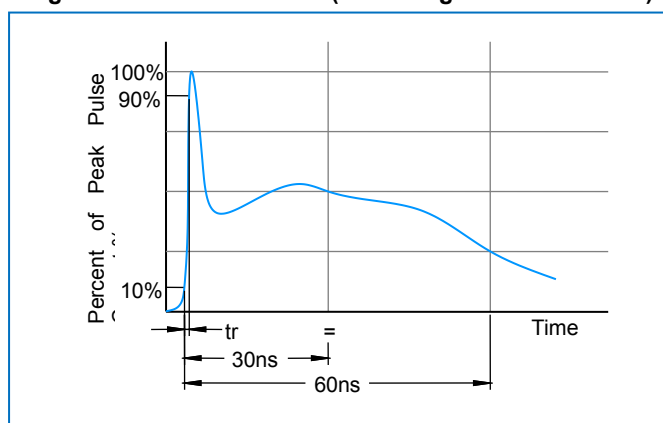


Fig3. ESD Clamping Voltage Screenshot
Positive 8 KV contact per IEC 61000-4-2

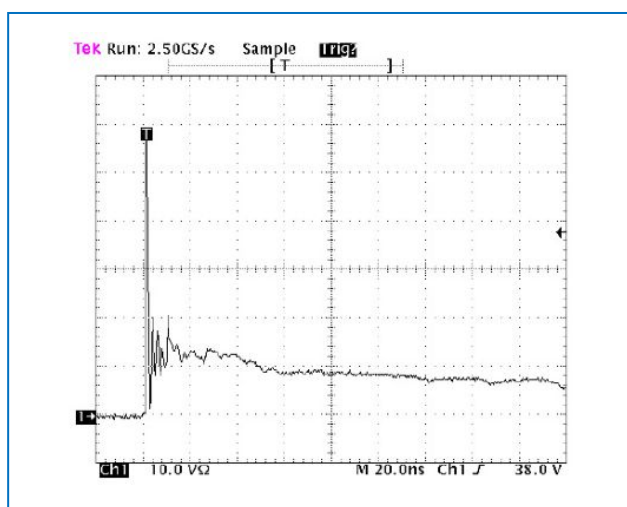


Fig4. ESD Clamping Voltage Screenshot
Negative 8 KV contact per IEC 61000-4-2

