

**Transient Voltage Suppressors for ESD Protection**

**Low Capacitance**

**ESDXXV23T-LC**

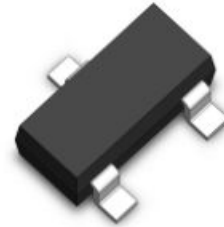
**Description**

The ESDXXV23T-LC is low capacitance TVS arrays designed to protect high speed data interfaces. 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.

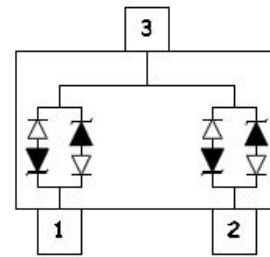
**Feature**

- ◆ 300 Watts Peak Pulse Power per Line (tp=8/20 μ s)  
-- 3.3 ~ 8V
- ◆ 180 Watts Peak Pulse Power per Line (tp=8/20 μ s)  
-- 12 ~ 24V
- ◆ Protects two I/O lines
- ◆ Working voltages : 3.3, 5, 8, 12, 15,18 and 24V
- ◆ Low leakage current
- ◆ Low clamping voltage
- ◆ IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50 η s)

**SOT-23**



**Functional Diagram**



**Applications**

- ◆ High-Speed data lines
- ◆ Cellular handsets AND accessories
- ◆ Universal Serial Bus (USB) port protection
- ◆ Portable instrumentation
- ◆ LAN / WAN equipment
- ◆ Peripherals

**Mechanical Data**

- ◆ JEDEC SOT-23 Package
- ◆ Molding Compound Flammability Rating : UL 94V-O
- ◆ Weight 8 Milligrams (Approximate)
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Reel Size : 7 inch
- ◆ Lead Finish : Lead Free

**Mechanical Characteristics**

Symbol	Parameter	Value	Units
Ppp	Peak Pulse Power (tp=8/20μs waveform) -- ESD05V32D-LA	180/300	Watts
T <sub>J</sub>	Operating Junction Temperature Range	-55 to +150	°C
T <sub>STG</sub>	Storage Temperature Range	-55 to +150	°C
T <sub>L</sub>	Soldering Temperature	260	°C

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ESDXXV23T-LC

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)		
ESD03V23T-LC	BW3	3.3	4.0	1.0	7.0	23	13	0.5	1.5
ESD05V23T-LC	BW5	5.0	6.0	1.0	9.8	25	12	1	1.5
ESD08V23T-LC	BW8	8.0	8.5	1.0	13.4	30	10	1	1.5
ESD12V23T-LC	BWA	12	13.3	1.0	19.0	36	5	1	1.5
ESD15V23T-LC	BWC	15	16.7	1.0	24.0	40	4.5	1	1.5
ESD18V23T-LC	BWD	18	19.7	1.0	27.0	45	4	1	1.5
ESD24V23T-LC	BWF	24	26.7	1.0	43.0	60	3	1	1.5

Characteristic Curves

Fig1. 8/20µs Pulse Waveform

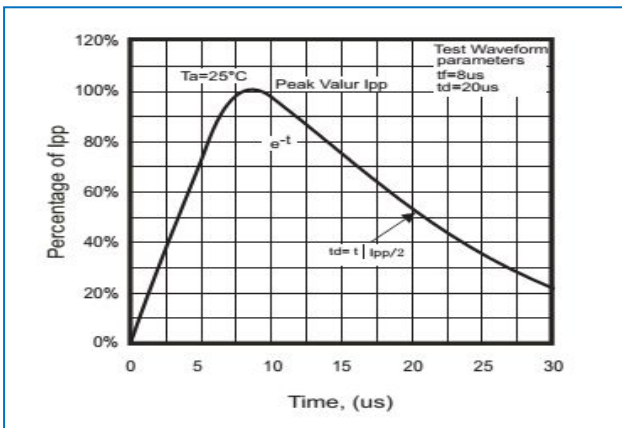


Fig2.ESD Pulse Waveform (according to IEC 61000-4-2)

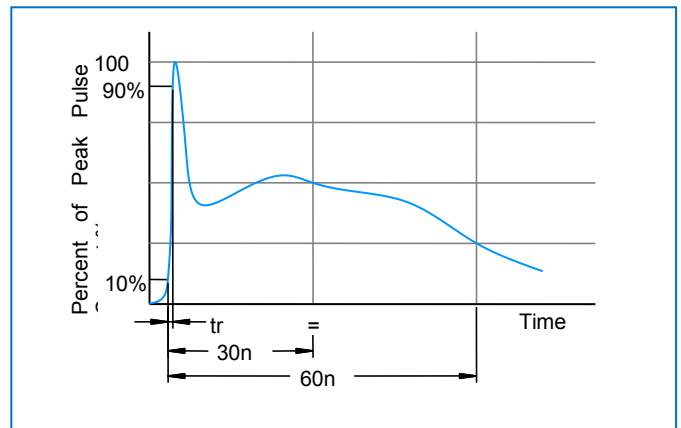


Fig3. ESD Clamping Voltage Screenshot Positive 8 KV contact per IEC 61000-4-2

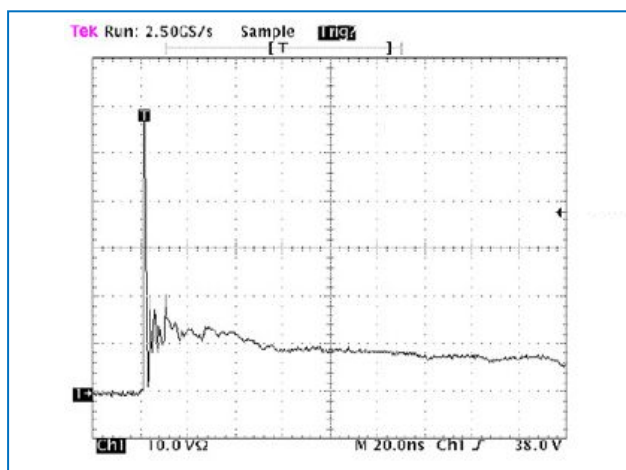
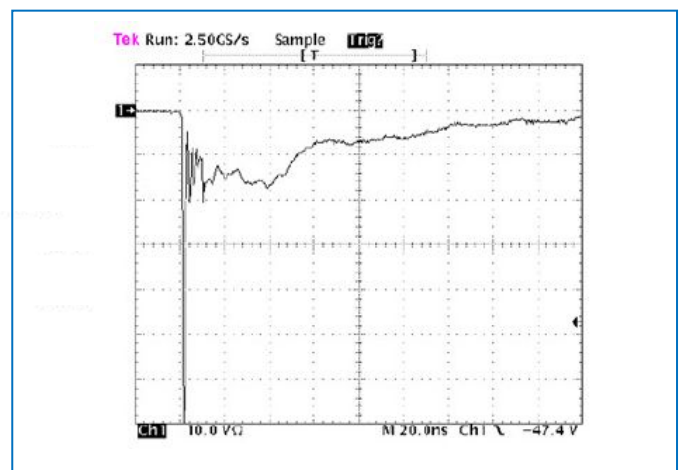
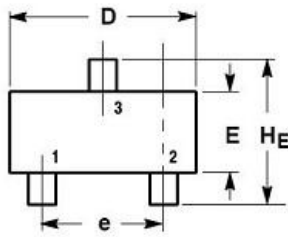


Fig4. ESD Clamping Voltage Screenshot Negative 8 KV contact per IEC 61000-4-2

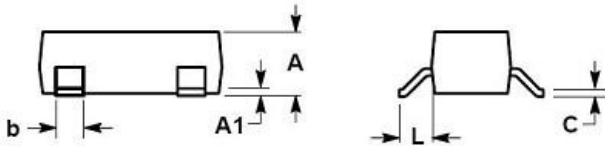


ESDXXV23T-LC

SOT-23 Package Outline & Dimensions



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1.00	1.11	0.035	0.040	0.044
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.37	0.44	0.50	0.015	0.018	0.020
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.20	1.30	1.40	0.047	0.051	0.055
e	1.78	1.90	2.04	0.070	0.075	0.081
L	0.35	0.54	0.69	0.014	0.021	0.029
HE	2.10	2.40	2.64	0.083	0.094	0.104



\* SOLDERING FOOTPRINT

