

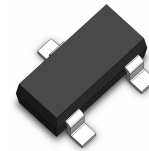
Transient Voltage Suppressors Array for ESD Protection

ESDXXV23T-2LA Series

Description

The ESDXXV23T-2LA 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.

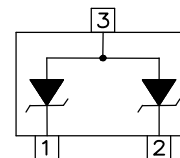
SOT-23



Feature

- u 200 Watts Peak Pulse Power per Line (tp=8/20μs)
- u Protects two I/O lines
- u Low clamping voltage
- u Working voltages: 3.3V ~ 36V
- u Low leakage current
- u IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact) -3.3V~15V
- u IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact) -24V~36V
- u IEC61000-4-4 (EFT) 40A (5/50ns)
- u IEC61000-4-5 (Lightning) 5A (8/20μs)

Functional Diagram



Applications

- u Portable Electronics
- u Cellular Handsets and Accessories
- u Industrial Controls
- u Portable instrumentation
- u Set-Top Box
- u Peripherals

Mechanical Characteristics

- u JEDEC SOT-23 Package
- u Molding Compound Flammability Rating : UL 94V-0
- u Weight 8.0 Milligrams (Approximate)
- u Quantity Per Reel : 3,000pcs
- u Reel Size : 7 inch
- u Lead Finish : Lead Free

Mechanical Characteristics

Symbol	Parameter	Value	Units
PPP	Peak Pulse Power (tp=8/20μs waveform)	200	W
T _L	Lead Soldering Temperature	260 (10sec)	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C
T _J	Operating Temperature Range	-55 to +150	°C
	IEC61000-4-4 (EFT)	40	A
	IEC61000-4-5 (Lightning)	5	A

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Electrical Characteristics (@ 25°C Unless Otherwise Specified)

Part Number	Device Marking	V _{RWM} (V) (Max.)	V _B (V) (Min.)	I _T (mA)	V _C @1A (Max.)	V _C		I _R (μA) (Max.)	C (pF) (Typ.)
						(Max.)	(@A)		
ESD03V23T-2LA	B03C	3.0	4.0	1	7.5	8.5	5	5	120
ESD05V23T-2LA	B05C	5.0	6.0	1	9.8	9.8	5	5	110
ESD08V23T-2LA	B08C	8.0	8.2	1	13.4	15.0	5	1	70
ESD12V23T-2LA	B12C	12.0	13.3	1	19.0	17.0	5	1	60
ESD15V23T-2LA	B15C	15.0	16.7	1	24.0	22.0	5	1	50
ESD24V23T-2LA	B24C	24.0	26.7	1	43.0	32.0	3	1	25
ESD36V23T-2LA	B36C	36.0	40.0	1	55.0	55.0	1	1	20

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

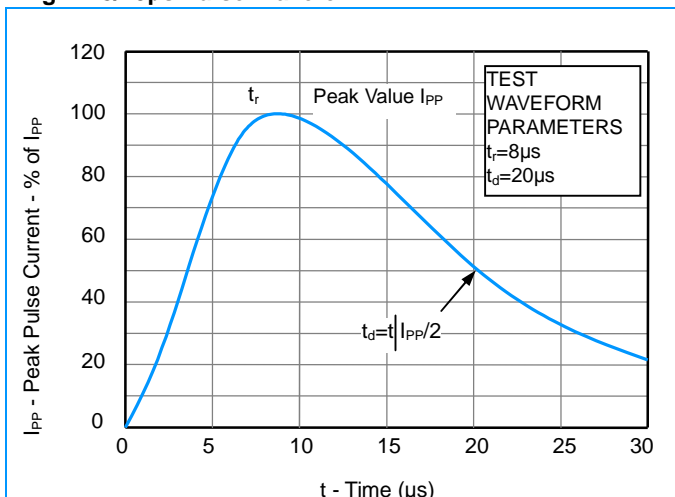


Fig3. ESD Clamping (+8KV Contac per IEC61000-4-2)

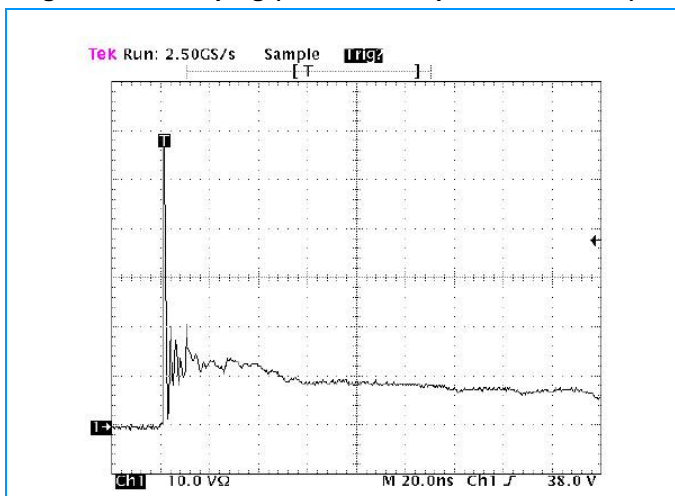


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

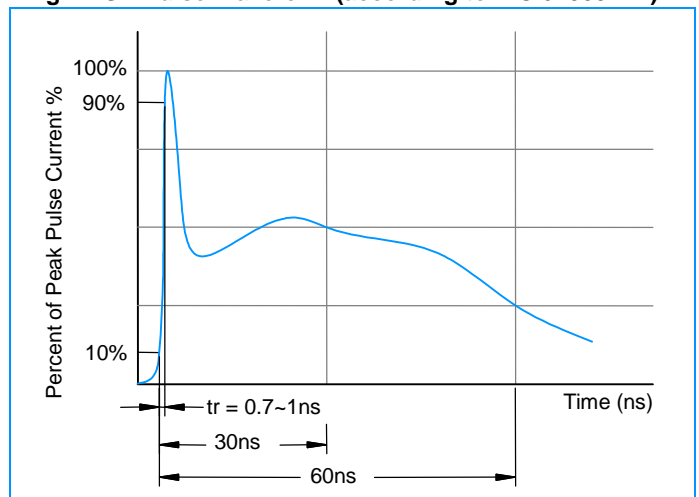
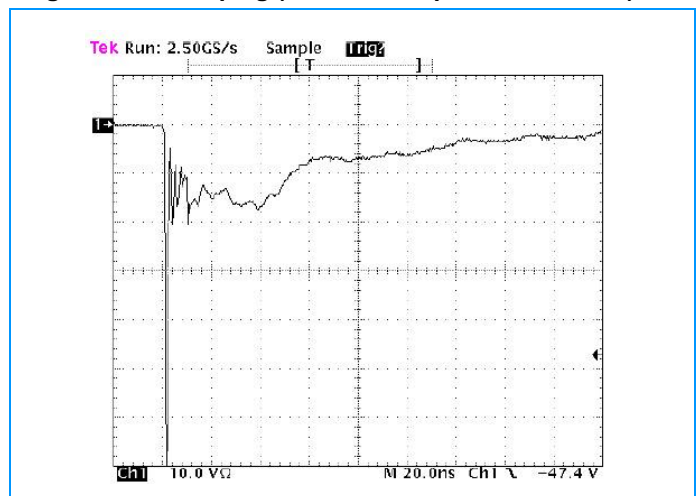


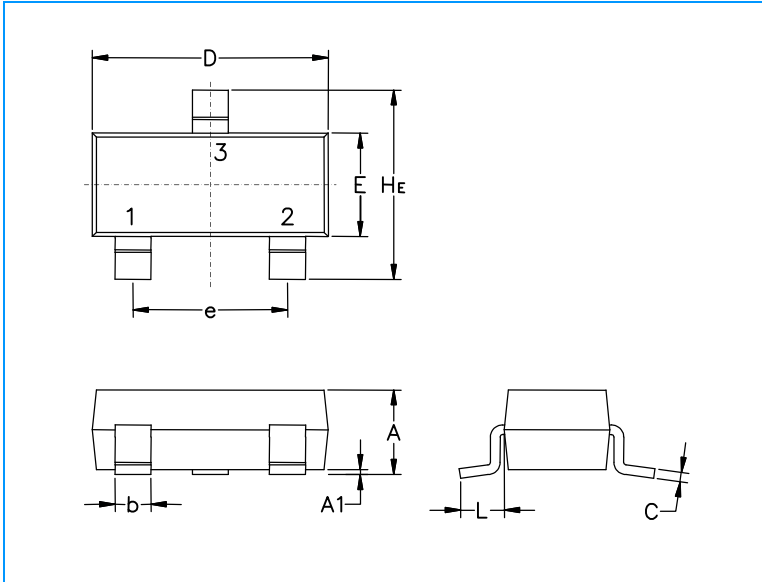
Fig4. ESD Clamping (-8KV Contac per IEC61000-4-2)



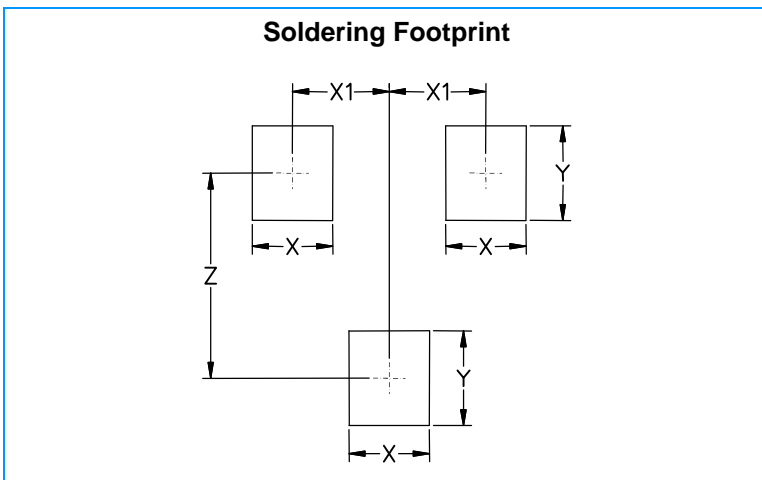
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SOT-23 Package Outline & Dimensions



Symbol	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	0.15	0.18	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



Symbol	Millimeters	Inches
X	0.80	0.031
X1	0.95	0.037
Y	0.90	0.035
Z	2.00	0.079