

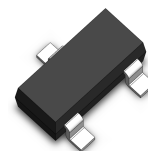
Transient Voltage Suppressors Array for ESD Protection

ESDXXV23T-2A Series

Description

The ESDXXV23T-2A 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.

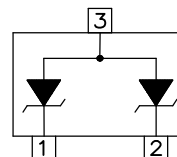
SOT-23



Feature

- u 350 Watts Peak Pulse Power per Line (tp=8/20μs)
- u Protects one bidirectional line or two unidirectional lines
- u Low clamping voltage
- u RoHS Compliant
- u IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- u IEC61000-4-4 (EFT) 40A (5/50ns)
- u IEC61000-4-5 (Lightning) 12A (8/20μs)

Functional Diagram



Applications

- u Cellular Handsets and Accessories
- u Portable Electronics
- u Industrial Controls
- u Set-Top Box
- u Instrumentation
- u Servers, Notebook, and Desktop PC

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
P_{PP}	Peak Pulse Power (tp=8/20μs waveform)	350	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
	IEC61000-4-2 (ESD)		
	Air Discharge	±15	KV
	Contact Discharge	±8	
	IEC61000-4-4 (EFT)	40	A
	IEC61000-4-5 (Lightning)	12	A

Transient Voltage Suppressors Array for ESD Protection

ESDXXV23T-2A Series

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)		
ESD3.3V23T-2A	M03	3.3	4.0	1	6.5	10.9	13	100	400
ESD05V23T-2A	M05	5	6.0	1	9.8	13.5	10	10	300
ESD08V23T-2A	M08	8	8.5	1	13.4	16.9	8	5	250
ESD12V23T-2A	M12	12	13.3	1	19	25.9	5	1	150
ESD15V23T-2A	M15	15	16.7	1	24	30	4	1	100
ESD24V23T-2A	M24	24	26.7	1	43	49	3	1	88
ESD36V23T-2A	M36	36	40.0	1	51	76.8	2	1	60

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

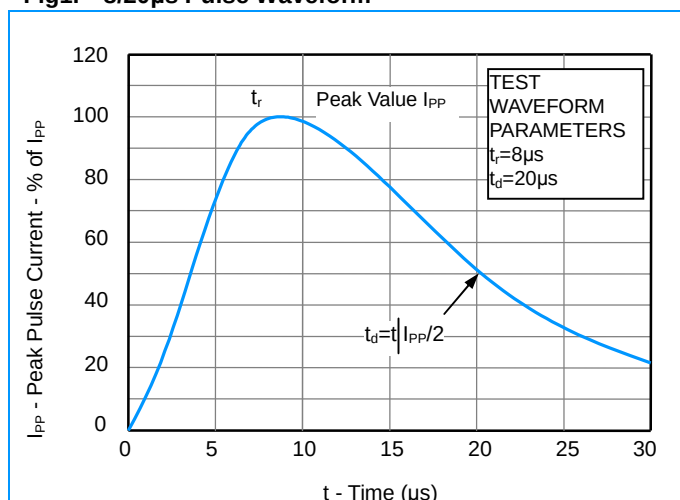


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

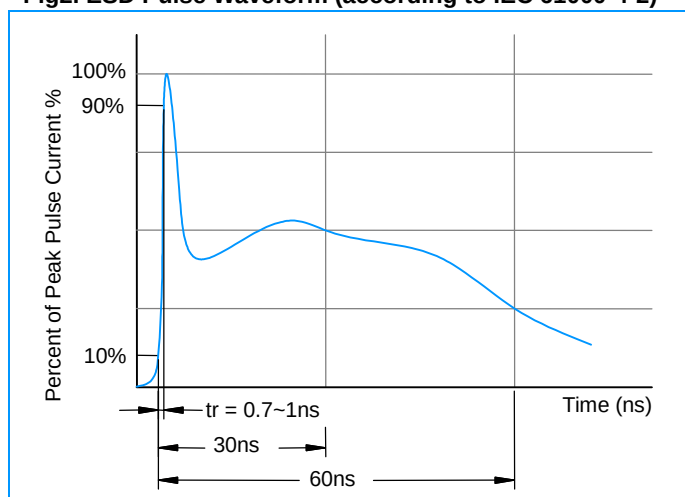
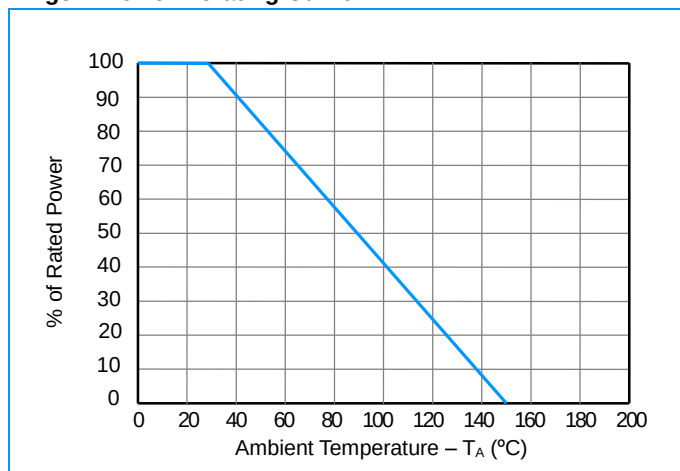


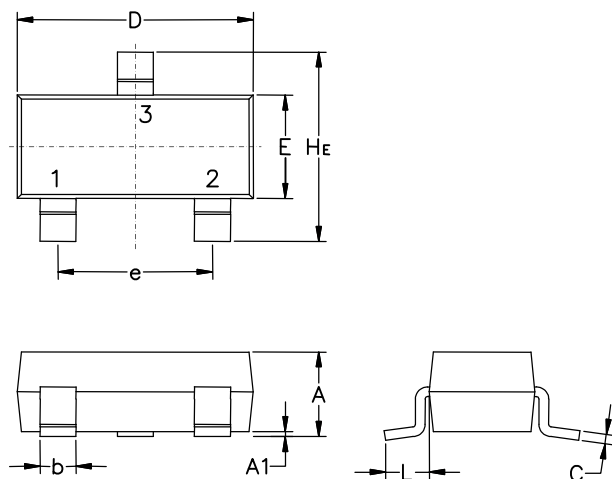
Fig3. Power Derating Curve



Transient Voltage Suppressors Array for ESD Protection

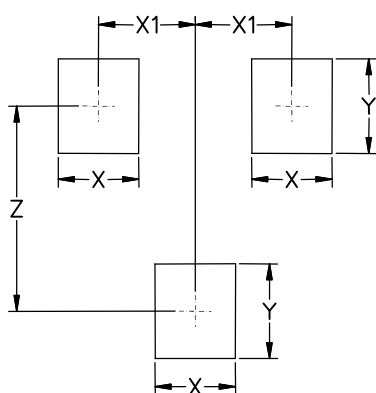
ESDXXV23T-2A Series

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

Soldering Footprint



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