

## Transient Voltage Suppressors Array for ESD Protection

### ESDXXV55T-4L Series

#### Description

The ESDXXV55T-4L 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.

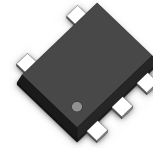
#### Feature

- u 20 Watts Peak Pulse Power per Line (tp=8/20µs)
- u Protects Four I/O Lines (Unidirection)
- u Low Clamping Voltage
- u Working Voltages : 3.3, 5.0, 12V
- u Low Leakage Current
- u IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- u IEC61000-4-4 (EFT) 40A (5/50ns)

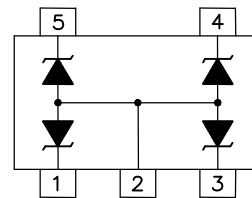
#### Applications

- u Cellular Handsets and Accessories
- u High Speed I/O Lines
- u Notebooks & Handhelds
- u Peripherals
- u Personal Digital Assistants (PDA)
- u Servers, Notebook, and Desktop PC

SOT-553



#### Functional Diagram



#### Mechanical Characteristics

- u SOT-553 Package
- u Molding Compound Flammability Rating : UL 94V-0
- u Weight 2.7 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)	20	W	
T <sub>L</sub>	Lead Soldering Temperature	260 (10sec)	°C	
T <sub>STG</sub>	Storage Temperature Range	-55 to +150	°C	
T <sub>J</sub>	Operating Temperature Range	-55 to +150	°C	
	IEC61000-4-2 (ESD)	Air Discharge Contact Discharge	±15 ±8	KV
	IEC61000-4-4 (EFT)	40	A	

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## ESDXXV55T-4L Series

Electrical Characteristics (@ 25°C Unless Otherwise Specified)

Part Number	Device Marking	V <sub>RWM</sub> (V) (Max.)	V <sub>B</sub> (V) (Min.)	I <sub>T</sub> (mA)	V <sub>C</sub> @1A (Max.)	V <sub>C</sub>		I <sub>R</sub> (μA) (Max.)	C (pF) (Typ.)
						(Max.)	(@A)		
ESD3.3V55T-4L	W1	3.3	4.5	1	8.5	12	2	0.5	9
ESD05V55T-4L	W2	5	6	1	9.8	15	2	0.5	8
ESD12V55T-4L	W3	12	13.3	1	17	19	2	0.5	6

### Characteristic Curves

Fig1. 8/20μs Pulse Waveform

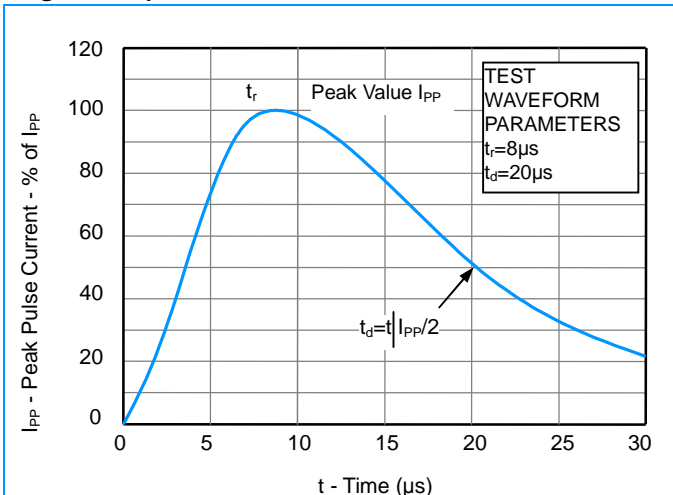


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

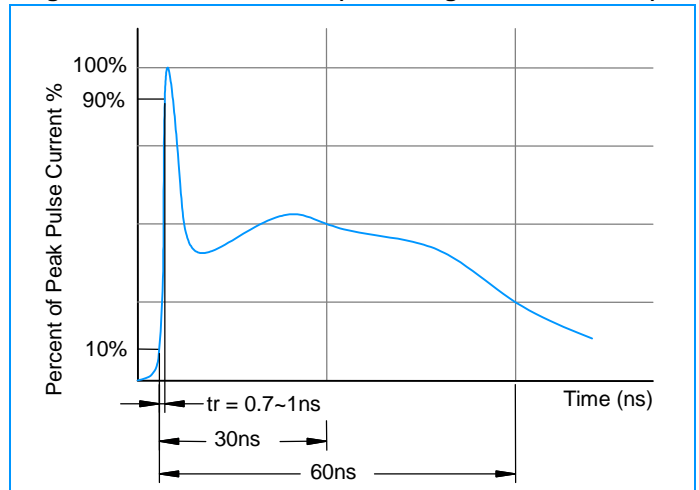


Fig3. ESD Clamping (+8KV Contac per IEC61000-4-2)

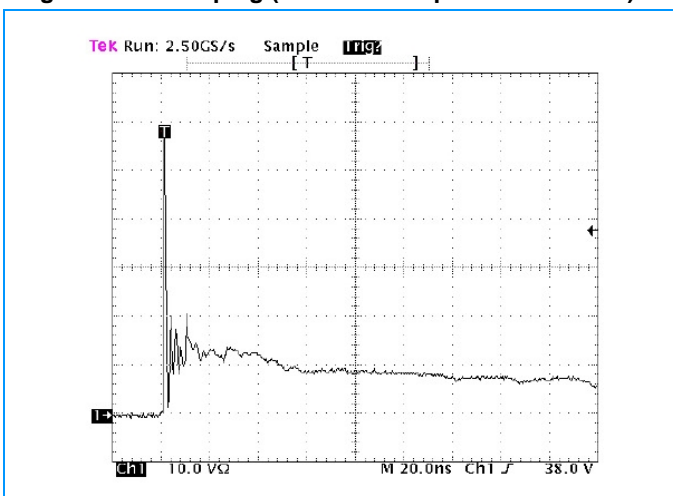
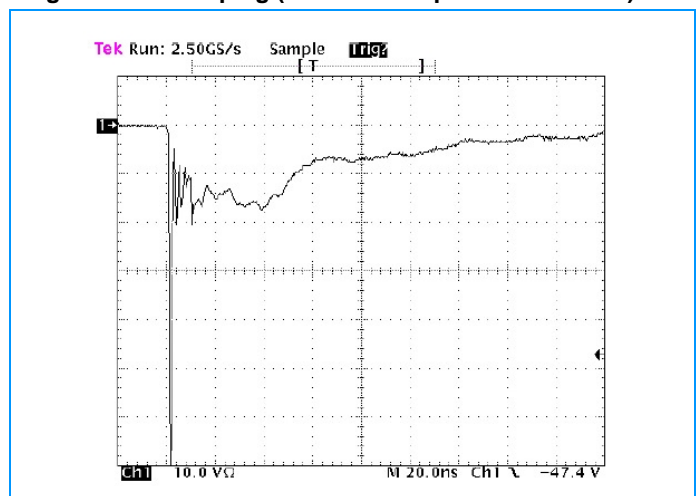


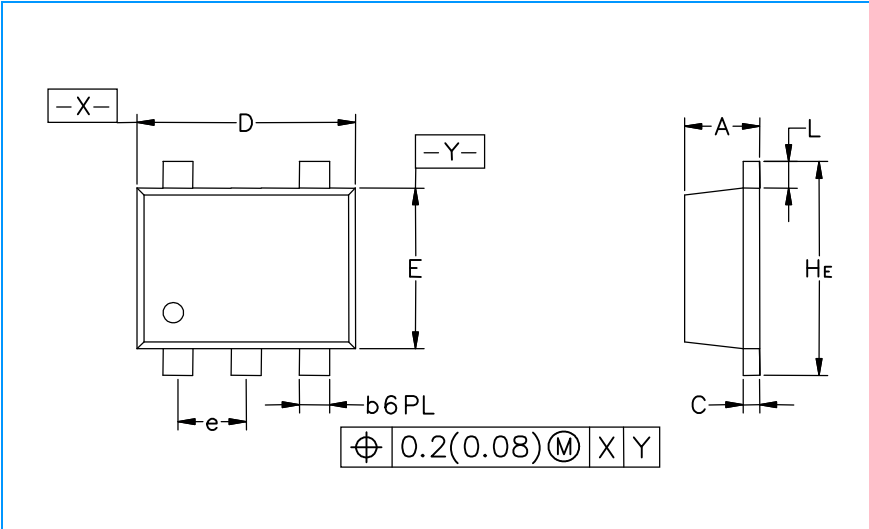
Fig4. ESD Clamping (-8KV Contac per IEC61000-4-2)



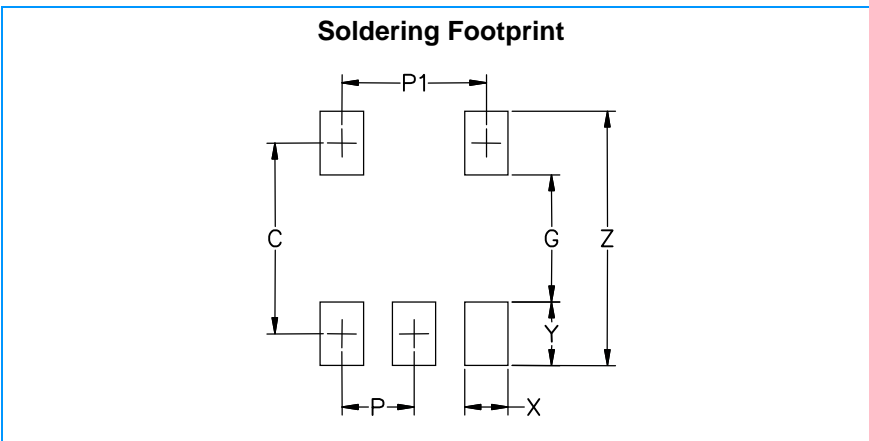
## Transient Voltage Suppressors Array for ESD Protection

### ESDXXV55T-4L Series

#### SOT-553 Package Outline & Dimensions



Symbol	Inches			Millimeters		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	0.020	0.021	0.023	0.50	0.55	0.60
b	0.007	0.009	0.011	0.17	0.22	0.27
C	0.003	0.005	0.007	0.08	0.12	0.18
D	0.059	0.062	0.066	1.50	1.60	1.70
E	0.043	0.047	0.051	1.10	1.20	1.30
e	0.02 BSC			0.5 BSC		
L	0.004	0.008	0.012	0.10	0.20	0.30
H <sub>E</sub>	0.059	0.062	0.067	1.50	1.60	1.70



Symbol	Inches	Millimeters
C	0.0531	1.35
G	0.0354	0.90
P	0.0197	0.50
P1	0.0394	1.0
X	0.0118	0.30
Y	0.0177	0.45
Z	0.0709	1.80