

# Transient Voltage Suppressors Array for ESD Protection

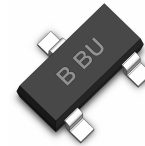
Low Capacitance

## ESD05V32T-2LC

### Description

The ESD05V32T-2LC 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.

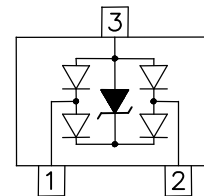
### SOT-323



### Feature

- u 100 Watts Peak Pulse Power per Line (tp=8/20μs)
- u Protects Two Lines in Common Mode or One Line in Differential Mode
- u Low Clamping Voltage
- u Working Voltages : 5.0V
- u Low Leakage Current
- u IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- u IEC61000-4-4 (EFT) 40A (5/50ns)
- u IEC61000-4-5 (Lightning) 2A (8/20μs )

### Functional Diagram



### Applications

- u Cellular Handsets and Accessories
- u High Speed I/O Lines
- u USB Ports
- u Serial ATA
- u PCI Express
- u Servers, Notebook, and Desktop PC
- u Display Ports

### Mechanical Characteristics

- u SOT-323 Package
- u Molding Compound Flammability Rating : UL 94V-0
- u Weight 6.0 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)	100	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	±25	KV
	Contact Discharge	±15	
	IEC61000-4-4 (EFT)	40	A
	IEC61000-4-5 ( Lightning )	2	A

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## ESD05V32T-2LC

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)		
ESD05V32T-2A	B BU	5	6	1	9.8	15	2	1	1.2

### Characteristic Curves

Fig1. 8/20μs Pulse Waveform

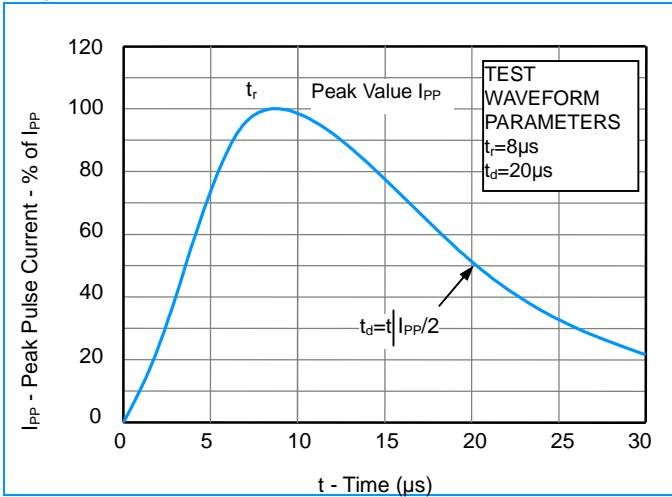


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

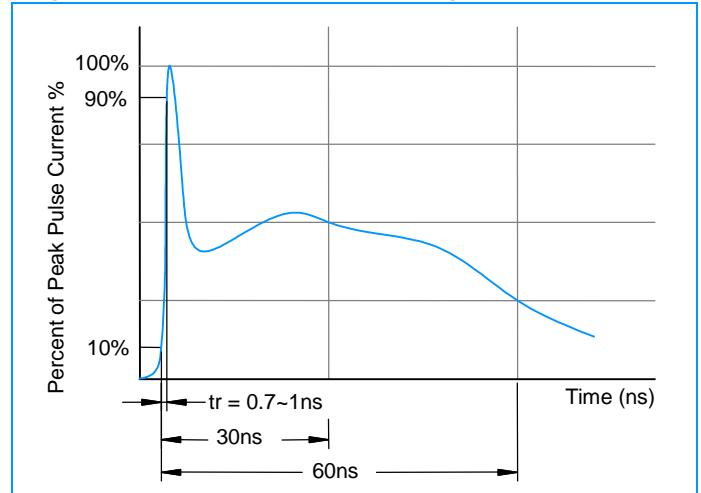
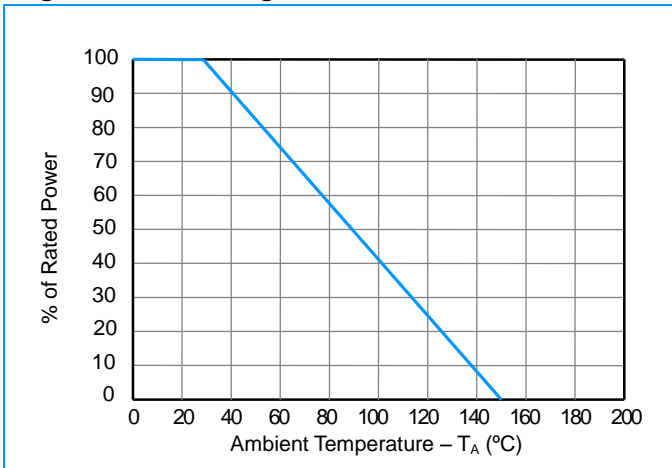


Fig3. Power Derating Curve



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### Characteristic Curves

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

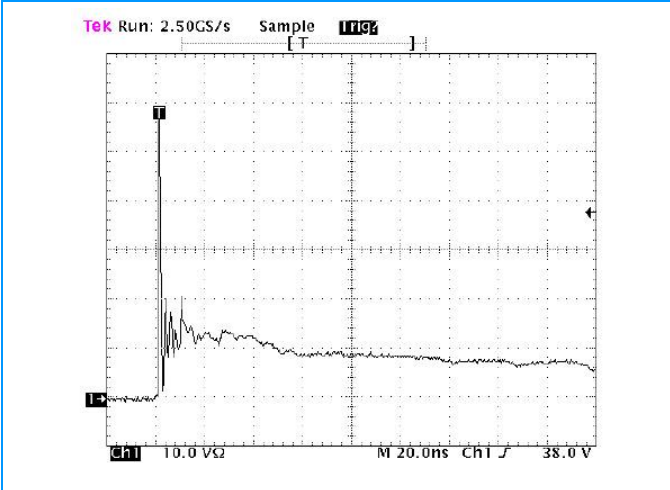
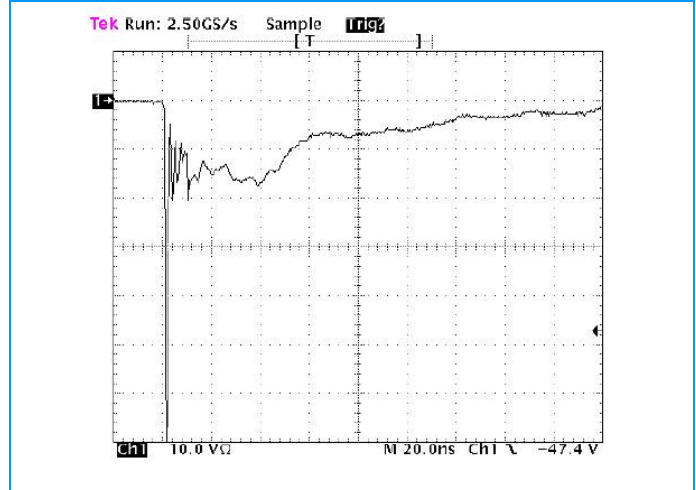
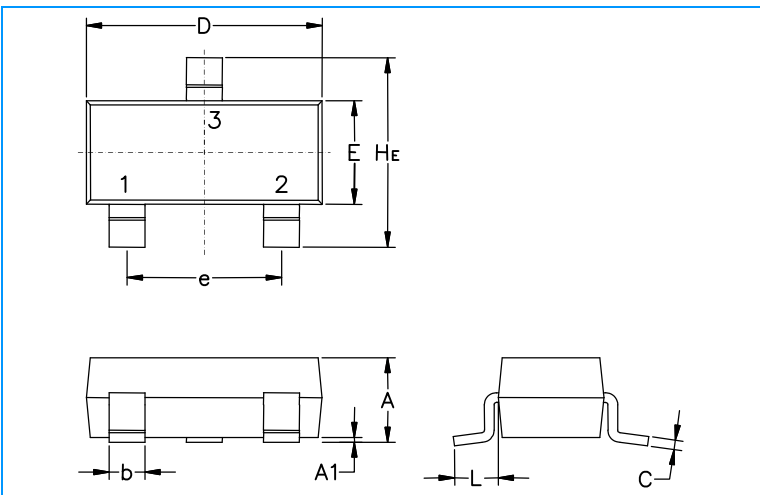


Fig5. ESD Clamping (-8KV Contac per IEC61000-4-2)

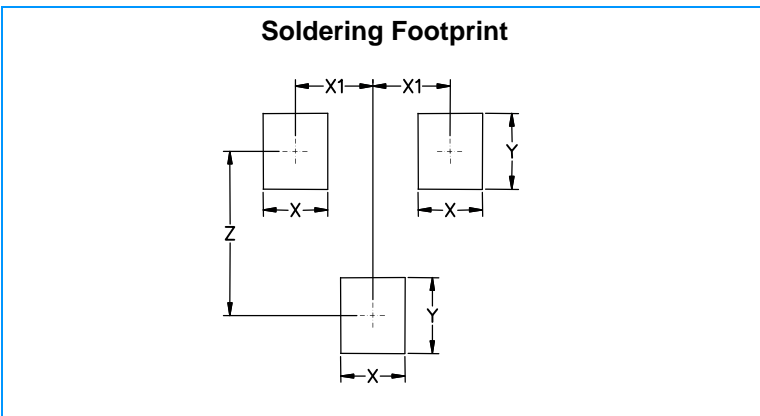


### SOT-323 Package Outline & Dimensions



Symbol	Millimeters			Inches		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	0.80	090	1.00	0.032	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2	0.70REF			0.028REF		
b	0.30	0.35	0.40	0.012	0.014	0.016
c	0.10	0.18	0.25	0.004	0.007	0.010
D	1.80	2.10	2.20	0.071	0.083	0.087
E	1.15	1.24	1.35	0.045	0.049	0.053
e	1.20	1.30	1.40	0.047	0.051	0.055
e1	0.65 BSC			0.026 BSC		
L	0.20	0.38	0.56	0.008	0.015	0.022
He	2.00	2.10	2.40	0.079	0.083	0.095

### Soldering Footprint



Symbol	Millimeters	Inches
X	0.70	0.028
X1	0.65	0.025
Y	0.90	0.035
Z	1.90	0.075