

1. Description

The CDSOD323-T12SC is Transient Voltage Suppressor that designed to protect components which are connected to data and transmission lines against electrostatic discharge (ESD), electrical fast transient (EFT), and lightning. All pins are rated to withstand 30kV ESD pulses using the IEC61000-4-2 air discharge method.

2. Features

- IEC 61000-4-2 Level 4 ESD Protection
 - ±30kV Contact Discharge
 - ±30kV Air Discharge
- 550W Peak pulse Power (8/20us)
- Low clamping voltage
- Low leakage current
- RoHS compliant
- Protecting one bi-directional line
- Working voltage:3.3/5/8/12/15/24/36V

3. Applications

- Portable electronic
- Control & monitoring systems
- Servers, notebooks, and desktop PCs
- Set-top box
- Communications systems
- Cellular handsets and accessories

4. Ordering Information

Part Number	Package	Marking	Material	Packing	Quantity per reel	Flammability Rating	Reel Size
CDSOD323-T12SC	SOD-323	2D	Halogen free	Tape & Reel	3,000 PCS	UL 94V-0	7 inches

Table-1 Ordering information

5. Pin Configuration and Functions

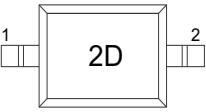
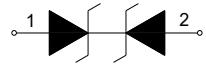
Pin	Name	Description	Outline	Circuit Diagram
1	IO1	Connect to IO		
2	IO2	Connect to IO		

Table-2 Pin configuration

6. Specification

6.1. Absolute Maximum rating

Over operating free-air temperature range (unless otherwise noted)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power (tp=8/20us)@25°C	P_{pk}	-	550	W
Peak pulse current (tp=8/20us)@25°C	I_{PP}		Refer to Table-5	A
ESD (IEC61000-4-2 air discharge) @25°C	V_{ESD}	-	± 30	kV
ESD (IEC61000-4-2 contact discharge) @25°C	V_{ESD}	-	± 30	kV
Junction temperature	T_J	-	150	°C
Operating temperature	T_{OP}	-40	125	°C
Storage temperature	T_{STG}	-55	150	°C
Lead temperature	T_L	-	260	°C

Table-3 Absolute Maximum rating

6.2. Electrical Characteristics

Symbol	Description

V_{RWM}	Rated reverse stand-off voltage
V_{BR}	Minimum breakdown voltage @ $I_T = 1\text{mA}$
V_{CL}	Typical Clamping voltage
I_{PP}	Maximum peak pulse current
I_R	Reverse leakage current @ V_{RWM}
C_O	Typical line capacitance ($V_{IO}=0\text{V}$, $V_{P-P} = 30\text{mV}$, $f = 1\text{MHz}$)

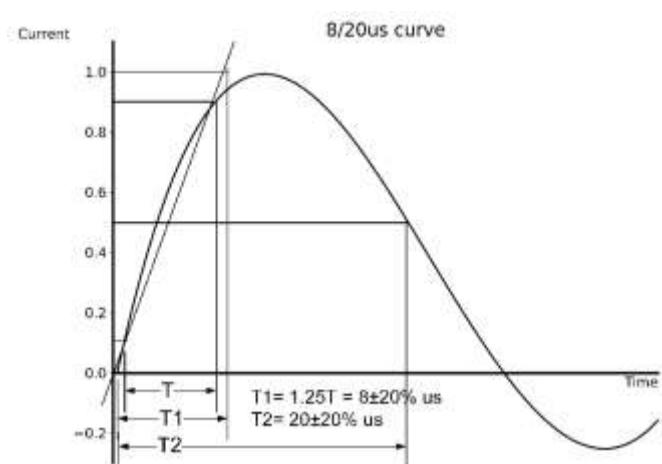
Table-4 Parameters Description

At $TA = 25^\circ\text{C}$ unless otherwise noted

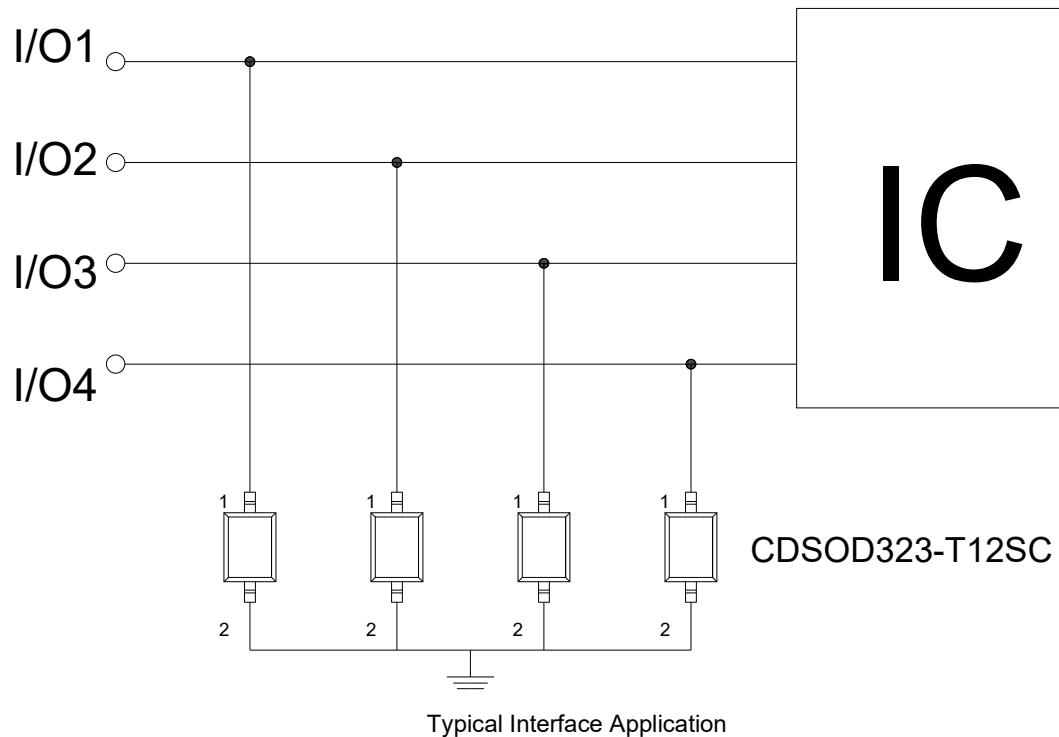
Part Number	V_{RWM} (Max.)	V_{BR} (Min.)	$V_{CL}@I=1\text{A}$ (Typ.)	I_{PP} (Max.)	$V_{CL}@I=I_{PP}$ (Typ.)	I_R (Max.)	C_O (Typ.)
	(V)	(V)	(V)	(A)	(V)	(uA)	(pF)
CDSOD323-T12SC	12	13.3	20.0	15	26	1.0	40

Table-5 Electrical Characteristics for All Series

7. Typical Characteristic

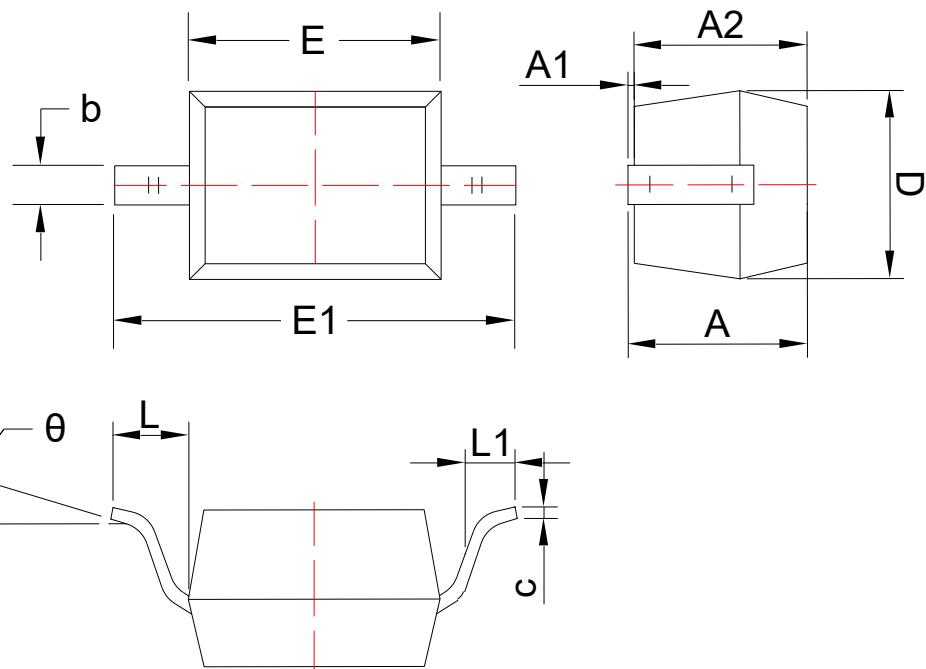


8. Typical Application



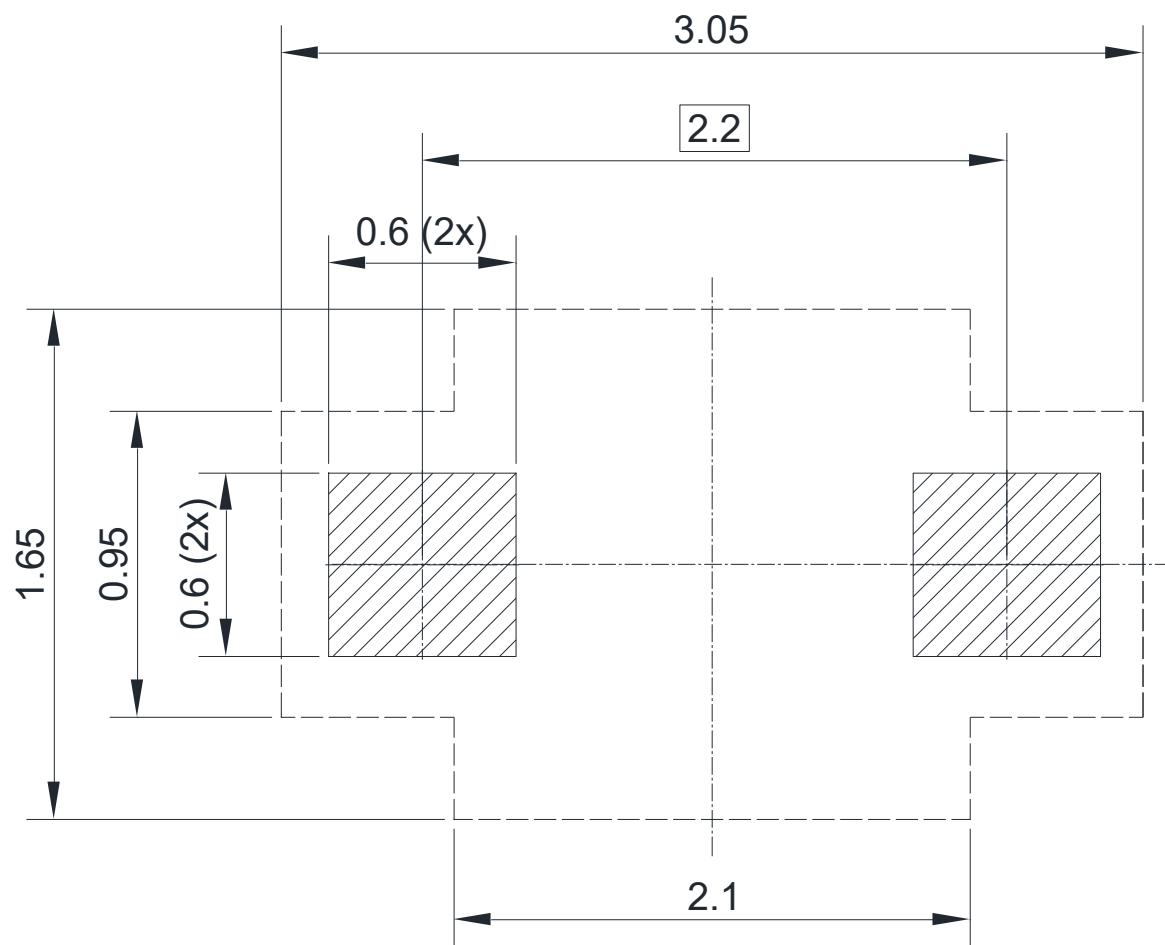
9. Dimension (SOD-323)

POD(Z)



Symbol	Dimensions in Millimeters	
	Min.	Max.
A	0.80	1.00
A1	0.00	0.14
A2	0.66	0.97
b	0.25	0.35
c	0.08	0.18
D	1.20	1.40
E	1.55	1.80
E1	2.50	2.80
L	0.475REF	
L1	0.25	0.40
θ	0°	8°

10. Recommended Soldering Footprint



DIMENSIONS: MILLIMETERS

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