

SuperESD - ESDCAN03-2BWY

1. Description

The ESDCAN03-2BWY 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 15kV ESD pulses using the IEC61000-4-2 air discharge method.

2. Features

- IEC 61000-4-2 Level 4 ESD Protection
 - $\pm 15\text{kV}$ Contact Discharge
 - $\pm 15\text{kV}$ Air Discharge
- 220W Peak pulse Power (8/20us)
- Low clamping voltage
- Working voltage: 24V
- Low leakage current
- RoHS compliant
- Protecting two bi-directional lines
- Junction capacitance: 10pF Typ.

3. Applications

- Control & monitoring systems
- Portable electronics
- Servers, notebooks, and desktop PCs
- Set-top box
- Communication systems

4. Ordering Information

Part Number	Package	Marking	Material	Packing	Quantity per reel	Flammability Rating	Reel Size
ESDCAN03-2BWY	SOT-323	T24	Halogen free	Tape & Reel	3,000 PCS	UL 94V-0	7 inches

Table-1 Ordering information

5. Pin Configuration and Functions

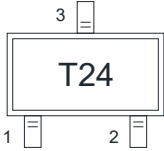
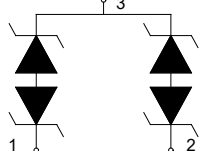
Pin	Name	Description	Outline	Circuit Diagram
1	IO1	Connect to IO		
2	IO2	Connect to IO		
3	GND	Connect to GND		

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}	-	220	W
Peak pulse current (tp=8/20us)@25°C	I _{PP}		4	A
ESD (IEC61000-4-2 air discharge) @25°C	V _{ESD}	-	± 15	kV
ESD (IEC61000-4-2 contact discharge) @25°C	V _{ESD}	-	± 15	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

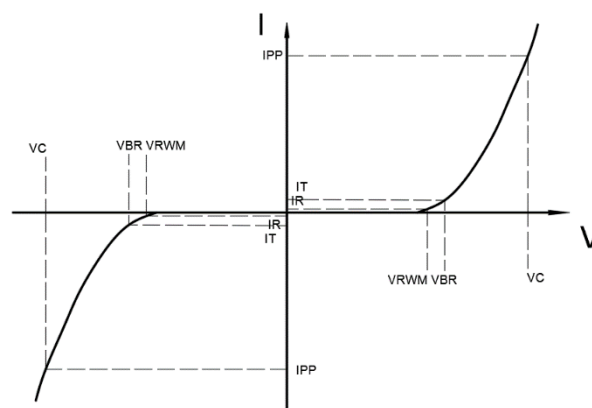
6.2. Electrical Characteristics

At TA = 25°C unless otherwise noted

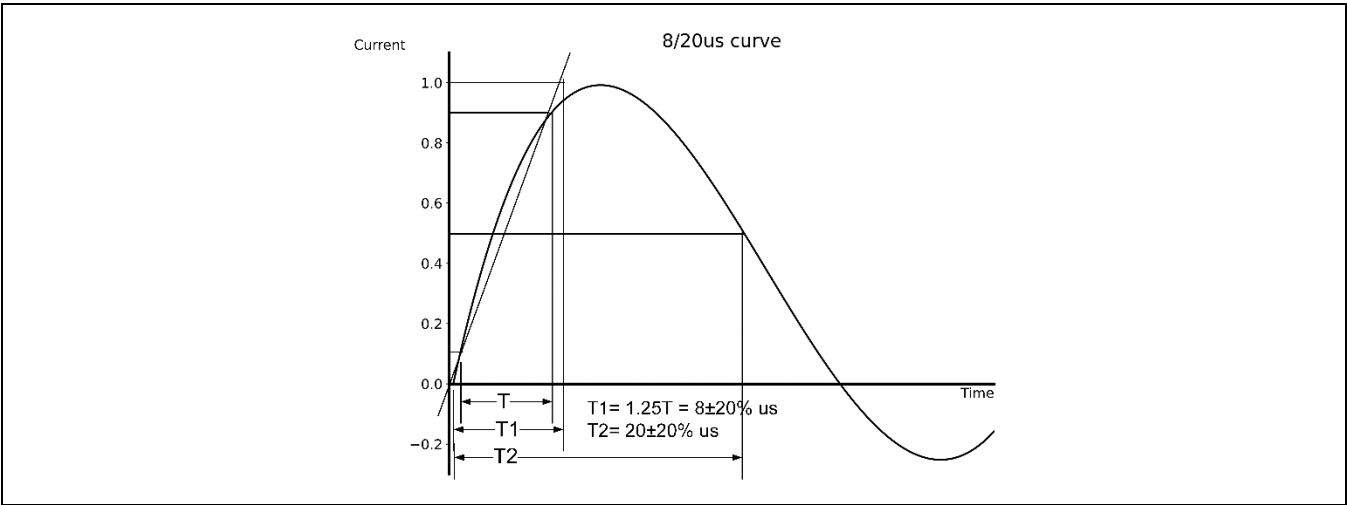
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				24.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	26.0			V
Reverse Leakage Current	I_R	$V_{RWM}=24V$			1.0	μA
Clamping Voltage	V_C	$I_{PP}=1A$; $t_p=8/20\mu s$		35.0	38.0	V
Clamping Voltage	V_C	$I_{PP}=4A$; $t_p=8/20\mu s$		45.0	48.0	V
Junction Capacitance	C_J	I/O to GND; $V_R=0V$; $f=1MHz$		10	15	pF

Table-4 Electrical Characteristics

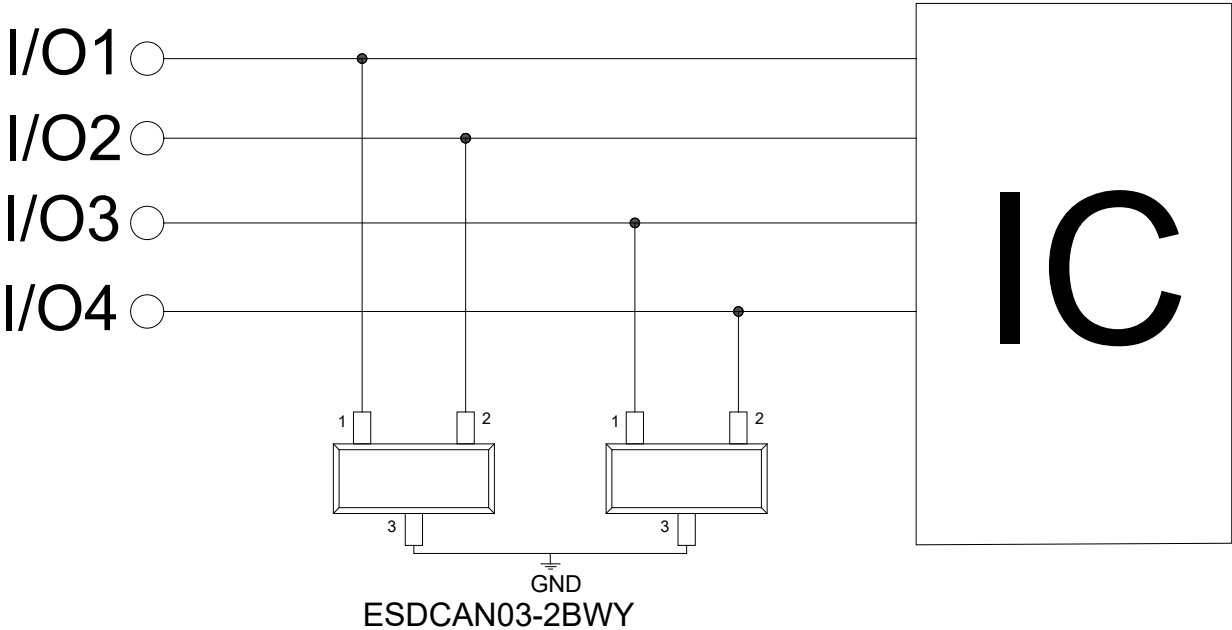
Symbol	Parameters
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}



7. Typical Characteristic



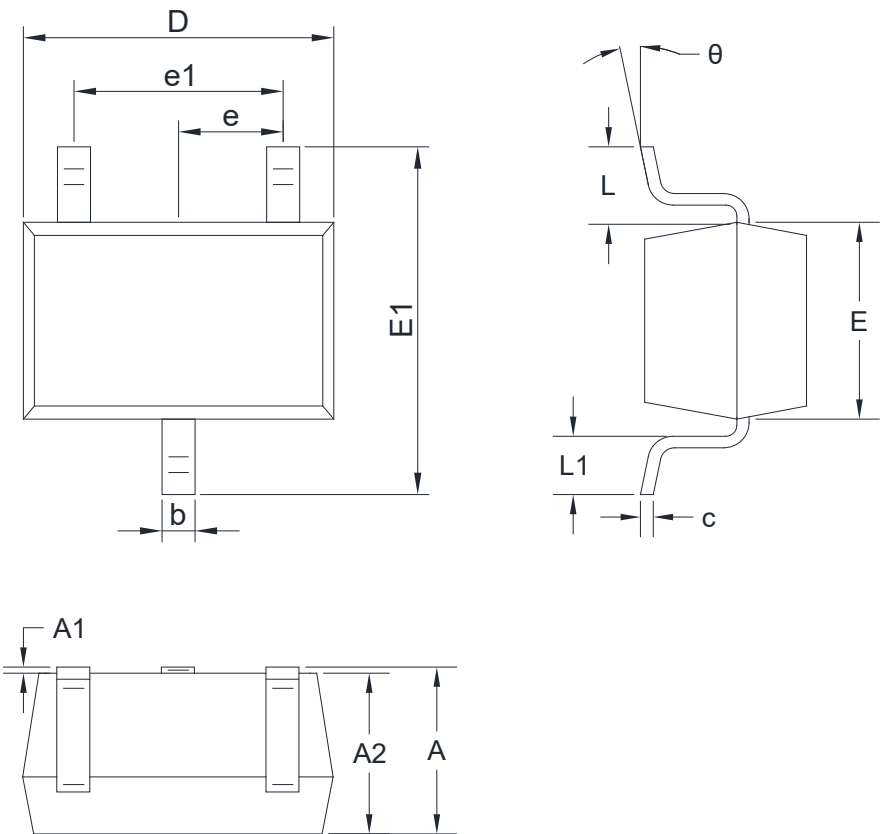
8. Typical Application



Typical Interface Application

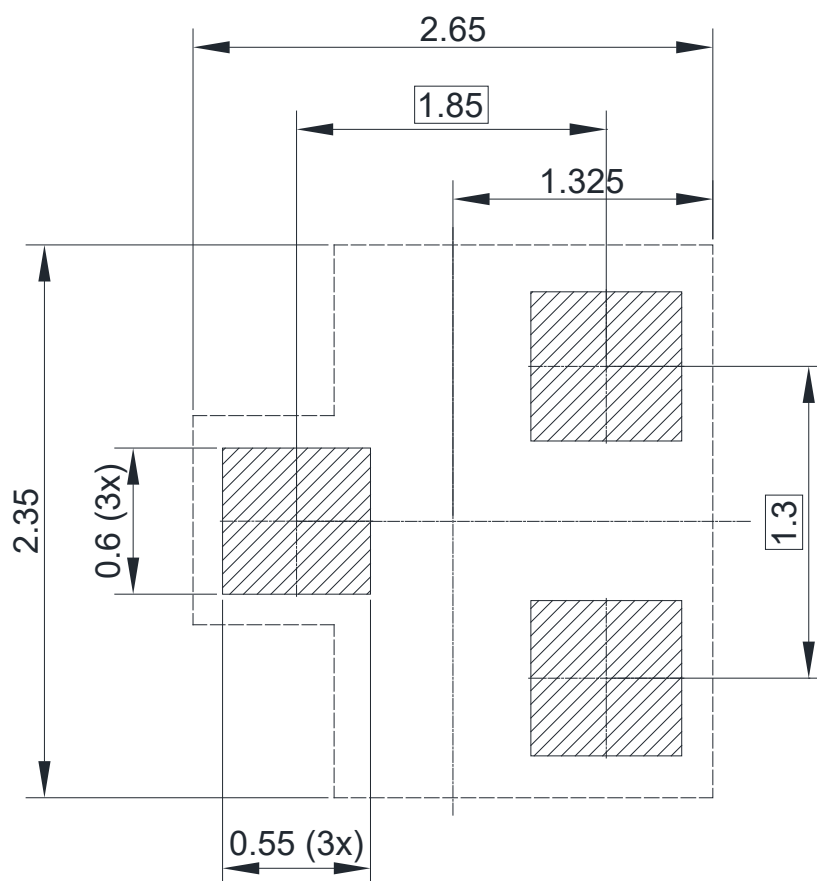
9. Dimension (SOT-323)

POD(Z)



Symbol	Millimeters		Symbol	Millimeters	
	Min	Max		Min	Max
A	0.80	1.00	E1	2.05	2.35
A1	0.00	0.10	e	0.65 TYP	
A2	0.80	0.90	e1	1.20	1.40
b	0.20	0.40	L	0.45 REF	
c	0.08	0.15	L1	0.26	0.46
D	2.00	2.20	θ	0°	8°
E	1.15	1.35			

10. Recommended Soldering Footprint



DIMENSIONS: MILLIMETERS

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