PESD24VL2BT

Dual Line CAN Bus Protector

Description

The PESD24VL2BT has been designed to protect the CAN transceiver in high-speed and fault tolerant networks from ESD and other harmful transient voltage events. This device provides bidirectional protection for each data line with a single compact SOT-23 package, giving the system designer a low cost option for improving system reliability and meeting stringent EMI requirements.

Features

- IEC 61000-4-2 (ESD) ±30kV (Air)
  ±20kV (Contact)
  IEC 61000-4-4 (EFT) 40A (5/50 ns)
- IEC61000-4-5 (Lighting) 3A (8/20us)
- 200 Watts Peak Pulse Power per (tp=8/20us)
- Working voltages: 24V
- Low leakage current
- Low clamping voltage

Machanical Data

- SOT-23 package
- Flammability Rating: UL 94V-0
- Packaging: Tape and Reel
- High temperature soldering guaranted:260℃/ 10 s
- Reel size: 7 inch

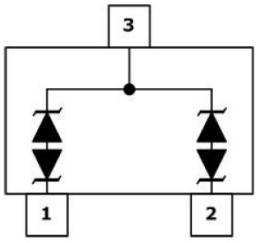
Ordering Information

- Device: PESD24VL2BT
- Package: SOT-23
- Material: Halogen free
- Packing: Tape & Reel
- Quantity per reel: 3,000pcs

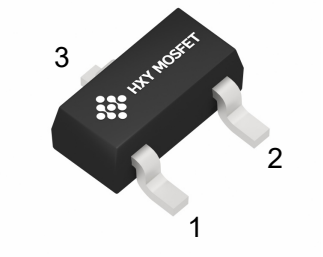
Applications

- Industrial Control Networks
- Smart Distribution Systems
- Automotive Networks
- Low and High-Speed CAN
- Fault Tolerant CAN

Pin Configuration



Package Outline



Absolute Maximum Rating

Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	±30 ±20	kV
P_{PP}	Peak Pulse Power (8/20μs)	200	W
T_{OPT}	Operating Temperature	-55~150	°C
T_{STG}	Storage Temperature	-55~150	°C
T_L	Lead Soldering Temperature	260(10sec)	°C

Electrial Characteristics (Tamb=25°C)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				24	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	26		32	V
I_R	Reverse Leakage Current	V_{RWM} = 24V			1	μA
V_C	Clamping Voltage	I_{PP} = 1A, t_p = 8/20μs			36	V
		I_{PP} = 3A, t_p = 8/20μs			50	V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz		13	17	pF

Electrial Characteristics Curve

Fig 1 8/20μs Waveform per IEC61000-4-5

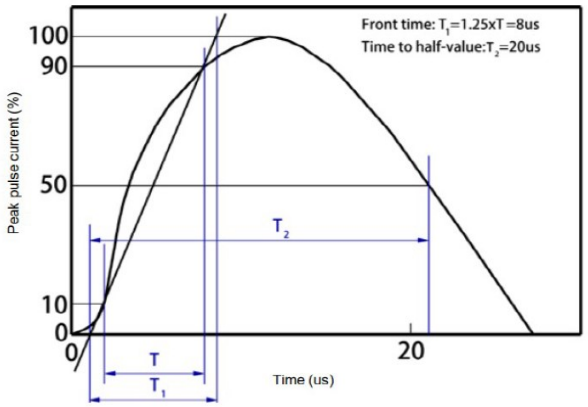


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

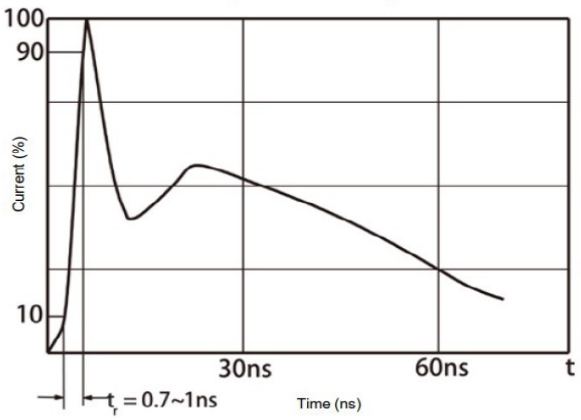


Fig 3 Voltage vs Capacitance

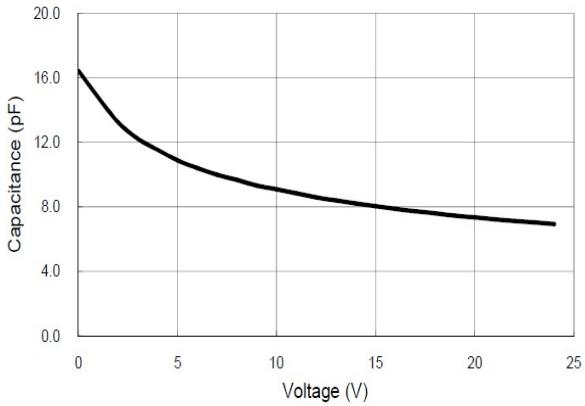
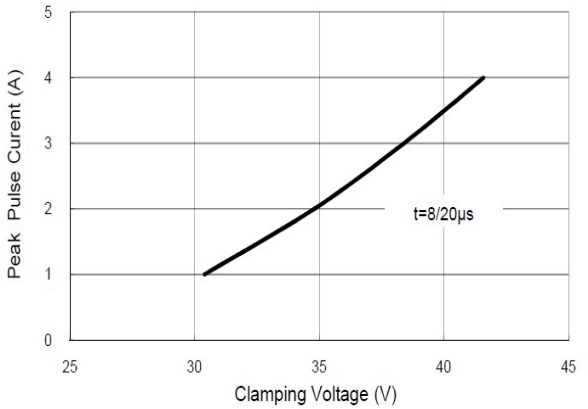
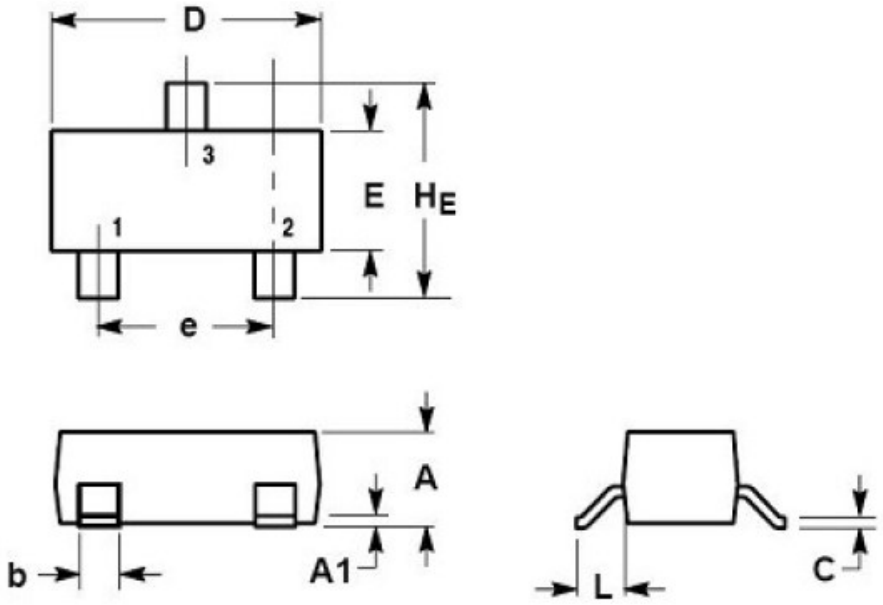


Fig 4 Clamping Voltage vs Peak Pulse Current



Outline And Dimensions



DIM	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	0.015	0.018	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

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