

ESDCANFD24VAPB

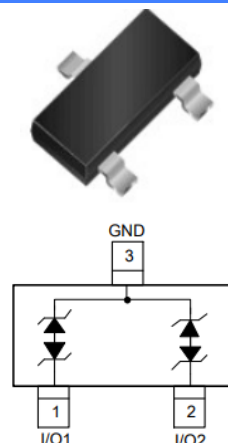
Features

- SOT-23 package
- Operating voltage: 24V
- Low leakage current
- Low clamping voltage
- Response time is typically < 1ns
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (Lightning) 4A (8/20 μs)
- AEC-Q101 qualified

Description

The ESDCANFD24VAPB TVS Diode Array is designed to protect automotive Controller Area Network (CAN) lines from damage due to electrostatic discharge (ESD), electrical fast transient (EFT), and other overvoltage transients.

Circuit Diagram



Applications

- Automotive Applications
- CAN / CAN FD
- Low and High-Speed CAN
- T-BOX

Absolute Maximum Ratings

Tamb=25°C unless otherwise specified

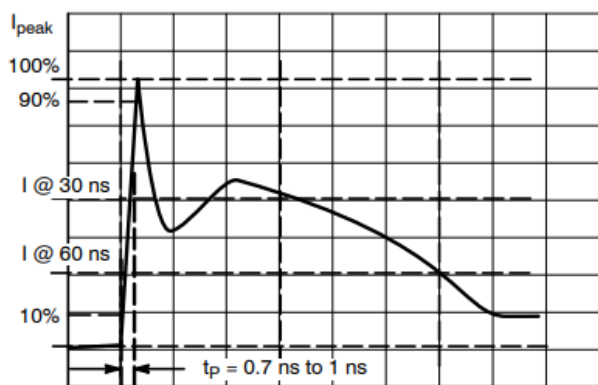
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pp}	200	W
Maximum Reverse Peak Pulse Current(8/20 μs)	I _{PP}	4	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 30	KV
ESD per IEC 61000-4-2 (Contact)		± 30	
Storage Temperature Range	T _{STJ}	-55 to +150	°C
Operating Temperature Range	T _J	-55 to +150	°C

Electrical Characteristics

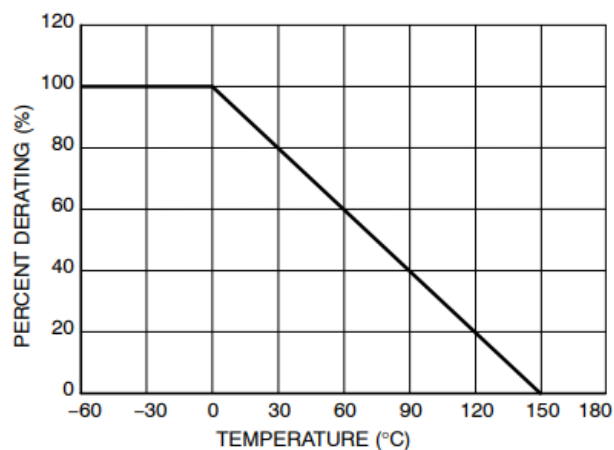
TA=25°C unless otherwise specified

Symbol	Parameter	Conditions	Min	Typ	Max	Units
V _{RWM}	Reverse Working Peak Voltage	Pin1 or Pin2 to Pin3			24.0	V
V _{BR}	Reverse Breakdown Voltage	I _T = 1mA, Pin1 or Pin2 to Pin3	26.5	28.3	30.0	V
I _R	Reverse Current	V _{RWM} = 24V			0.1	μA
V _C	Clamping Voltage	I _{PP} =1A, t _P =8/20 μs , Pin1 or Pin2 to Pin3		31	38	V
V _C	Clamping Voltage	I _{PP} =4A, t _P =8/20 μs , Pin1 or Pin2 to Pin3		40	51	V
C _D	Diode Capacitance	V _R = 0V, f = 1MHz, Pin1 or Pin2 to Pin3		14	16	pF

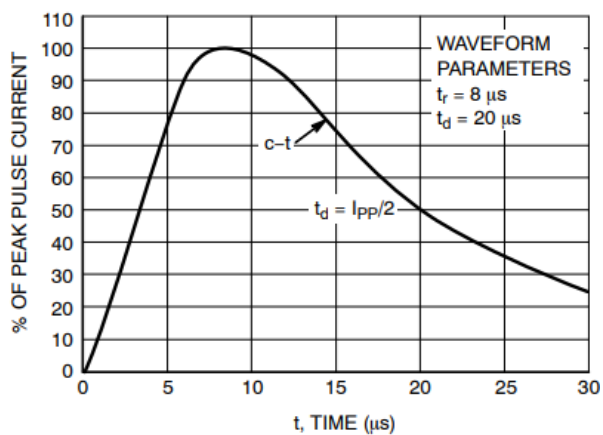
Characteristic Curves



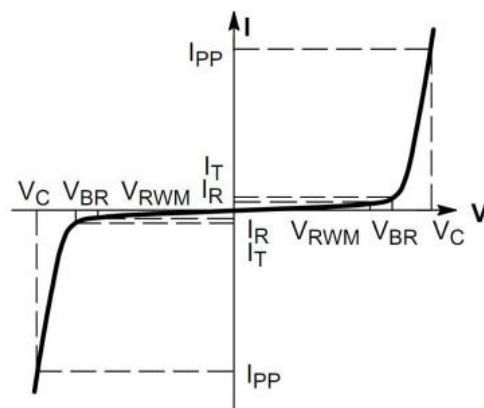
IEC61000-4-2 Pulse Waveform



Power Derating Curve

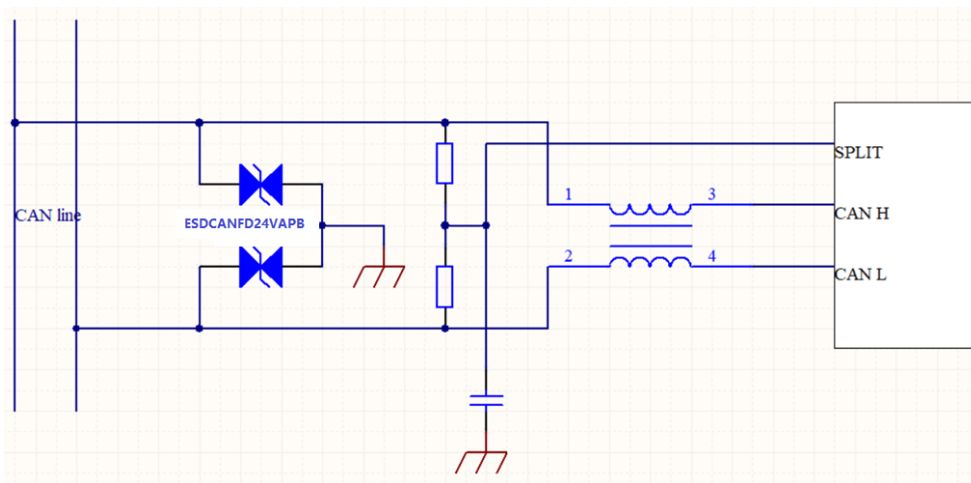


8/20µs Pulse Waveform

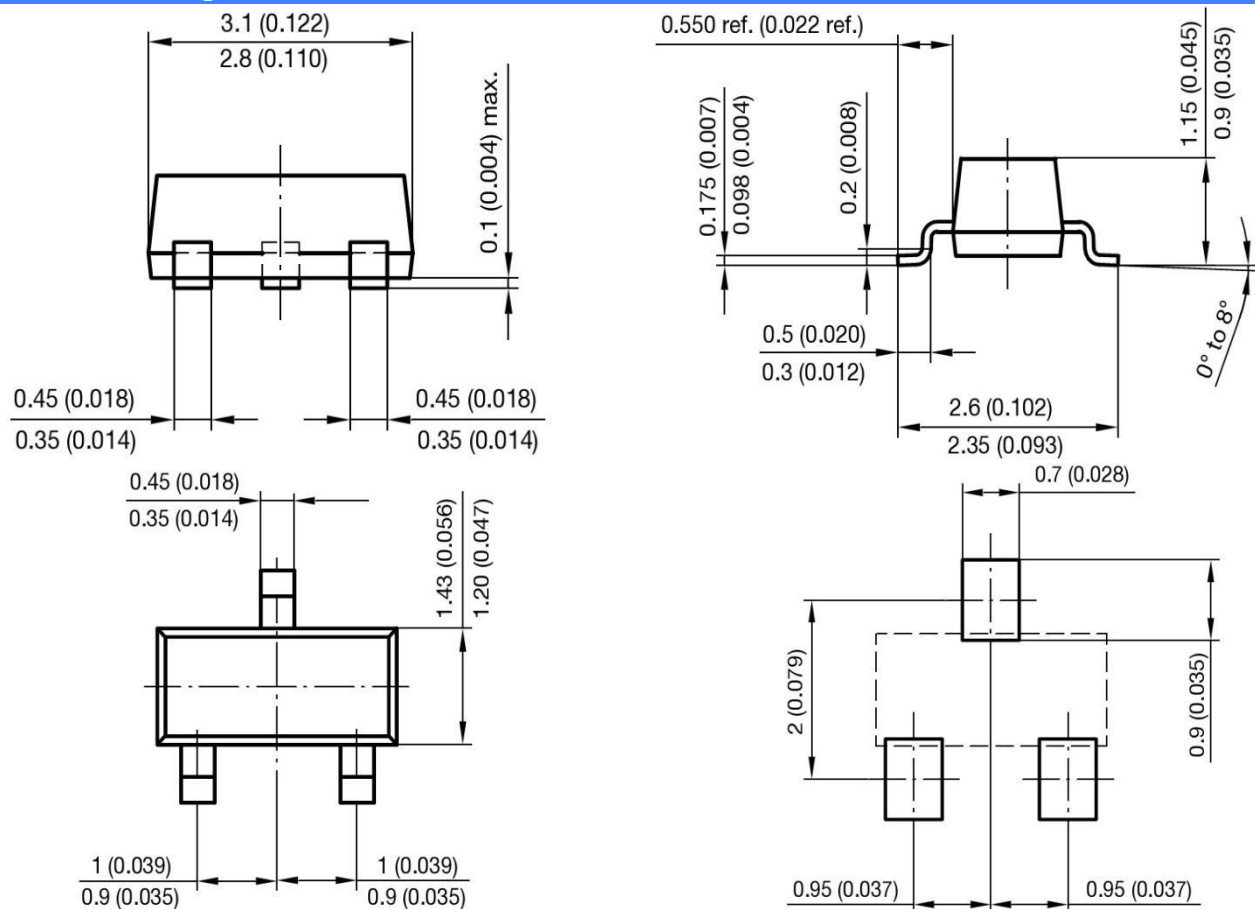


V-I Characteristics for Bidirectional Diode

Application Example



SOT-23 Package Outline & Dimensions



Mounting Pad Layout

Disclaimer

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.