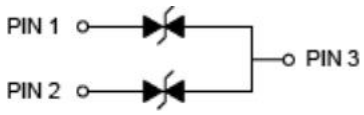
Features

- 230W (8/20μs) Peak Pulse Power
- High ESD Protection Level
- SOT23 Thin SMD Package
- RoHS compliant
- Matte Tin Lead finish (Pb-Free)
- Protect Two CAN Bus Lines

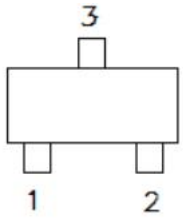
Circuit Diagram



Applications

- DeviceNet
- Low and High Speed CAN
- Smart Distribution Systems (SDS)
- Controlled Area Network − CAN 2.1 / CAN FD

PIN Diagram



Ordering information

Device	Package	Reel Size	Qty / Reel
PESD2CAN	SOT-23	7 inch	3000

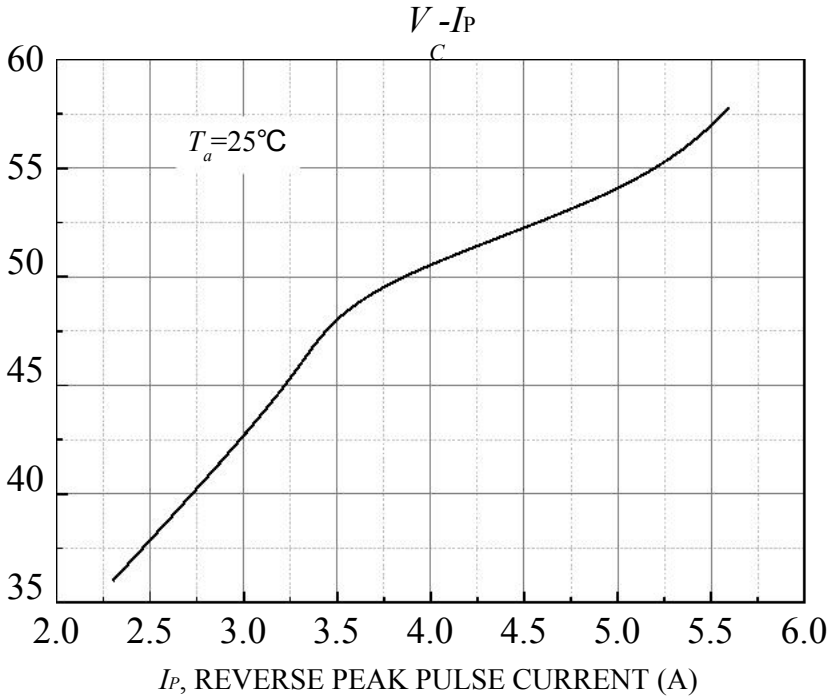
Maximum Ratings (Ta = 25℃)

Symbol	Parameter	Value	Unit
P_{PK}	Peak Pulse Power	230	W
I_{PP}	Peak Pulse Current	4	A
V_{ESD} (Contact)	Contact ESD Voltage per IEC61000-4-2	25	kV
V_{ESD} (Air)	Air ESD Voltage per IEC61000-4-2	25	kV
TJ	Junction Temperature	-65 to +150	℃
TSTG	Storage Temperature	-65 to +150	℃

Electrical Characteristics (Ta = 25℃)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
VRWM	Reverse Working Peak Voltage				24	V
VBR	Reverse Breakdown Voltage	IT = 1mA	26.7		30.5	V
IR	Reverse Leakage Current	VRWM = 24V		<1	100	nA
VC	Clamping Voltage	IPP = 1A (8/20μs)			40	V
VC	Clamping Voltage	IPP =4 A (8/20μs)			60	V
CJ	Capacitance	VR = 0V, f = 1MHz		11	17	pF

Typical Performance Curves



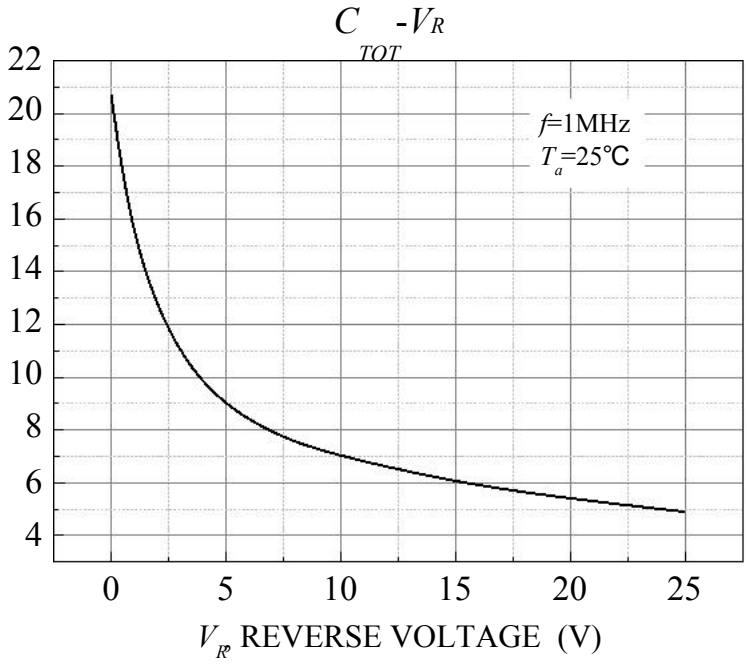
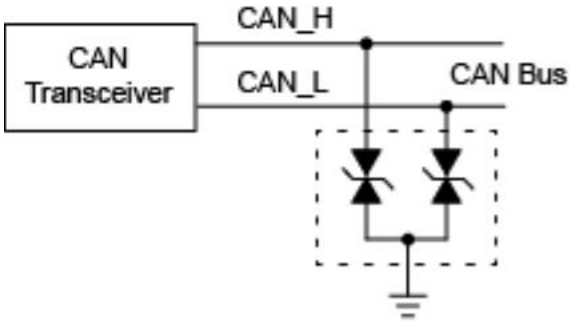


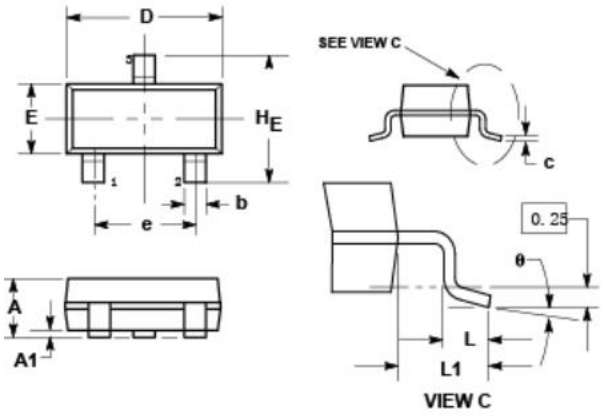
Figure 4. Reverse Voltage vs Capacitance

Application Background

The Controller Area Network (CAN) is a serial communication protocol designed for providing reliable high speed data transmission in harsh environments. TVS diodes provide a low cost solution to conducted and radiated Electromagnetic Interference (EMI) and Electrostatic Discharge (ESD) noise problems. The noise immunity level and reliability of CAN transceivers can be easily increased by adding external TVS diodes to prevent transient voltage failures. The provides a transient voltage suppression solution for CAN data communication lines. The device is a low capacitance dual bidirectional TVS device in a compact SOT-23 package especially suitable for CAN2.1 (CAN-FD). This device is based on Zener technology that optimizes the active area of a PN junction to provide robust protection against transient EMI surge voltage and ESD. The device has been tested to EMI and ESD levels that exceed the specifications of popular high speed CAN networks.



SOT-23 Dimension



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

	MILLIMETERS			INCHES		
DIM	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	0.10	0.20	0.30	0.004	0.008	0.012
L1	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
θ	0°	---	10°	0°	---	10°

STYLE 27:
PIN 1. CATHODE
2. CATHODE
3. CATHODE

SOLDERING FOOTPRINT