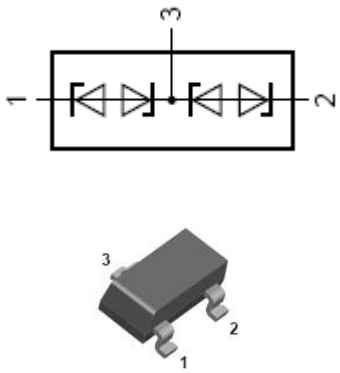
CAN bus ESD protection diode PESD1CAN

FEATURES

- Due to the integrated diode structure only one small SOT23 package is needed to protect two CAN bus lines
- Max. peak pulse power: P_{pp} = 200 W at t_p = 8/20 ms
- Low clamping voltage: $V_{(CL)R}$ = 40 V at I_{pp} = 1 A
- Ultra low leakage current: I_{RM} < 1 nA
- ESD protection of up to 23 kV

Lead-free

HF



SOT-23

APPLICATIONS

- CAN bus protection
- Automotive applications

ORDERING INFORMATION

Type No.	Marking	Package Code
PESD1CAN□	AN	SOT-23

□: none is for Lead Free package;

"G" is for Halogen Free package.

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	Parameter	Ratings	Units
P_{PP}	Peak Pulse Power(tp=8/20us)	200	W
I_{PP}	peak pulse current (tp=8/20us)	3	A
ESD	electrostatic discharge capability IEC 61000-4-2(contact discharge) HBM MIL-STD883	 23 10	 KV KV
T_j	junction temperature	150	℃
T_{amb}	ambient temperature	-65 to +125	℃
T_{STG}	Storage Temperature	-65 to +150	℃

CAN bus ESD protection diode PESD1CAN

ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Reverse Stand-Off Voltage	V_{RWM}				24	V
Reverse Breakdown Voltage	V_{BR}	I_t=1mA	25.4	27.8	30.3	V
Reverse Leakage Current	I_R	V_{RWM}=24V			50	nA
Clamping Voltage	V_C	I_{PP}=1A I_{PP}=3A			40 70	V
Junction Capacitance	C_d	V_R=0V,f=1MHZ		11		pF
differential resistance	rdif	I_R=1mA			300	Ω

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

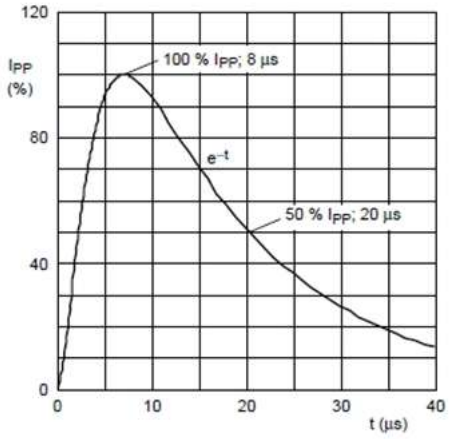


Fig1. 8/20us pulse waveform according to IEC61000-4-5

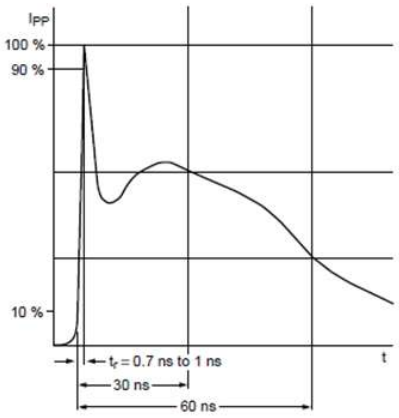


Fig2. ESD pulse waveform according to IEC61000-4-2

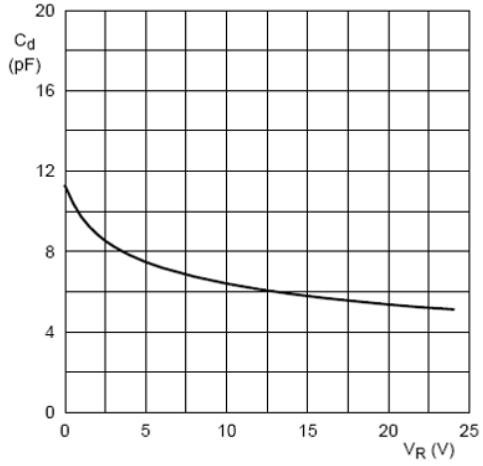


Fig3. Cd vs Vr Cure

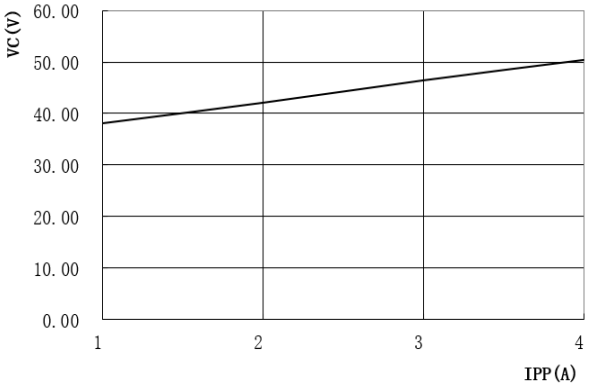
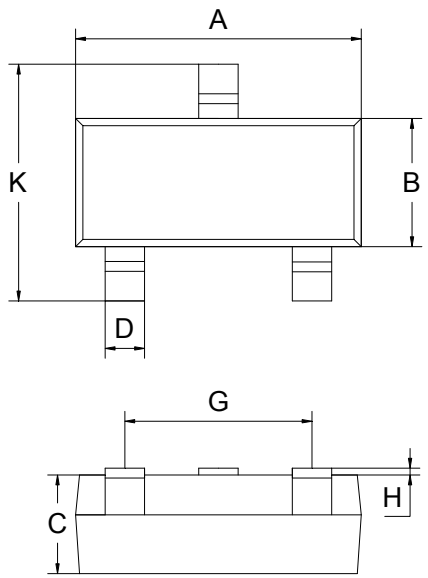


Fig4. VC vs IPP Cure

CAN bus ESD protection diode PESD1CAN

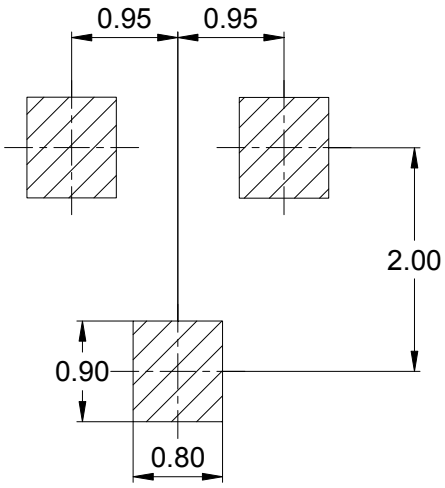
PACKAGE OUTLINE

Plastic surface mounted package SOT-23



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.30	0.50
E	0.35	0.48
G	1.80	2.00
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
PESD1CAN	SOT-23	3000/Tape&Reel