

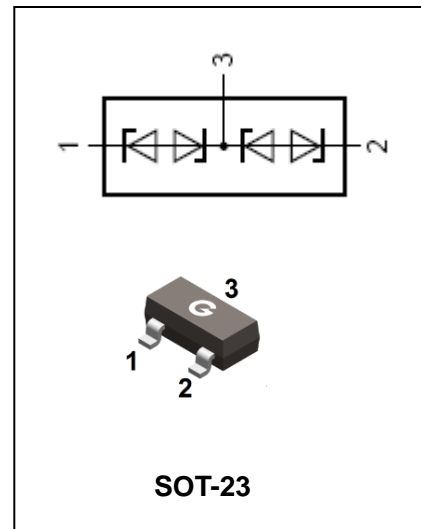
## CAN bus ESD protection diode

## 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:  $P_{pp} = 200\text{ W}$  at  $t_p = 8/20\text{ us}$
- Low clamping voltage:  $V_{(CL)R} = 40\text{ V}$  at  $I_{pp} = 1\text{ A}$
- Ultra low leakage current:  $I_{RM} < 1\text{ nA}$
- ESD protection of up to 23 kV

HF



### APPLICATIONS

- CAN bus protection
- Automotive applications

### ORDERING INFORMATION

Type No.	Marking	Package Code
PESD1CAN	AN	SOT-23

### MAXIMUM RATING @ $T_a=25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Ratings	Units
$P_{PP}$	Peak Pulse Power( $t_p=8/20\text{us}$ )	200	W
$I_{PP}$	peak pulse current ( $t_p=8/20\text{us}$ )	3	A
ESD	electrostatic discharge capability IEC 61000-4-2(contact discharge) HBM MIL-STD883	23	KV
		10	KV
$R_{\theta JA}$	Thermal Resistance Junction-to-Air <sup>*1</sup>	300	$^\circ\text{C/W}$
$R_{\theta JC}$	Thermal Resistance Junction-to-Case <sup>*1</sup>	185	$^\circ\text{C/W}$
$R_{\theta JL}$	Thermal Resistance Junction-to-Lead <sup>*1</sup>	230	$^\circ\text{C/W}$
$T_J$	junction temperature	-55 to +150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-65 to +150	$^\circ\text{C}$

Note 1: The data tested by surface mounted on a 25.4mm \* 25.4mm \* 1mm FR4-epoxy P.C.B

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ELECTRICAL CHARACTERISTICS @ Ta=25°C 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	$\Omega$

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

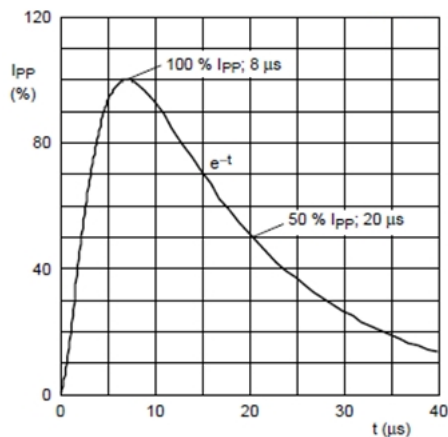


Fig1. 8/20us pulse waveform according to IEC61000-4-5

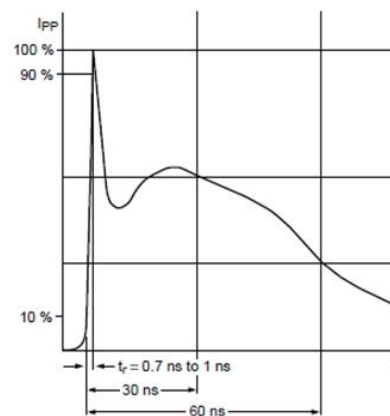


Fig2. ESD pulse waveform according to IEC61000-4-2

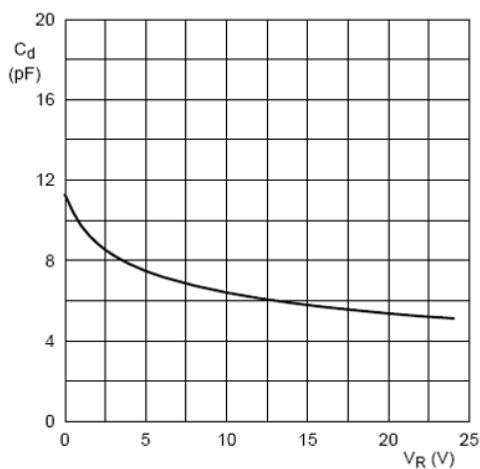


Fig3. Cd vs Vr Cure

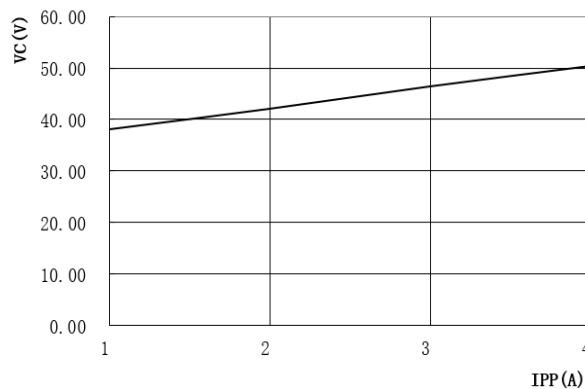


Fig4. VC vs IPP Cure

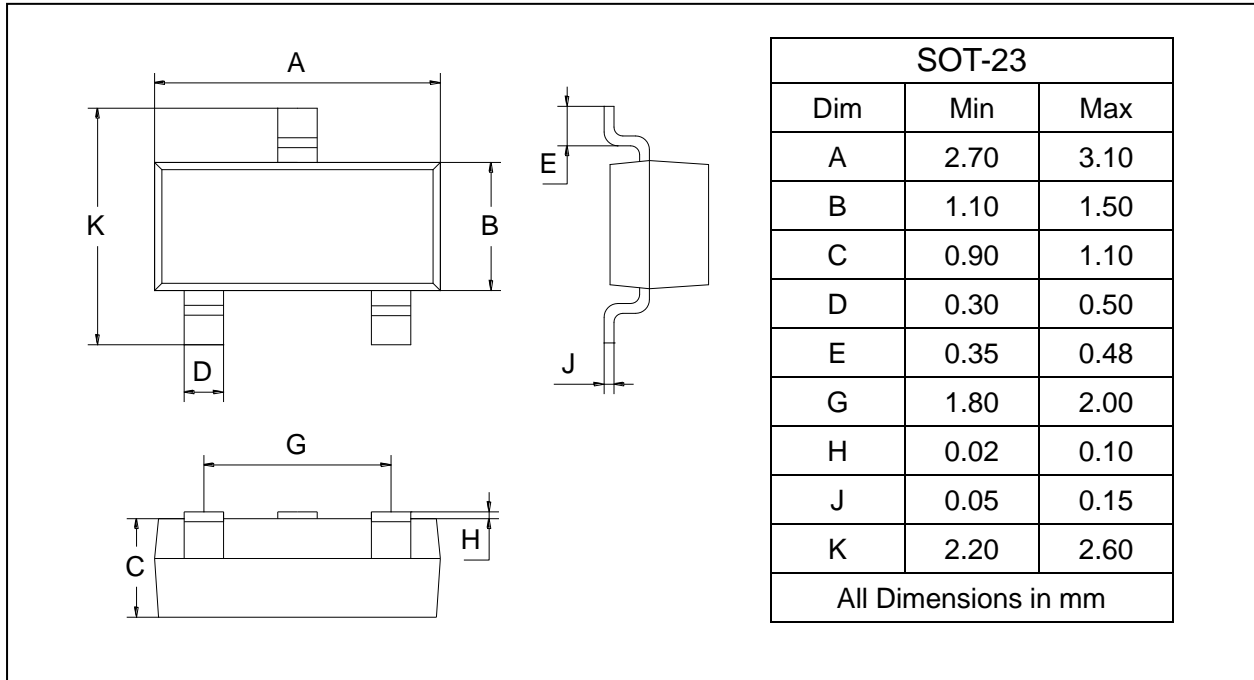
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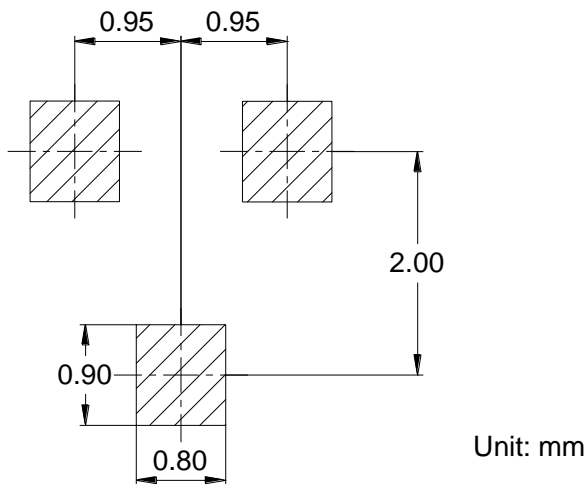
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

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