CAN bus ESD protection diode

Features

- Due to the integrated diode structure only one small SOT-23 package is needed to protect two CAN bus lines
- Max. peak pulse power: P_{pp} = 200 W at t_p = 8/20 u s
- Low clamping voltage: $V_{(CL)R}$= 40V at I_{pp}=1A
- Ultra low leakage current: I_{RM} < 1 nA
- ESD protection of up to 23 kV
- Halogen free
- Qualified to AEC-Q101 standards for high reliability

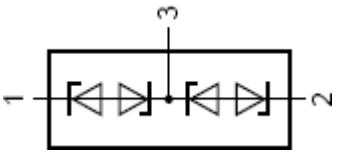
Pb

RoHS

COMPLIAN

Marking： AN

SOT-23



Applications

- CAN bus protection
- Automotive applications

Absolute Maximum Ratings (T_A = 25 °C unless otherwise noted)			
Parameter	**Symbol**	**Value**	**Units**
Peak Pulse Power(tp=8/20us)	P_{PP}	200	W
peak pulse current (tp=8/20us)	I_{PP}	3	A
electrostatic discharge capability IEC 61000-4-2(contact discharge) HBM MIL-STD883	ESD	23 10	KV
junction temperature	T_J	150	℃
ambient temperature	T_{AMB}	-65 to +125	℃
Storage Temperature	T_{STG}	-65 to +150	℃

Electrical Characteristics (T_A = 25 °C unless otherwise noted)						
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 Characteristic

Ta=25 ℃ unless otherwise specified

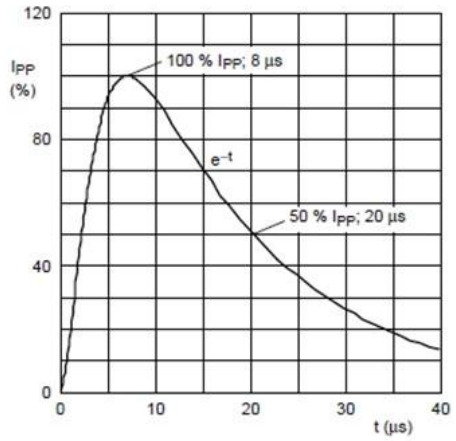


Fig1. 8/20us pulse waveform according to IEC61000-4-5

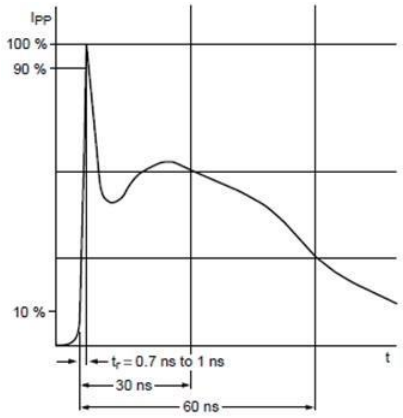


Fig2. ESD pulse waveform according to IEC61000-4-2

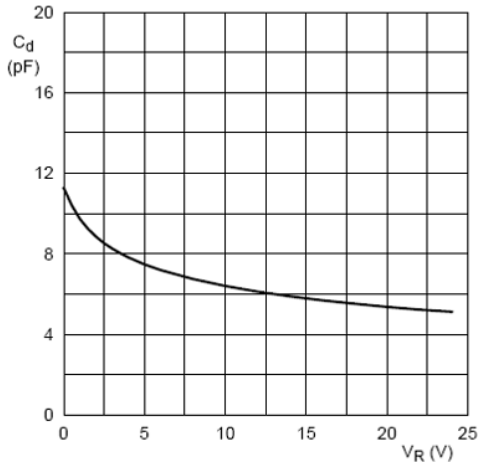


Fig3. Cd vs Vr Cure

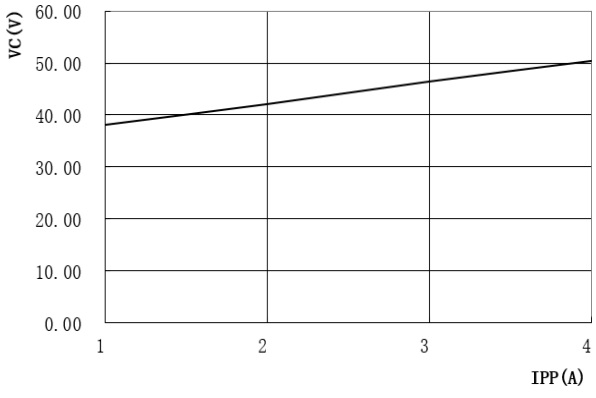
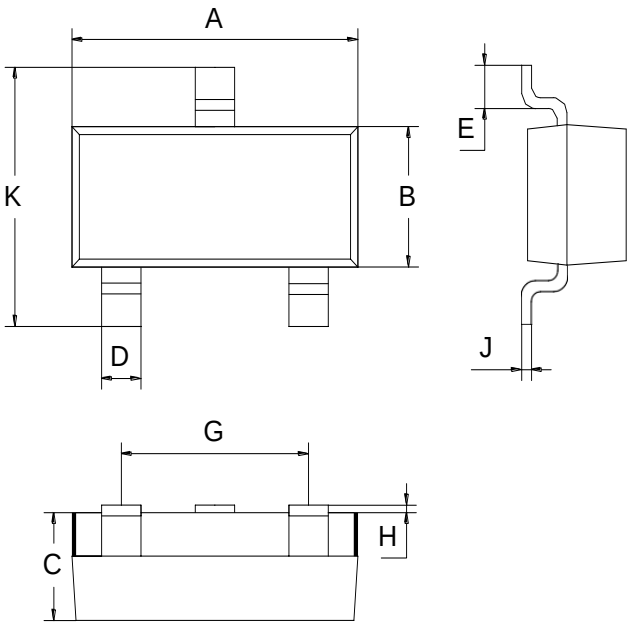


Fig4. VC vs IPP Cure

Package Outline Dimensions

millimeters



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

Revision History

Document Version	Date of release	Discroption of changes
Rev.A	2020.03.04	First issue

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