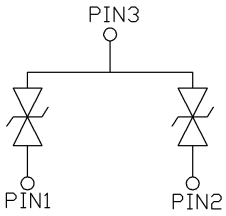
CAN bus ESD protection diode

SOT-23



Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- Dual Line CAN Bus Protector for SOT-23 Package
- Max Peak Pulse Power 352W per Line (tp=8/20 μs)
- Low Clamping Voltage V_C=34V@I_{PP}=1A
- IEC 61000-4-2, level 4 (ESD)
- IEC 61000-4-5 (surge), I_{PP} = 8A at tp = 8/20 μs
- Part no. with suffix “Q” means AEC-Q101 qualified

Applications

- Automotive Controlled Area Network

Mechanical Data

- **Case:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking：** 6R

■ Maximum Ratings (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Peak Pulse Power per Line (tp=8/20 μs) （Note1）	P_{PP}	W	352
Peak Pulse Current per Line (tp=8/20 μs) （Note1）	I_{PP}	A	8
Storage Temperature Range	T_{stg}	°C	-55 ~ +150
Junction Temperature	T_J	°C	-55 ~ +150
Human Body Model（HBM） （Note2）	V_{ESD}	kV	25
IEC 61000-4-2 (contact discharge) （Note2）		kV	30

Note1：Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC 61000-4-5.
Note2：Measured from pin 1 to 3 or 2 to 3.

■ Electrical Characteristics (Ta=25℃ unless otherwise noted)

ITEM	SYMBOL	UNIT	CONDITIONS	MIN.	TYP.	MAX.
Reverse Working Voltage	V_{RWM}	V		-	-	24
Reverse Breakdown Voltage	V_{BR}	V	I_T=1mA	26.3	28.3	30.3
Reverse Leakage Current	I_R	nA	V_{RWM}=24V	-	1.8	100
Clamping Voltage(pin 1 to 3 or 2 to 3)	V_C	V	I_{PP}=1A (8/20μs Pulse)	-	-	34
	V_C	V	I_{PP}=5A (8/20μs Pulse)	-	34	40
	V_C	V	I_{PP}=8A (8/20μs Pulse)	-	38	44
Junction Capacitance(pin 1 to 3 or 2 to 3)	C_j	pF	V_R=0V, f=1MHZ, Vsig=50mV_{p-p}	-	27	30

■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD2CAN24T2Q	F2	Approximate 0.01	3000	30000	120000	7” reel

■ Characteristics (Typical)

Fig.1 - 8/20 μs pulse waveform according to IEC 61000-4-5

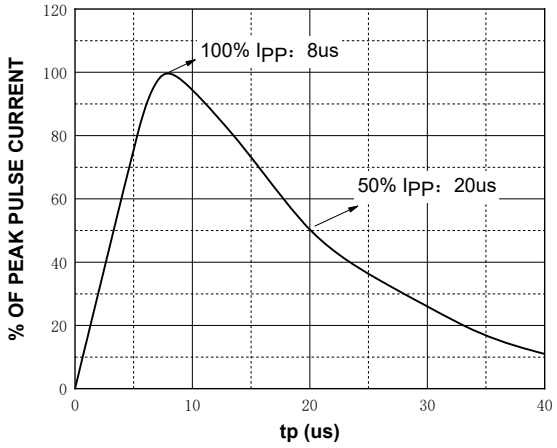


Fig.2 - Peak Pulse Current vs. Clamping Voltage

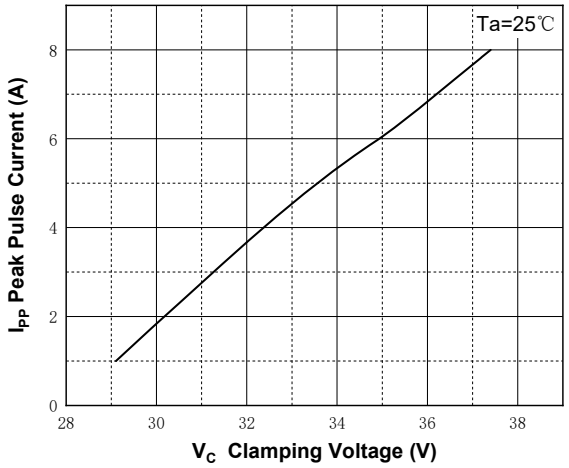


Fig.3 - Temperature Power Dissipation Derating

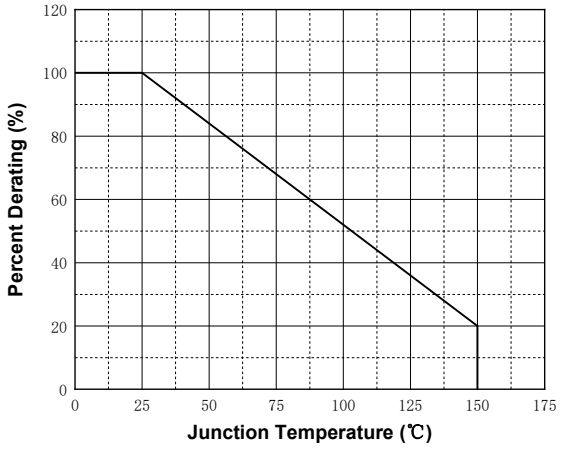


Fig.4 - Typical Junction Capacitance vs. Reverse Voltage

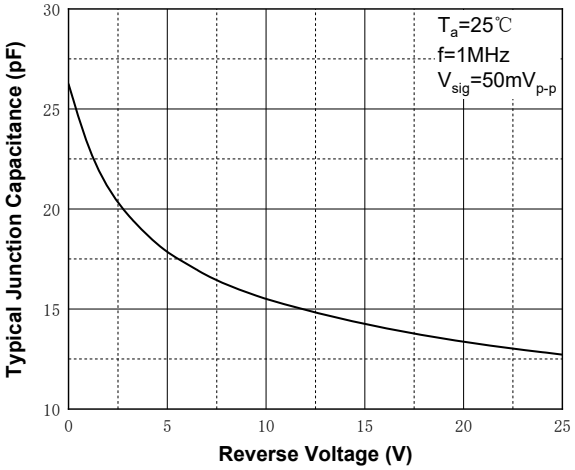
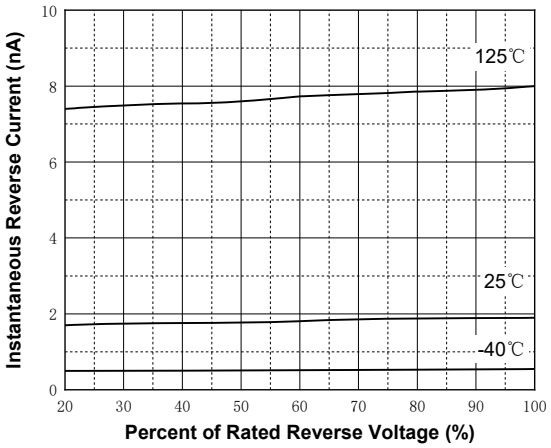
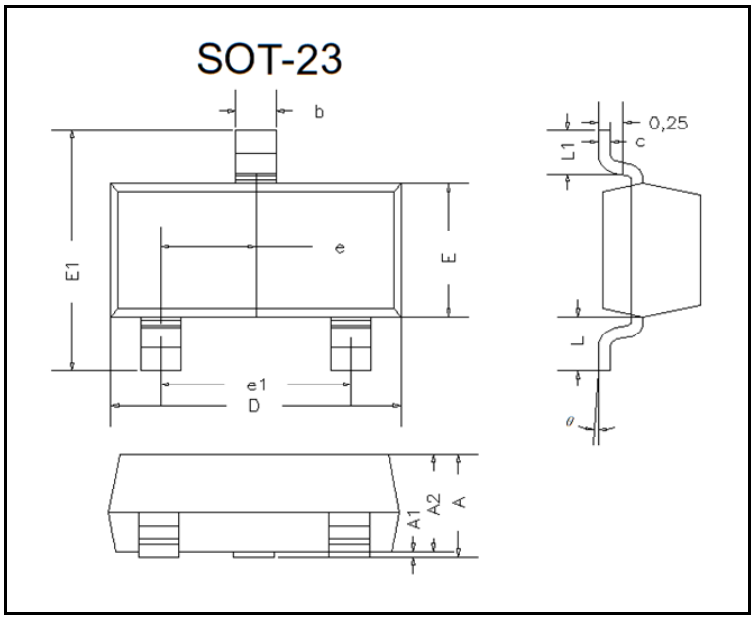


Fig.5 - Typical Reverse Characteristics

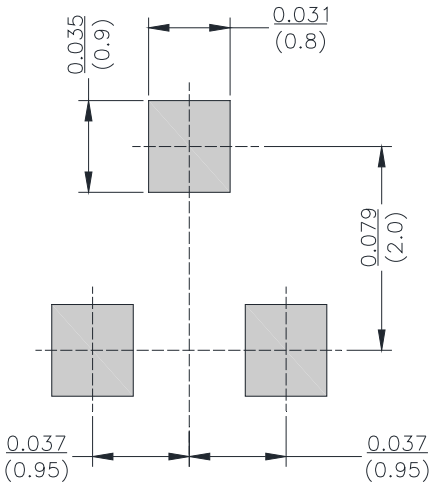


■ Outline Dimensions



DIM	INCHES		MM	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.90	1.15
A1	0.000	0.004	0.00	0.10
A2	0.035	0.041	0.90	1.05
b	0.012	0.020	0.30	0.50
c	0.004	0.008	0.10	0.20
D	0.110	0.118	2.80	3.00
E	0.047	0.055	1.20	1.40
E1	0.089	0.100	2.25	2.55
e	0.370TYP.		0.95TYP.	
e1	0.071	0.079	1.80	2.00
L	0.220REF.		0.55REF.	
L1	0.012	0.020	0.30	0.50
θ	0°	8°	0°	8°

■ Soldering Footprint



Unit：inch / mm

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