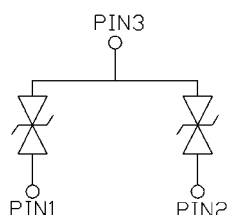


CAN bus ESD protection diode


SOT-23


Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 3
- Dual Line CAN Bus Protector for SOT-23 Package
- Max Peak Pulse Power 384W per Line ($t_p=8/20\ \mu s$)
- 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 $t_p = 8/20\ \mu s$
- Part no. with suffix "Q" means AEC-Q101 qualified
- Storage Period: 2 years

Applications

- Automotive Controlled Area Network

Mechanical Data

- **Case:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** CB2

■ Maximum Ratings ($T_a=25^\circ C$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Peak Pulse Power per Line ($t_p=8/20\ \mu s$) (Note1)	P_{PP}	W	384
Peak Pulse Current per Line ($t_p=8/20\ \mu s$) (Note1)	I_{PP}	A	8
Storage Temperature Range	T_{stg}	$^\circ C$	-55 ~ +150
Junction Temperature	T_J	$^\circ C$	-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 ($T_a=25^\circ C$ 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	$V_{RWM}=24V$	-	-	100
Clamping Voltage(pin 1 to 3 or 2 to 3)	V_C	V	$I_{PP}=1A$ (8/20 μs Pulse)	-	-	34
	V_C	V	$I_{PP}=5A$ (8/20 μs Pulse)	-	-	45
	V_C	V	$I_{PP}=8A$ (8/20 μs Pulse)	-	-	48
Junction Capacitance(pin 1 to 3 or 2 to 3)	C_j	pF	$V_{BR}=0V$, $f=1MHZ$	-	27	32

■ Ordering Information (Example)

PREFERED P/N	PACKING	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD2CAN24T2Q	SOT-23	Approximate 0.01	3000	30000	120000	7" reel

■ Characteristics (Typical)

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

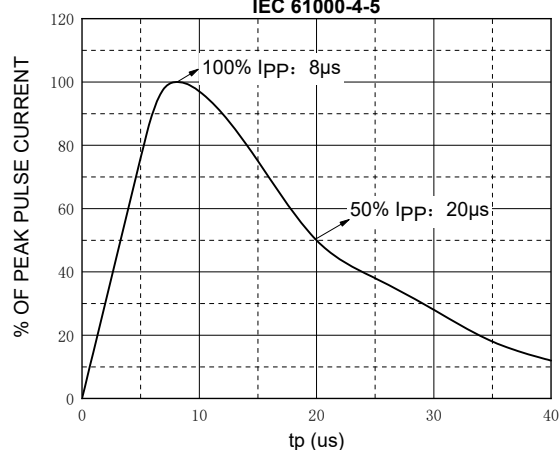


Fig.2 Clamping Voltage vs Peak Pulse Current

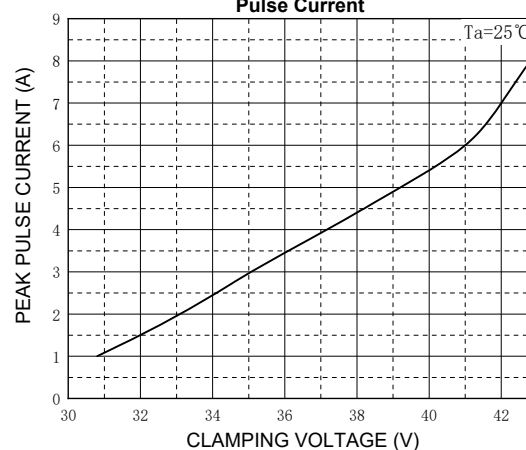


Fig.3 Temperature Power Dissipation Derating

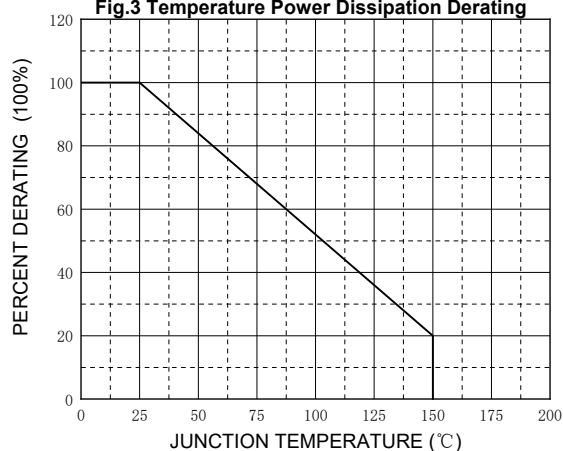
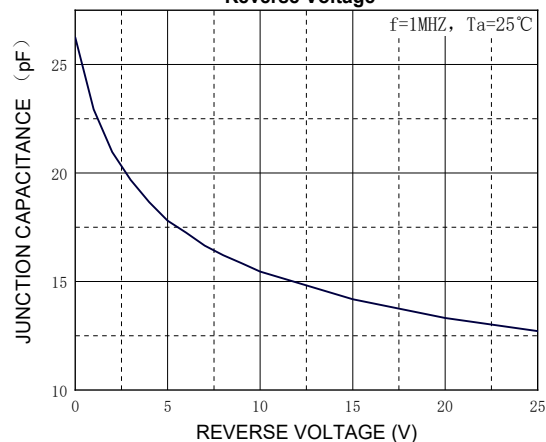
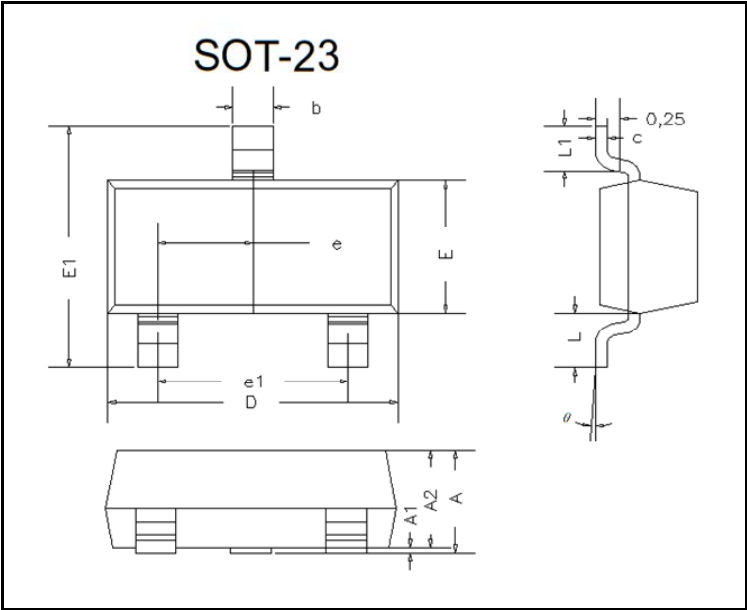


Fig.4 Typical Junction Capacitance vs Reverse Voltage

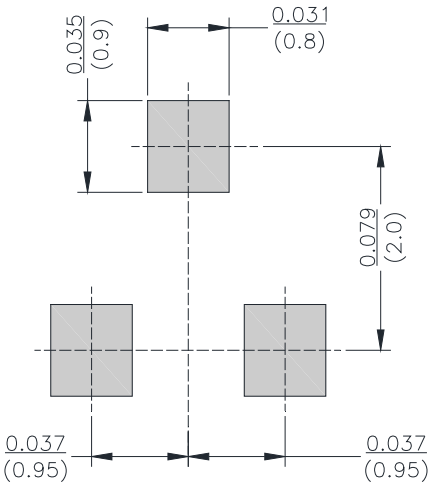


■ Outline Dimensions



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: $\frac{\text{inch}}{\text{mm}}$