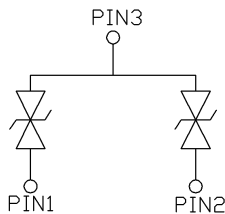


## CAN bus ESD protection diode



**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 384W 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  $t_p = 8/20 \mu s$
- 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 ( $T_a=25^\circ C$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Peak Pulse Power per Line (tp=8/20 μs) (Note1)	$P_{PP}$	W	384
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 ( $T_a=25^\circ C$ 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	$I_{PP}=1A$ (8/20μs Pulse)	-	-	34
	$V_C$	V	$I_{PP}=5A$ (8/20μs Pulse)	-	-	45
	$V_C$	V	$I_{PP}=8A$ (8/20μs 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 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  $\mu$ s pulse waveform according to IEC 61000-4-5

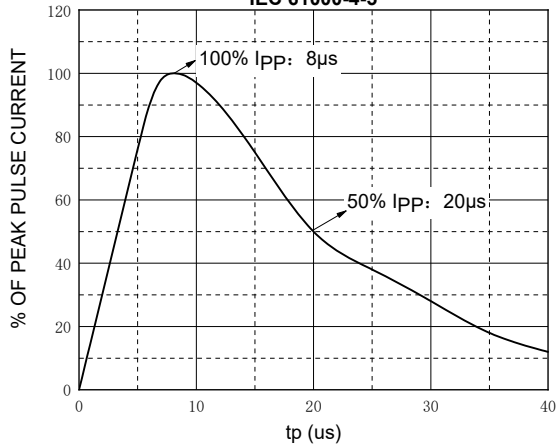


Fig.2 Clamping Voltage vs Peak Pulse Current

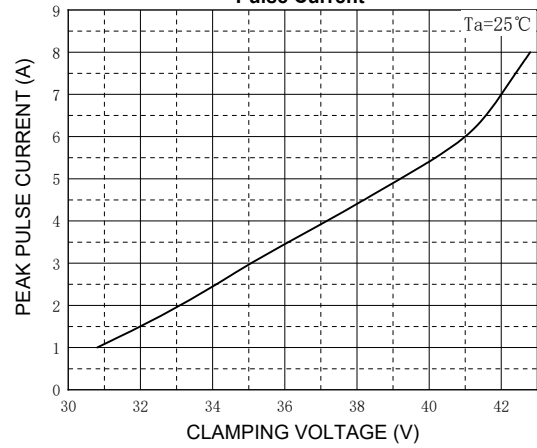


Fig.3 Temperature Power Dissipation Derating

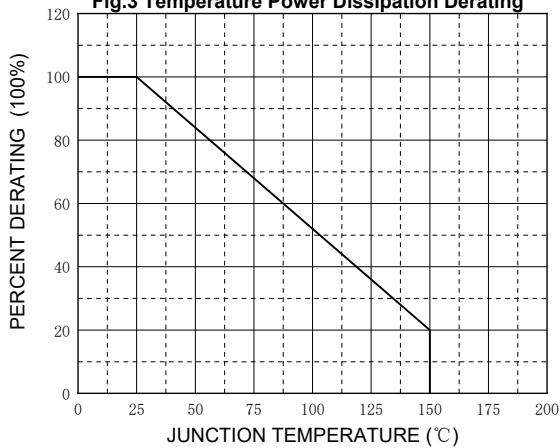
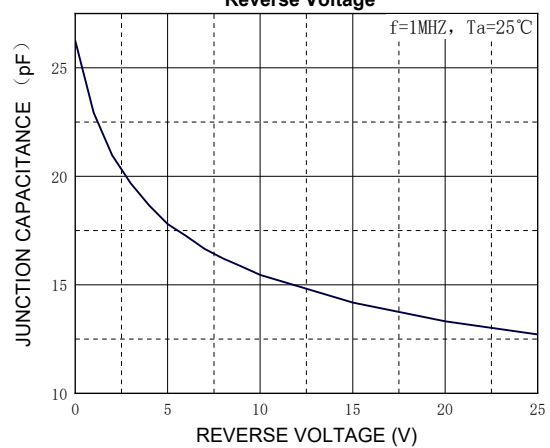
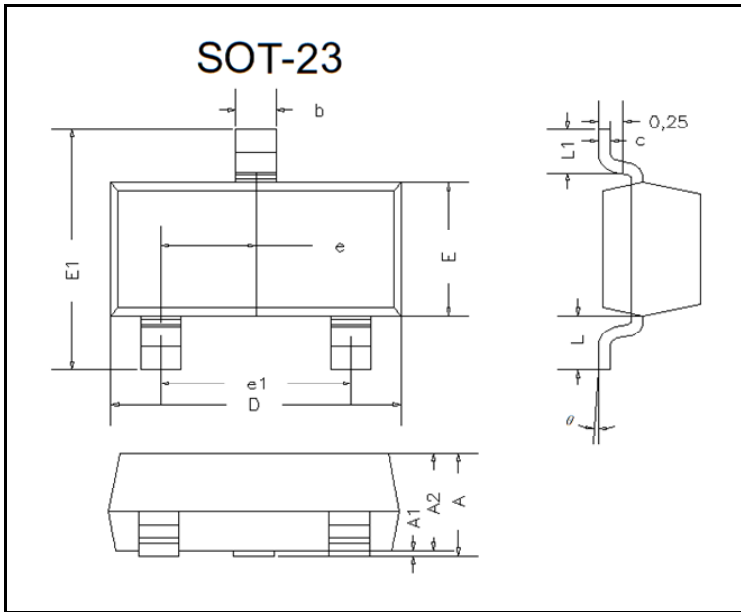


Fig.4 Typical Junction Capacitance vs Reverse Voltage

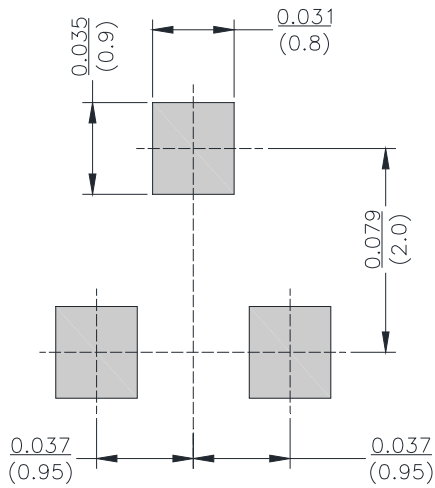


## ■ Outline Dimensions



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



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