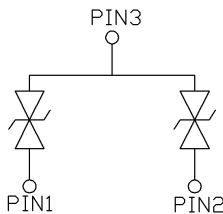


## CAN bus ESD protection diode



**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 308W 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),  $I_{PP} = 7A$  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:** 6RS

### ■ 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	308
Peak Pulse Current per Line ( $t_p=8/20\ \mu s$ ) (Note1)	$I_{PP}$	A	7
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	30
IEC 61000-4-2 (contact discharge) (Note2)		kV	30

Note1: Non-repetitive current pulse 8/20  $\mu s$  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 not)

ITEM	SYMBOL	UNIT	CONDITIONS	MIN.	TYP.	MAX.
Reverse Working Voltage	$V_{RWM}$	V		-	-	24
Reverse Breakdown Voltage	$V_{BR}$	V	$I_T=1mA$	26.2	-	32
Reverse Leakage Current	$I_R$	nA	$V_{RWM}=24V$	-	1.5	100
Clamping Voltage(pin 1 to 3 or 2 to 3)	$V_C$	V	$I_{PP}=1A$ (8/20 $\mu s$ Pulse)	-	-	34
	$V_C$	V	$I_{PP}=5A$ (8/20 $\mu s$ Pulse)	-	37	40
	$V_C$	V	$I_{PP}=7A$ (8/20 $\mu s$ Pulse)	-	40	44
Junction Capacitance(pin 1 to 3 or 2 to 3)	$C_j$	pF	$V_R=0V, f=1MHZ, V_{sig}=50mV_{p-p}$	-	20	30



## ■ Characteristics (Typical)

Fig.1: 8/20 $\mu$ s Pulse Waveform

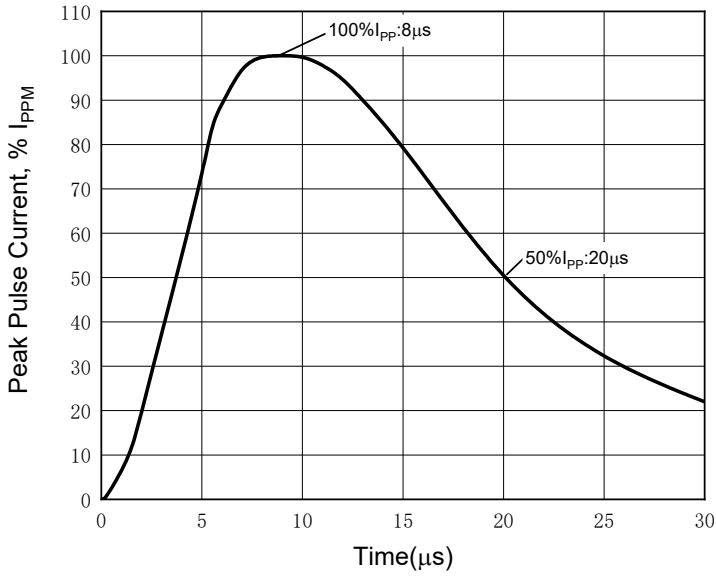


Fig.2: Peak Pulse Current VS. Clamping Voltage

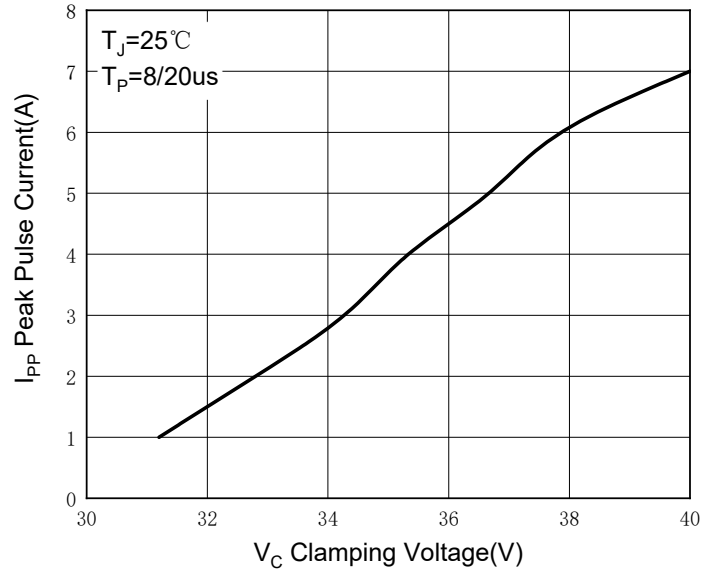


Fig.3: Power Derating Curve

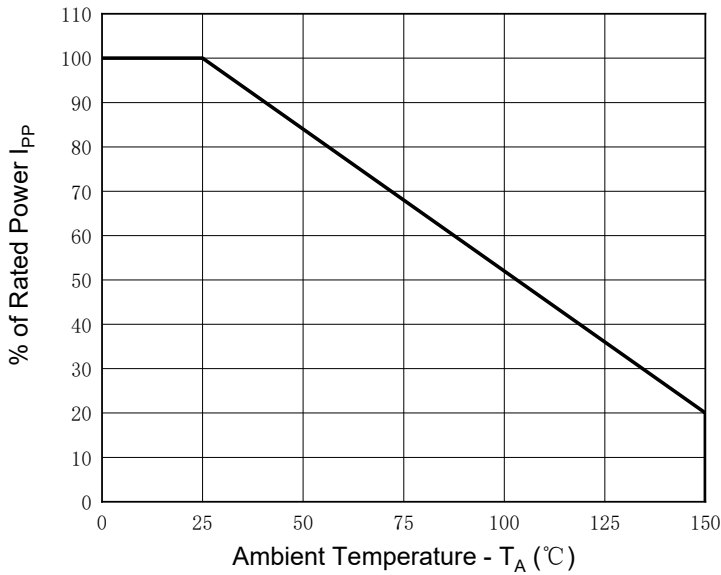


Fig.4: Capacitance vs. Bias

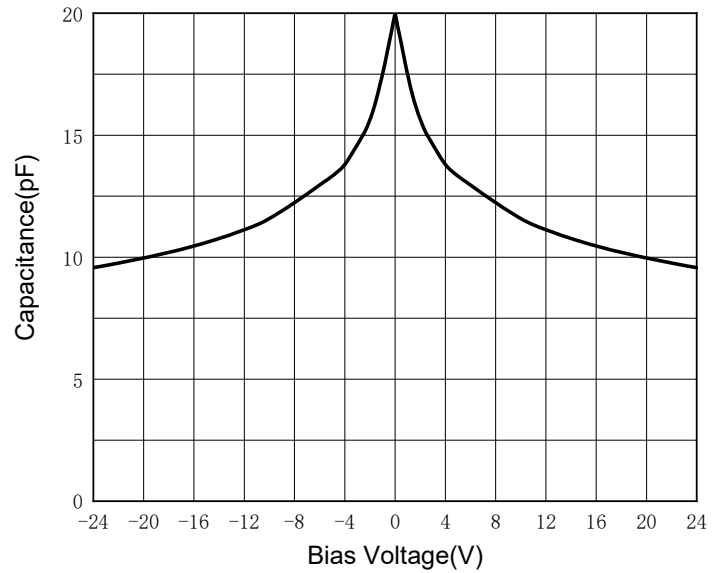
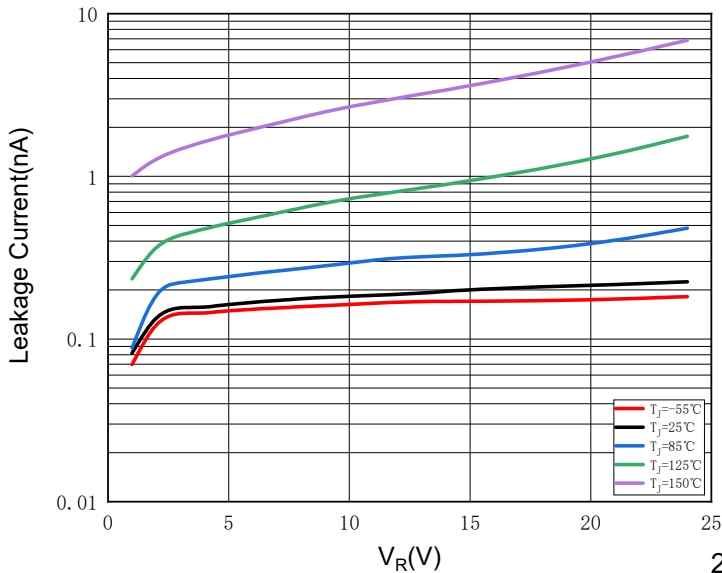


Fig.5: Typical Reverse Characteristics

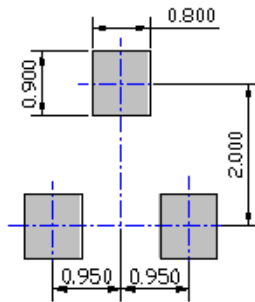
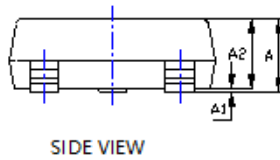
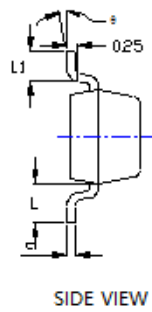
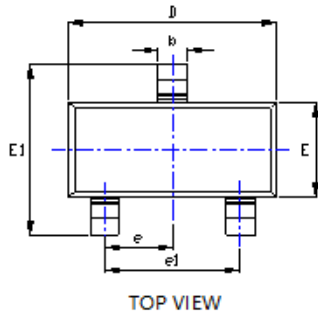




## Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD2CAN24T2SQ	F2	Approximate 0.01	3000	30000	120000	7" reel

## Outline Dimensions

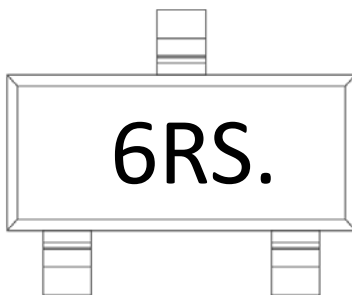


UNIT: mm

SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.022REF		0.550REF	
L1	0.012	0.020	0.300	0.500
θ	0°	8°	0°	8°

NOTE:  
 1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.  
 2. TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.  
 3. THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.

## Marking Information



Note:

- All marking is at middle of the product body
- All marking is in laser marking
- Body color: Black



## Disclaimer

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