



## UESD1CAN

TVS

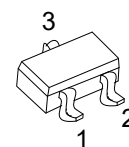
### CAN BUS ESD PROTECTION DIODE

#### DESCRIPTION

The UTC **UESD1CAN** in a small SOT-23 (TO-236) Surface-Mounted Device (SMD) plastic package designed to protect two automotive Controller Area Network (CAN) bus lines from the damage caused by ElectroStatic Discharge (ESD) and other transients.

#### 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:  $P_{PP} = 200\text{ W}$  at  $t_p = 8/20\text{ ms}$
- \* Low clamping voltage:  $V_{CL} = 40\text{ V}$  at  $I_{PP} = 1\text{ A}$
- \* ESD protection up to 23 kV
- \* IEC 61000-4-2, level 4 (ESD)
- \* IEC 61000-4-5 (surge);  $I_{PP} = 3\text{ A}$  at  $t_p = 8/20\text{ ms}$



SOT-23  
(JEDEC TO-236)

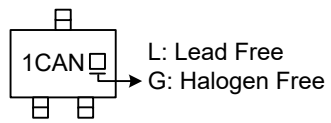
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UESD1CANL-AE3-R	UESD1CANG-AE3-R	SOT-23	K	K	Common K	Tape Reel

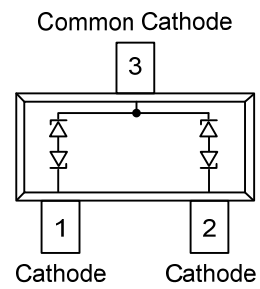
Note: Pin Assignment: K: Cathode

UESD1CANG-AE3-R	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) AE3: SOT-23
	(3)Green Package	(3) G: Halogen Free and Lead Free, L: Lead Free

## ■ MARKING



## ■ PIN CONFIGURATION



■ ABSOLUTE MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER			SYMBOL	RATINGS	UNIT
ESD Discharge	IEC61000-4-2 (Note 2, 3)	Air Discharge	V <sub>ESD</sub>	±23	kV
		Contact Discharge		±23	kV
	MIL-STD-883	Human Body Model		±10	kV
Peak Pulse Current	IEC61000-4-5	t <sub>p</sub> =8/20μs (Note 3, 4)	I <sub>PP</sub>	3	A
Peak Pulse Power			P <sub>PP</sub>	200	W
Junction Temperature			T <sub>J</sub>	+150	°C
Ambient Temperature			T <sub>A</sub>	-65 ~ +150	°C
Storage Temperature			T <sub>STG</sub>	-65 ~ +150	°C

Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2. Device stressed with ten non-repetitive ESD pulses.

3. Measured from pin 1 to 3 or 2 to 3.

4. Non-repetitive current pulse 8/20 ms exponential decay waveform according to IEC 61000-4-5.

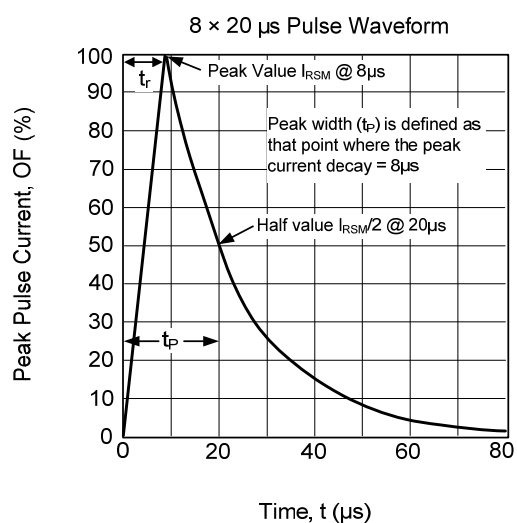
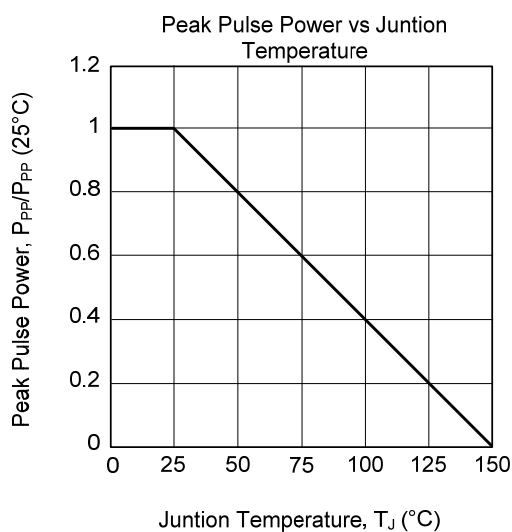
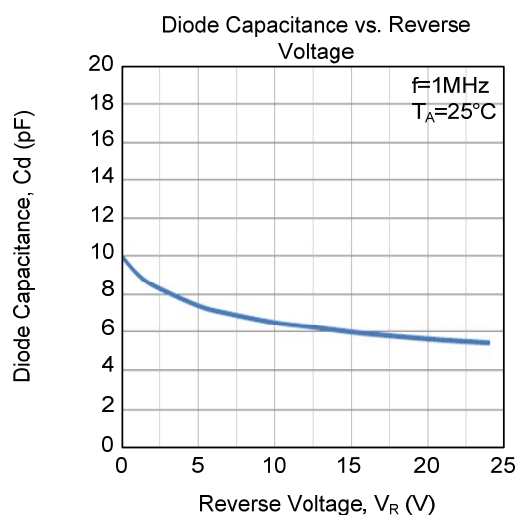
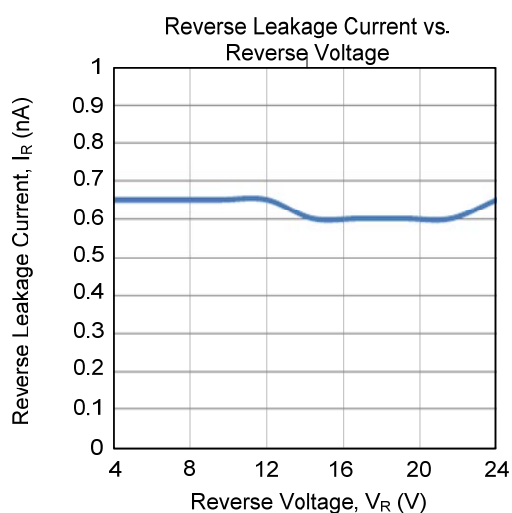
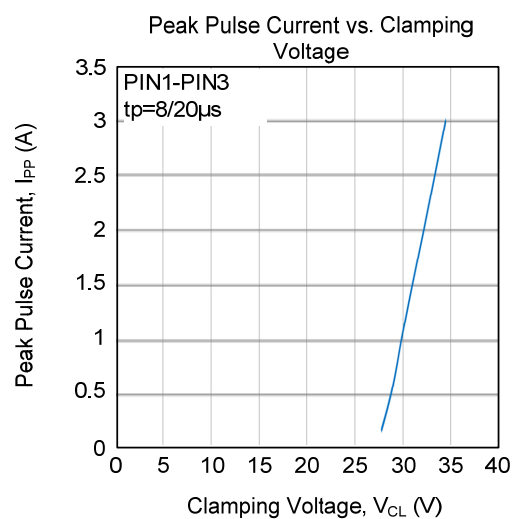
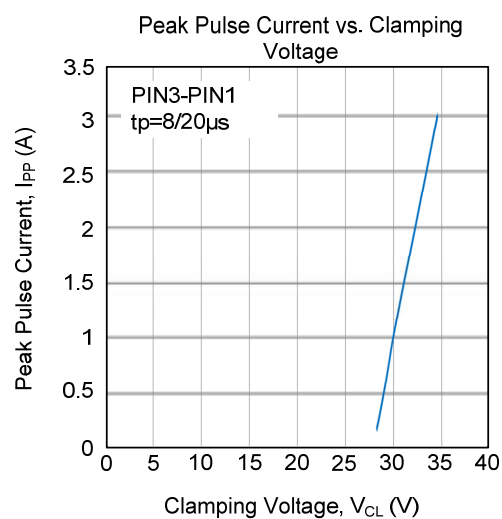
■ ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Stand-Off Voltage	$V_{\text{RWM}}$				24	V
Reverse Breakdown Voltage	$V_{\text{BR}}$	$I_{\text{R}}=5\text{mA}$	25.4	27.8	30.3	V
Reverse Leakage Current	$I_{\text{R}}$	$V_{\text{RWM}}=24\text{V}$			50	nA
Diode Capacitance	$C_d$	$V_{\text{R}}=0\text{V}$ , $f=1\text{MHz}$		11	17	pF
Clamping Voltage (Note 1, 2)	$V_{\text{CL}}$	$I_{\text{PP}}=1\text{A}$			40	V
		$I_{\text{PP}}=3\text{A}$			70	V
Differential Resistance	$r_{\text{dif}}$	$I_{\text{R}}=1\text{mA}$			300	$\Omega$

Notes: 1. Non-repetitive current pulse 8/20 ms exponential decay waveform according to IEC 61000-4-5.

2. Measured from pin 1 to 3 or 2 to 3.

# TYPICAL CHARACTERISTICS



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