

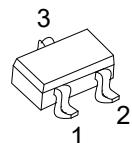
UESD1CAN

TVS

CAN BUS ESD PROTECTION DIODE

■ DESCRIPTION

The UTC **UESD1CAN** is 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.



SOT-23
(JEDEC TO-236)

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

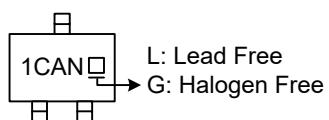
■ ORDERING INFORMATION

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

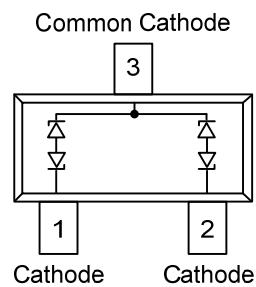
Note: Pin Assignment: K: Cathode

UESD1CANG-AE3-R 	(1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel (2) AE3: SOT-23 (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_{ESD}	± 23		kV	
		Contact Discharge		± 23		kV	
	MIL-STD-883	Human Body Model		± 10		kV	
Peak Pulse Current	IEC61000-4-5 (Note 3, 4)	$t_p=8/20\mu\text{s}$	I_{PP}	3		A	
Peak Pulse Power			P_{PP}	200		W	
Junction Temperature			T_J	+150		$^\circ\text{C}$	
Ambient Temperature			T_A	-65 ~ +150		$^\circ\text{C}$	
Storage Temperature			T_{STG}	-65 ~ +150		$^\circ\text{C}$	

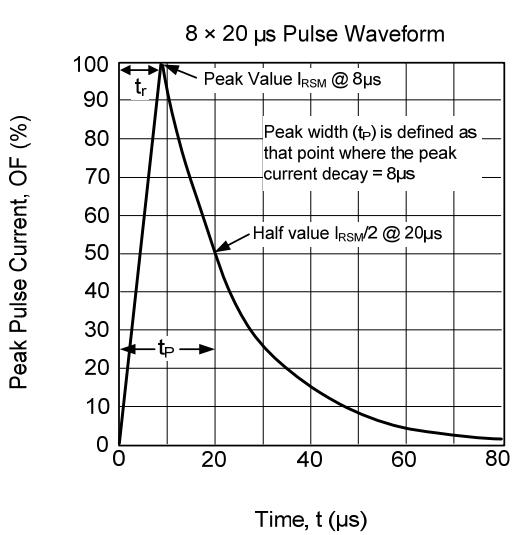
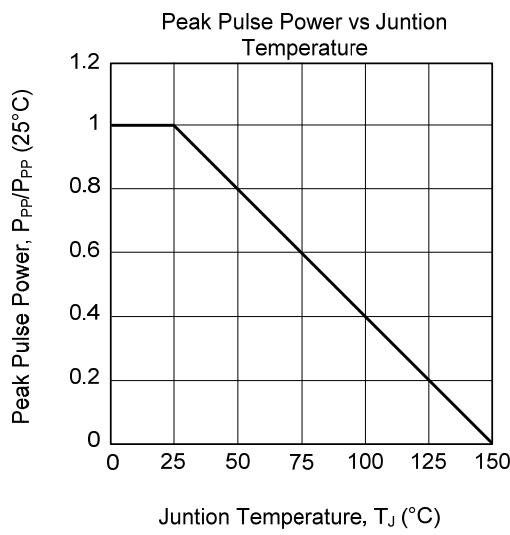
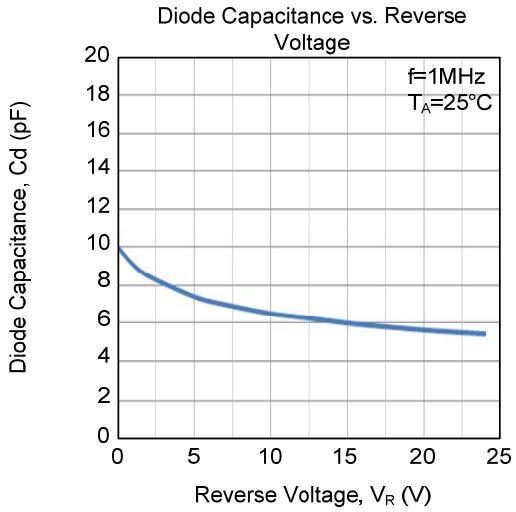
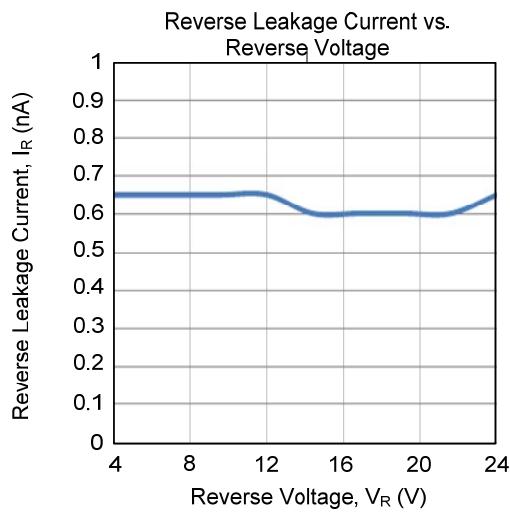
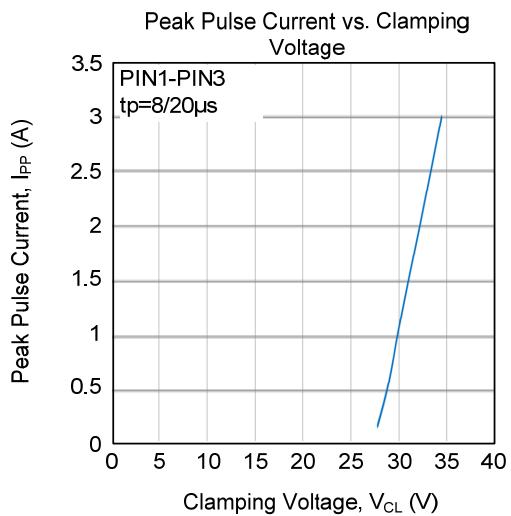
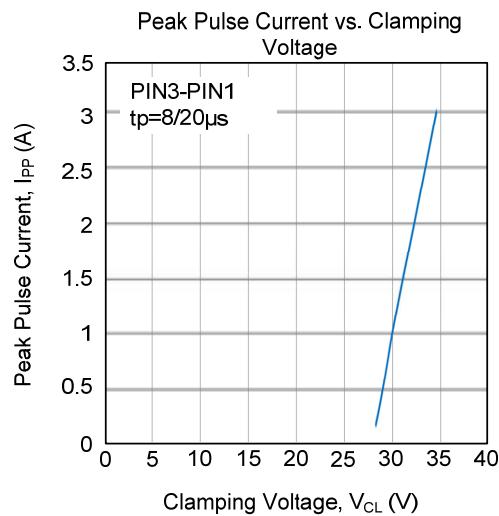
Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.
 Absolute maximum ratings are stress ratings only and functional device operation is not implied.
 2. Device stressed with ten non-repetitive ESD pulses.
 3. Measured from pin 1 to 3 or 2 to 3.
 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_{RWM}				24	V
Reverse Breakdown Voltage	V_{BR}	$I_R=5\text{mA}$	25.4	27.8	30.3	V
Reverse Leakage Current	I_R	$V_{RWM}=24\text{V}$			50	nA
Diode Capacitance	C_d	$V_R=0\text{V}$, $f=1\text{MHz}$		11	17	pF
Clamping Voltage (Note 1, 2)	V_{CL}	$I_{PP}=1\text{A}$			40	V
		$I_{PP}=3\text{A}$			70	V
Differential Resistance	r_{dif}	$I_R=1\text{mA}$			300	Ω

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



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. UTC reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.

