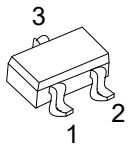
UESD1CAN

TVS

CAN BUS ESD PROTECTION DIODE



SOT-23
(JEDEC TO-236)

■ 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 W at tp = 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 tp = 8/20 ms

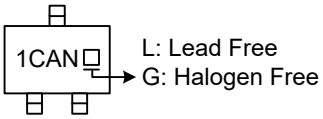
■ ORDERING INFORMATION

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

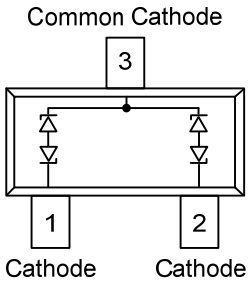
Note: Pin Assignment: K: Cathode

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°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	t_p=8/20μs (Note 3, 4)	I_{PP}	3	A
Peak Pulse Power			P_{PP}	200	W
Junction Temperature			T_J	+150	°C
Ambient Temperature			T_A	-65 ~ +150	°C
Storage Temperature			T_{STG}	-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°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=5mA	25.4	27.8	30.3	V
Reverse Leakage Current	I_R	V_{RWM} =24V			50	nA
Diode Capacitance	C_d	V_R=0V, f=1MHz		11	17	pF
Clamping Voltage (Note 1, 2)	V_{CL}	I_{PP}=1A			40	V
		I_{PP}=3A			70	V
Differential Resistance	r_{dif}	I_R=1mA			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