



ESD PROTECTION DIODE DUAL LINE CAN BUS PROTECTOR

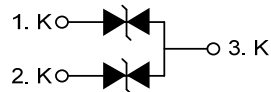
DESCRIPTION

The UTC **UTVS3105** has been designed to protect the CAN transceiver in high-speed and fault tolerant networks from ESD and other harmful transient voltage events. This device provides bidirectional protection for each data line with a single compact SOT-23 package, giving the system designer a low cost option for improving system reliability and meeting stringent EMI requirements.

FEATURES

- * 350 W Peak Power Dissipation per Line (8/20 sec Waveform)
- * Low Reverse Leakage Current (< 100 nA)
- * Low Capacitance High-Speed CAN Data Rates

SYMBOL



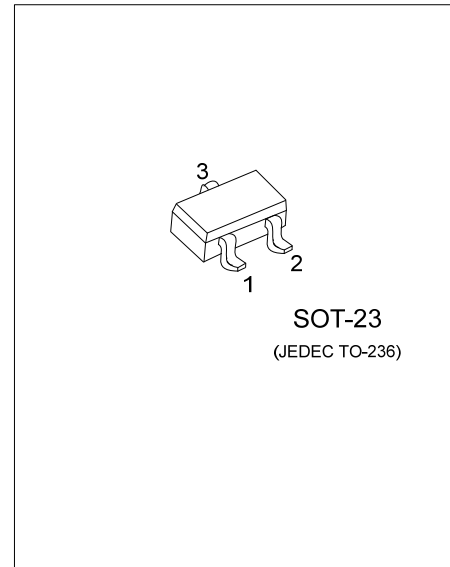
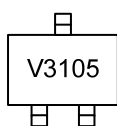
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UTVS3105L-AE3-R	UTVS3105G-AE3-R	SOT-23	K	K	K	Tape Reel

Note: Pin Assignment: K: Cathode

UTVS3105G-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
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MARKING



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

PARAMETER		SYMBOL	RATINGS	UNIT	
ESD Discharge	IEC61000-4-2	Air Discharge	± 30	kV	
		Contact Discharge	± 30	kV	
Peak Pulse Current	IEC61000-4-5	$t_p=8/20\mu\text{s}$	I_{PP}	8	A
Peak Pulse Power			P_{PK}	350	W
Operating Junction Temperature		T_J	-55 ~ +150	$^\circ\text{C}$	
Operating Temperature		T_{OPR}	-55 ~ +125	$^\circ\text{C}$	
Storage Temperature		T_{STG}	-55 ~ +150	$^\circ\text{C}$	

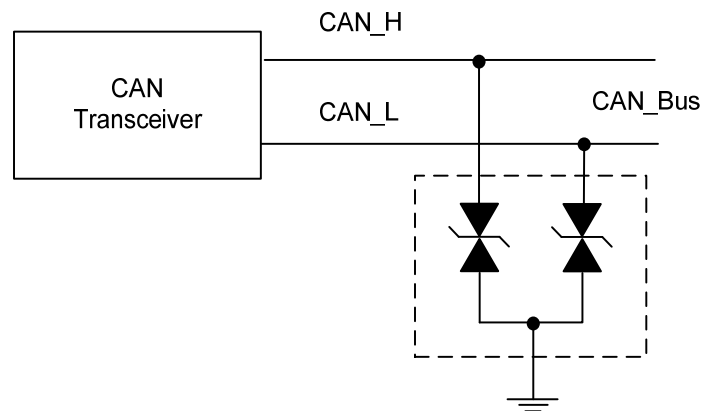
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ 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}	(Note 2)			32	V
Reverse Breakdown Voltage	V_{BR}	$I_R=1\text{mA}$	35.6			V
Reverse Current	I_R	$V_R=32\text{V}$			100	nA
Diode capacitance	C_d	$V_R=0\text{V}$, $f=1\text{MHz}$		30		pF
Clamping Voltage	V_{CL}	$I_{PP}=5\text{A}$, $t_p=8/20\mu\text{s}$			59	V
		$I_{PP}=8\text{A}$, $t_p=8/20\mu\text{s}$			66	V

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. Surge protection devices are normally selected according to the working peak reverse voltage (V_{RWM}), which should be equal or greater than the DC or continuous peak operating voltage level.

■ PROTECTION CIRCUIT



High-Speed and Fault Tolerant CAN Surge Protection Circuit

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