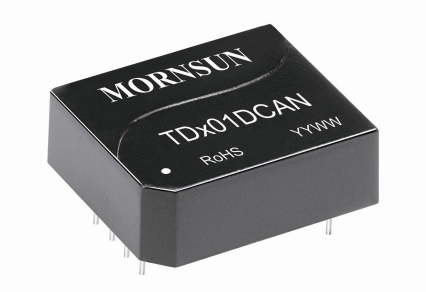
Single universal CAN isolation transceiver module



FEATURES

- Two-terminal isolation (input and output are mutually isolated)
- Integrated Isolated DC/DC converter
- Bus protection
- 3000VDC isolation
- Operating temperature range:-40℃~+105℃
- High speed data rate : 1 Mbps
- Complies with ISO 11898 standard
- An unpowered node does not disturb the bus lines
- Connect up to 110 nodes on one bus

TD301DCAN & TD501DCAN integrated power isolation, electrical isolation, CAN interface and bus protective devices in one isolation module. To achieve the isolation in the CAN circuit, we need a power isolation module, High speed digital isolation chip and an CAN transceiver before, but now we only need an CAN isolation module. Using the isolation module you can make your circuit design becomes simply. Besides, this product can embedded into your devices conveniently, which can make them has the function of connecting to the CAN network.

Selection Guide

Part No.	Power Supply input (VDC)
TD301DCAN	3.0~3.6
TD501DCAN	4.5~5.5

Input Specifications

Item		Operating Conditions	Value
Input Power Supply	Static current	Products energized, no communication	TD301DCAN≤50mA TD501DCAN≤35mA
Input	Serial interface		TD301DCAN : Compatible with the CAN control port of +3.3V
			TD501DCAN: Compatible with the CAN control port of +5V
	Pin current		I_{TXD}<2mA; I_{RXD}<2mA

Bus Interface

Item		Operating Conditions	Value
Output	CAN bus interface		Up to standard of ISO-11898, twisted-pair output
	The max DC voltage of bus pin		-36V~+36V
	CAN bus interface		24VTVS inside, over-voltage bus protected, thermally protected and high-voltage transient protected

Transmission Specifications

Item	Operating Conditions	Value
Data Rate		1Mbps (max.)
The Number of Nodes		110 nodes (min.)

General Specifications

Item	Operating Conditions	Value
Electric Isolation		Two-terminal isolation (input and output are mutually isolated)
Degree of Isolation	testing for 1 minute, leakage current <5mA, humidity <95%	3.0KVDC
Operating Temperature		-40℃~+105℃
Transportation and Storage Temperature		-50℃~+125℃

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Operating Humidity		5%~95%
Max. Operating Temperature for casing	Ta=25℃	25℃ (Typ.)
Application Environment		The presence of dust, fierce vibration, impulsion and corrosive gas may cause damage to the product

Physical Specifications

Casing Material	WH8100-F
Package	DIP8
Weight	4.0g(Typ.)
Cooling Method	Free air convection

EMC Specifications

EMI	Conducted Disturbance	CISPR22/EN55022	CLASS A (see 2-② for recommended circuit)		
	Radiated Emission	CISPR22/EN55022	CLASS A (see 2-② for recommended circuit)		
EMS	Electrostatic Discharge	IEC/EN61000-4-2	Contact ±4KV		perf. Criteria B
	EFT	IEC/EN61000-4-4	Power supply port ±2KV	(see 2-① for recommended circuit)	perf. Criteria B
		IEC/EN61000-4-4	Signal port ±1KV	(see 2-③ for recommended circuit)	perf. Criteria B
	Surge Immunity	IEC/EN61000-4-5	Power supply port ±1KV	(see 2-① for recommended circuit)	perf. Criteria B
			Signal port ±0.25KV/±0.5KV	(see 2-③ for recommended circuit)	perf. Criteria B
			Signal port ±0.5KV/±1KV	(see 2-③ for recommended circuit)	perf. Criteria B
			Signal port ±1KV/±2KV	(see 2-③ for recommended circuit)	perf. Criteria B
			Signal port ±2KV/±4KV	(see 2-③ for recommended circuit)	perf. Criteria B
			Signal port ±4KV/±6KV	(see 2-③ for recommended circuit)	perf. Criteria B

Application Precautions

1. Please read the technical manual carefully before use; contact our technical support if you have any problem.
2. Do not use the product in hazardous areas.
3. Use DC power supply for the product and 220V AC power supply is prohibited.
4. Do not dismount and assemble the product without permission to avoid failure or malfunction of equipment.

After-sales service

1. Ex-factory inspection and quality control have been strictly conducted for the product; if there occurs abnormal operation or possibility of failure of internal module, please contact the local representative or our technical support.
2. The warranty period for the product is 3 years as calculated from the date of delivery. If any quality problem occurs under normal use within the warranty period, the product can be repaired or changed for free.

Applied circuit

See *Application Notes for Isolated Transmitter* for details.

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Design Reference

1. Typical application

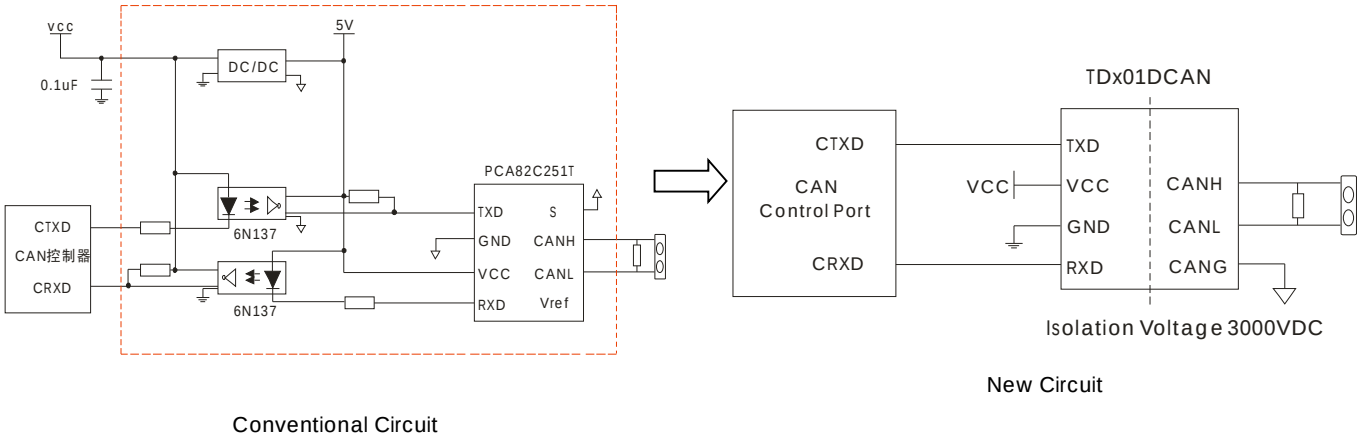


Fig. 1

2. Recommended EMC circuit

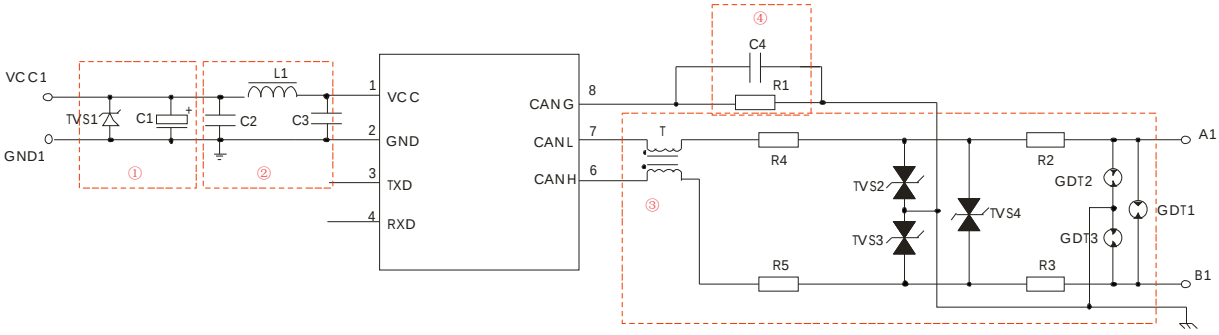


Fig. 2

Recommended external circuit parameters:

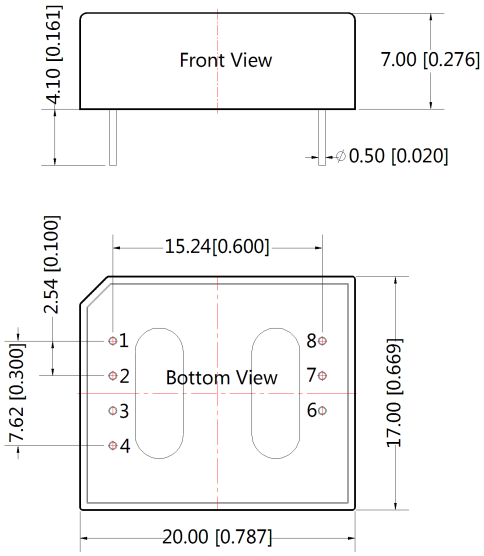
Model	TD301DCAN/TD501DCAN				
	±0.25KV/±0.5KV	±0.5KV/±1KV	±1KV/±2KV	±2KV/±4KV	±4KV/±6KV
C1	220uF/10V (Electrolytic capacitor)		220uF/10V (Electrolytic capacitor)		
TVS1	SMCJ5.0A (TD301DCAN)/SMCJ6.5A(TD501DCAN)				
C2/C3	1uF/50V		1uF/50V		
L1	10μH		10μH		
T	B82793S0513N201		B82793S0513N201		
C4	1nF/2KV		1nF/2KV		
R1	1MΩ		1MΩ		
TVS2/TVS3/TVS4	SMBJ15CA		SMBJ15CA		
R2/R3	--	--	10Ω/2W (Wire-wound resistor)	10Ω/2W (Wire-wound resistor)	10Ω/2W (Wire-wound resistor)
R4/R5	10Ω/1W (Wire-wound resistor)	10Ω/2W (Wire-wound resistor)	--	--	--
GDT1/GDT2/GDT3	--	--	G30-A90X	S30-A90X	S50-A90X

Notes: ：
①The GDT1,GDT2, and GDT3 are two-terminal gas discharge tube ,we can use a three-terminal gas discharge tube to replace three two-terminal gas discharge tube. For example , in "± 4KV/ ± 6KV" levels, GDT1, GDT2, and GDT3 can be replaced by a three-terminal gas discharge tube, such as using a B3D090L-C instead of three S50-A90X.
② It is not needed the component when parameter with the symbol of "--"

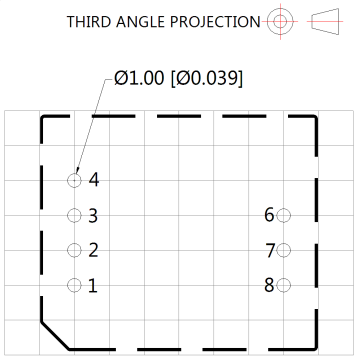
3. For more information please find the application notes on www.mornsun-power.com

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Dimensions and Recommended Layout



Note:
Unit :mm[inch]
Pin diameter tolerances :±0.10[±0.004]
General tolerances:±0.25[±0.010]



Note : Grid 2.54*2.54mm

Pin-Out		
Pin	Designation	Function
1	VCC	Input Power+
2	GND	GND
3	TXD	TD-DCAN Send Pin
4	RXD	TD-DCAN Receiving Pin
6	CANH	TD-DCAN HPin
7	CANL	TD-DCAN L Pin
8	CANG	Isolation Power Output CANG

Notes:

1. Packing Information please refer to 'Product Packing Information'. Packing bag number: 58040012;
2. Unless otherwise specified, data in this datasheet should be tested under the conditions of Ta=25℃, humidity<75% when inputting nominal voltage and outputting rated load;
3. All index testing methods in this datasheet are based on our Company's corporate standards;
4. The performance indexes of the product models listed in this datasheet are as above, but some indexes of non-standard model products will exceed the above-mentioned requirements, and please directly contact our technician for specific information;
5. We can provide product customization service;
6. Specifications of this product are subject to changes without prior notice.

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