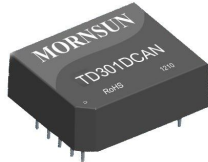


MORNSUN®

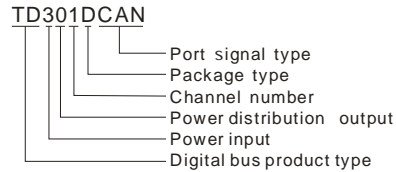
INTEGRATED ISOLATED POWER CAN TRANSCEIVER MODULE

—TD301DCAN(3.3V Power supply)
TD501DCAN(5.0V Power supply)



RoHS

PART NUMBER SYSTEM



FEATURES

- | 2-port electrical isolation between input and output
- | Integrated Isolated DC/DC converter
- | Bus protection
- | 3000VDC isolation
- | Operating temperature range:-40°C~+105°C
- | 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
- | Low electromagnetic radiation
- | High electromagnetic immunity

GENERAL DESCRIPTION

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, three optocouplers 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 be embedded into your devices conveniently, which can make them have the function of connecting to the CAN network.

SELECTION GUIDE

Model Number	Power Input
TD301DCAN	3.0V~3.6V
TD501DCAN	4.5V~5.5V

ELECTRICAL CHARACTERISTICS

Power Supply	Static current	TD301DCAN≤50mA TD501DCAN≤35mA
Input	Serial interface	Compatible with the CAN control port of +5V and +3.3V
	Pin current	$I_{TXD}<2mA$; $I_{RXD}<2mA$
Output	CAN bus interface	Up to standard of ISO-11898, twisted-pair output
	The max DC voltage of bus pin	-36V~+36V
	Bus protection	24VTVS inside, over-voltage bus protected, thermally protected and high-voltage transient protected

TRANSMISSION SPECIFICATIONS

Data Rate	1Mbps (max.)
The Number of Nodes	110 nodes (min.)

ISOLATION SPECIFICATIONS

Electrical Isolation	Two-port isolation (Between input and output)
Isolation Voltage	3000VDC(Tested for 1 minute and leakage current < 5mA, humidity < 95%)

EMC SPECIFICATIONS

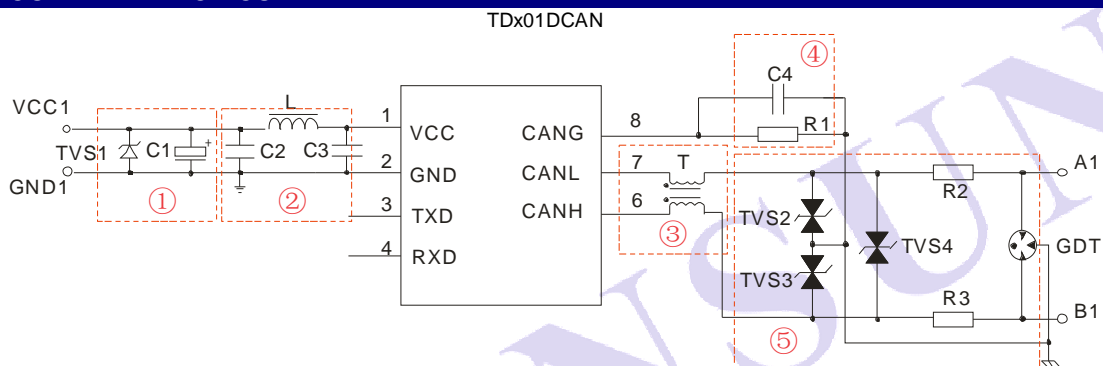
EMI	CE	CISPR22/EN55022	CLASS A	(External Circuit Refer to Figure 1-②)
	RE	CISPR22/EN55022	CLASS A	(External Circuit Refer to Figure 1-③)
EMS	ESD	IEC/EN61000-4-2	Contact ±4KV	perf. Criteria B (External Circuit Refer to Figure 1-④)
	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4	Power Port ±2KV	perf. Criteria B
IEC/EN61000-4-4		Signal Port ±1KV	perf. Criteria B	(External Circuit Refer to Figure 1-⑤)

EMS	Surge	IEC/EN61000-4-5	Power Port ±1KV/2KV	perf. Criteria B	(External Circuit Refer to Figure 1-①)
		IEC/EN61000-4-5	Signal Port ±4KV/6KV	perf. Criteria B	(External Circuit Refer to Figure 1-⑤)
	CS	IEC/EN61000-4-6	3 Vr.m.s	perf. Criteria A	

OTHER CHARACTERISTICS

Environmental Humidity	Operating temperature: -40°C ~ +105°C
	Transport and storage temperature: -50°C ~ +125°C
Operating Humidity	5%~95%
The Max. Case Temperature	50°C (Ta=25°C)
Cooling	Free air convection
Size	19.9*16.9*7.0 (Unit:mm)
Weight	4 g, typ
Application Environment	No dust, fierce vibration, impulsion and corrosive gas

EMC RECOMMENDED CIRCUIT



Recommended external circuit parameters:

Model	TD301DCAN	TD501DCAN
C1	220uF/10V (Electrolytic capacitor)	
TVS1	SMCJ5.0A	SMCJ6.5A
C2, C3	1 uF/50V	
L	10μH	
T	B82793S0513N201	
C4	1000pF/2000V	
R1	1MΩ	
TVS2, TVS3	SMBJ24CA	
TVS4	SMBJ6.5CA	
R2, R3	10Ω/2W (Wire-wound resistor)	
GDT	B3D150L-C	

APPLICATION NOTE

Please read the datasheet carefully before using the product. If you have any question, please contact with our technical support.

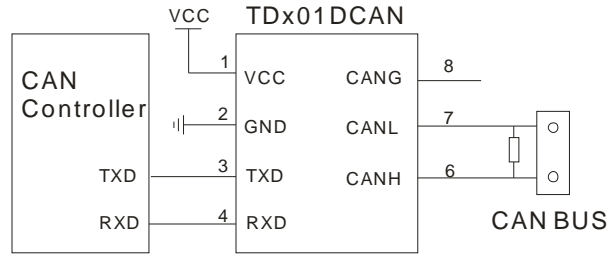
AFTER SERVICE

- Products are carefully inspected and quality control during production and before shipment. If they operated abnormally or there were anything wrong, please contact our agent near you or MORNSUN FAE as soon as possible.
- MORNSUN warranty our product for 3 years from manufacturing date. During this period, MORNSUN will repair or replace the product if product was found to have manufacturing defect.

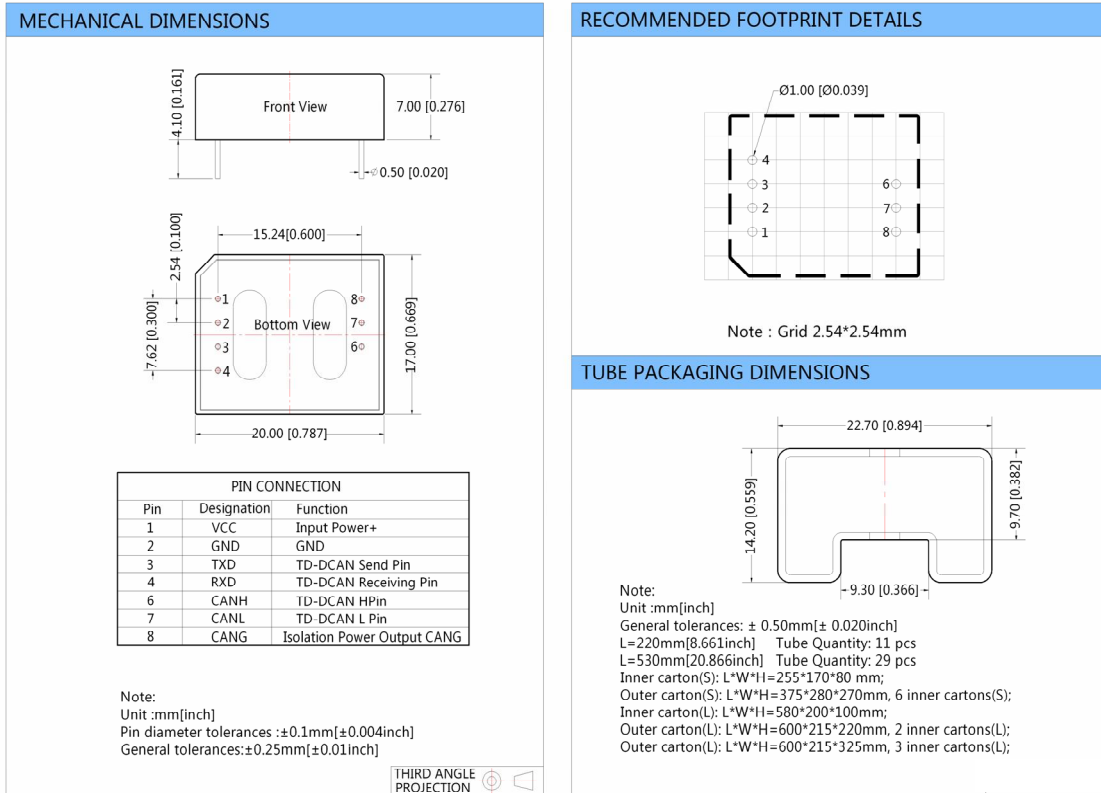
APPLICATION GUIDE

See the communication interface product application guide.

TYPICAL APPLICATIONS CIRCUIT DIAGRAM



OUTLINE DIMENSIONS, RECOMMENDED FOOTPRINT & PACKAGING



Note:

1. All specifications are measured at Ta=25°C, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
2. In this datasheet, all the test setup and methods are based on our corporate standards.
3. All characteristics are for listed models, and non-standard models may perform differently. Please contact our technical support for more detail.
4. Contact us for your specific requirement.
5. Specifications are subject to change without prior notice.

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