

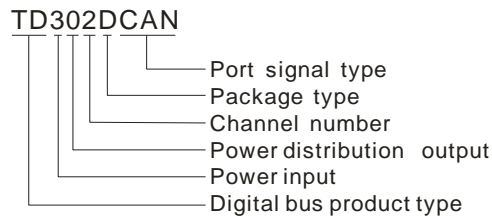
DUPLEX UNIVERSAL CAN ISOLATION TRANSCEIVER MODULE

—TD302DCAN (3.3V Power supply)
TD502DCAN (5.0V Power supply)



RoHS

PART NUMBER SYSTEM



FEATURES

- Two-port electrical isolation between input and output
- Integrated Isolated DC/DC converter
- 2500VDC 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
- Product has complete EMC recommended circuit

GENERAL DESCRIPTION

Duplex universal CAN isolation transceiver TD302DCAN/ TD502DCAN series are CAN bus transceiver module with integrated power isolation power, signal isolation chip ,and CAN transceiver chip . The main function of Products is to switch from logic level to CAN bus difference level, achieve signal isolation. The product is with constant-voltage source isolation power. It can achieve 2500 VDC electrical isolation. Products can be easily embedded in the user equipment, achieve function of CAN bus network connection easily.

SELECTION GUIDE

Model	Power Input
TD302DCAN	3.0V~3.6V
TD502DCAN	4.5V~5.5V

ELECTRICAL CHARACTERISTICS

Input Parameters Of Power Supply	Static current	TD302DCAN≤80mA TD502DCAN≤50mA
	Power dissipation	< 0.6W
Input Parameters	Serial interface	Compatible with the CAN control port of +5V and +3.3V
	Pin current	$I_{TXD} \leq 2mA; I_{RXD} \leq 2mA$
Output Parameters	CAN bus interface	Up to standard of ISO-11898, twisted-pair output
	The max DC voltage of bus pin	-36V~+36V
	Bus protection	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 (input and output)
Isolation Voltage	2500VDC(Tested for 1 minute and leakage current < 5mA, humidity < 95%)

EMC SPECIFICATIONS

EMI	CE	CISPR22/EN55022	CLASS A	(External Circuit Refer to Figure 1-①)
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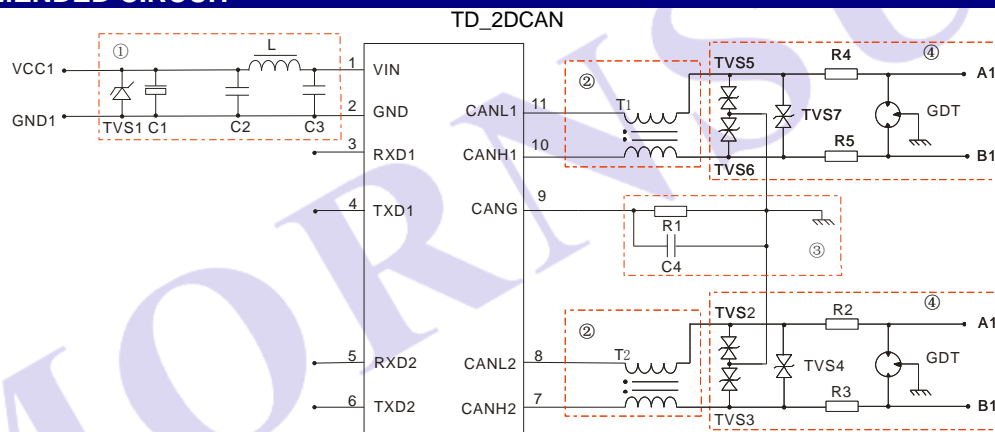
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	RE	CISPR22/EN55022	CLASS A		(External Circuit Refer to Figure 1-②)
EMS	ESD	IEC/EN61000-4-2	Contact ±4KV	perf. Criteria B	(External Circuit Refer to Figure 1-③)
	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A	
	EFT	IEC/EN61000-4-4	Power Port ±2KV	perf. Criteria B	(External Circuit Refer to Figure 1-①)
IEC/EN61000-4-4		Signal Port±1KV	perf. Criteria B	(External Circuit Refer to Figure 1-④)	
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 1-④)
	CS	IEC/EN61000-4-6	3 Vr.m.s	perf. Criteria A	

OTHER CHARACTERISTICS

Environmental Temperature	Operating temperature:-40°C~+105°C
	Transport and storage temperature:-55°C~+125°C
Operating Humidity	10%~90%
The Max. Case Temperature	50°C(Ta=25°C)
Cooling	Free air convection
Size	19.9*16.9*7.05 (Unit: mm)
Weight	About 4.5 g
Application Environment	No dust, fierce vibration, impulsion and corrosive gas

EMC RECOMMENDED CIRCUIT



Recommended external circuit parameters:

Model	TD302DCAN	TD502DCAN
C1	680uF/16V(Electrolytic capacitor)	
TVS1	SMCJ5.0A	SMCJ6.5A
C2,C3	1uF/50V	
L	10μH	
T1,T2	B82793S0513N201	
C4	1nF/2KV	
R1	1MΩ	
TVS2,TVS3	SMBJ24CA	
TVS4	SMBJ6.5CA	
R2,R3	10Ω/2W(Wire wound resistance)	
GDT	B3D150L-C	

APPLICATION NOTE

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1. Please read the user manual carefully before using. If any question please contact our technical support department.
2. Please do not use this product in hazardous area.
3. To avoid invalid explosion protection function, or any failure, users disassemble this product is forbidden.

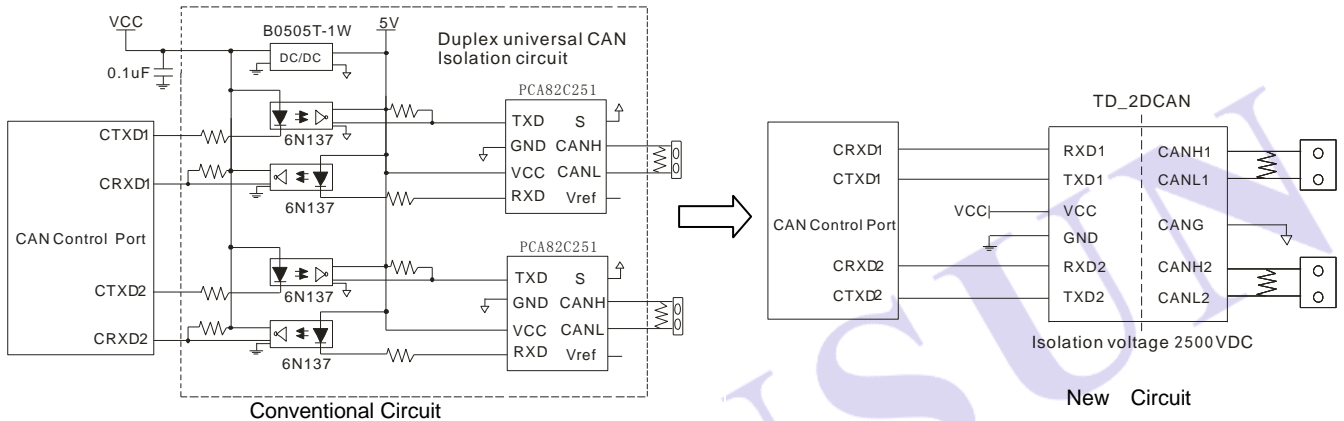
AFTER SERVICE

1. 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.
2. 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

MECHANICAL DIMENSIONS

Pin	Designation	Function
1	VCC	Input Power +
2	GND	GND
3	RXD1	TD-CAN1 Receiving Pin
4	TXD1	TD-CAN1 Send Pin
5	RXD2	TD-CAN2 Receiving Pin
6	TXD2	TD-CAN2 Send Pin
7	CANH2	TD-CANH2 Pin
8	CANL2	TD-CANL2 Pin
9	CANG	Isolation Power Output CANG
10	CANH1	TD-CANH1 Pin
11	CANL1	TD-CANL1 Pin

Pin Connection

Note:
 Unit :mm[inch]
 Pin diameter tolerances :±0.1mm[±0.004inch]
 General tolerances:±0.25mm[±0.010inch]

THIRD ANGLE PROJECTION

RECOMMENDED FOOTPRINT DETAILS

Note: Grid-2.54*2.54mm

TUBE PACKAGING DIMENSIONS

Note:
 Unit :mm[inch]
 General tolerances: ± 0.50mm[± 0.020inch]
 L=220mm[8.661inch] Tube Quantity: 10 pcs
 L=530mm[20.866inch] Tube Quantity: 25 pcs
 Inner carton(S): L*W*H=255*170*80 mm
 Outer carton(S): L*W*H=375*280*270mm, 6 inner cartons(S)
 Inner carton(L): L*W*H=580*200*100mm
 Outer carton(L): L*W*H=600*215*220mm, 2 inner cartons(L)
 Outer carton(L): L*W*H=600*215*325mm, 3 inner cartons(L)

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Note:

1. All specifications measured at $T_a=25^{\circ}\text{C}$, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
2. In this datasheet, all test methods and setup are based on our corporate standards.
3. All characteristics are meant for listed model, non-standard models may perform differently, you can contact MORNSUN FAE for more details.
4. Contact us for your specific requirement.
5. Specifications are subject to change without prior notice.

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