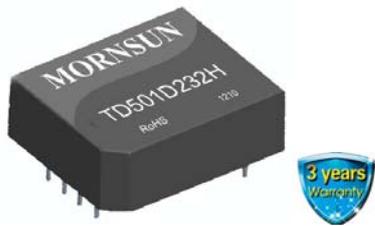


Single high speed RS232 isolation transceiver



RoHS

High speed 232 isolation transceiver TD301D232H/ TD501D232H series are RS232 transceiver module with integrated isolation power, Signal isolation chip and RS232 transceiver chip.

Product's main function is to convert TTL level to RS232 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 232 protocols network connection easily.

FEATURES

- Meets EIA/TIA-232-F standard
- High baud rate up to 115200bps
- Isolation voltage: 2500 VDC
- Integrated isolated DC/DC converter
- Operating temperature range: -40°C ~ +85°C

Selection Guide

Part No.	Power Supply input (VDC)
TD301D232H	3.0V~3.6V
TD501D232H	4.5V~5.5V

Input Specifications

Item	Operating Conditions	Value
Power Input	quiescent current	Products energized, no communication TD301D232H ≤ 50mA TD501D232H ≤ 35mA
	Power dissipation	≤ 0.25W
Signal Input	Serial interface	the UART control port of +3.3V(TD301D232H) and +5V(TD501D232H)
	Pin current	I _{TXD} ≤ 2mA, I _{RXD} ≤ 2mA

Bus Interface

Item	Operating Conditions	Value
Output	RS232 interface	RS-232 interface

Transmission Specifications

Item	Operating Conditions	Value
Data Rate		115200bps (max.)

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%	2.5KVDC
Operating Temperature		-40°C ~ +85°C
Transportation and Storage Temperature		-50°C ~ +105°C
Operating Humidity		10%~90%
Casing Temperature Rise	T _a =25°C	25°C (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
Cooling Method	Free air convection

EMC Specifications

EMI	CE	CISPR22/EN55022	CLASS A	(External Circuit Refer to Figure 2-①)	
	RE	CISPR22/EN55022	CLASS A		
EMS	ESD	IEC/EN61000-4-2	Contact ±4KV	perf. Criteria B	
	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A	
	EFT	IEC/EN61000-4-4	Power Port ±2KV	(External Circuit Refer to Figure 2-①)	perf. Criteria B
		IEC/EN61000-4-4	Signal Port ±1KV	(External Circuit Refer to Figure 2-②)	perf. Criteria B
	Surge	IEC/EN61000-4-5	Power Port line to line ±1KV/line to ground ±2KV	(External Circuit Refer to Figure 2-①)	perf. Criteria B
		IEC/EN61000-4-5	Signal Port line to line ±4KV/line to ground ±6KV	(External Circuit Refer to Figure 2-②)	perf. Criteria B
CS	IEC/EN61000-4-6	3 Vr.m.s		perf. Criteria A	

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.

Design Reference

1. Typical application

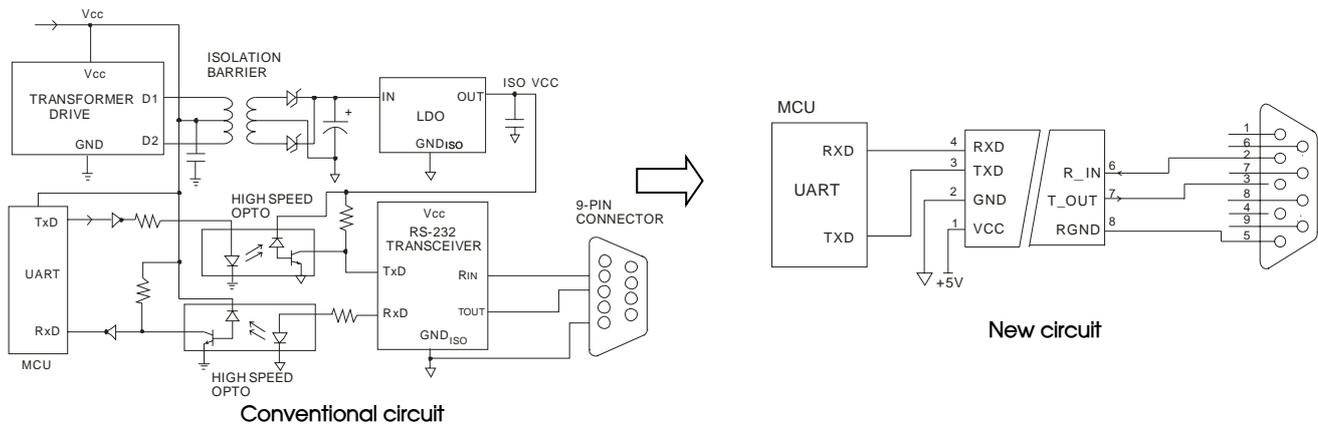


Fig. 1

2. Recommended EMC circuit

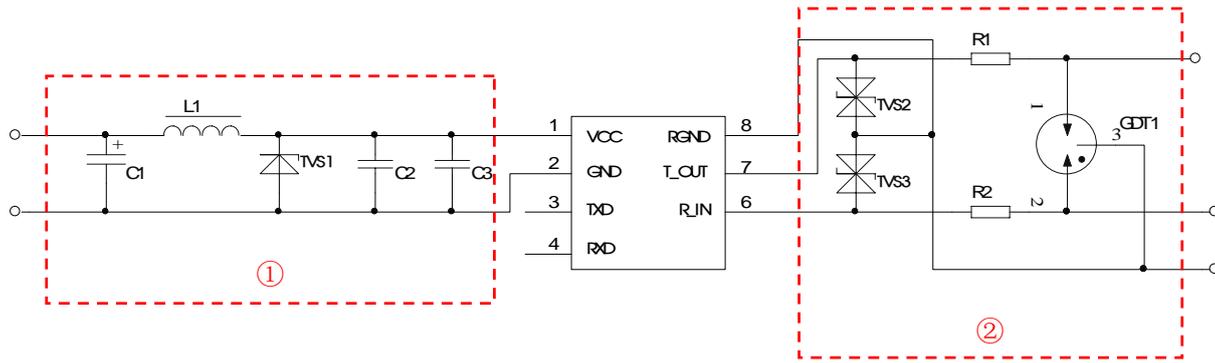


Fig. 2

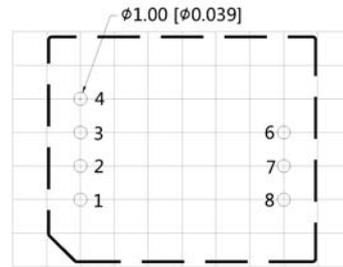
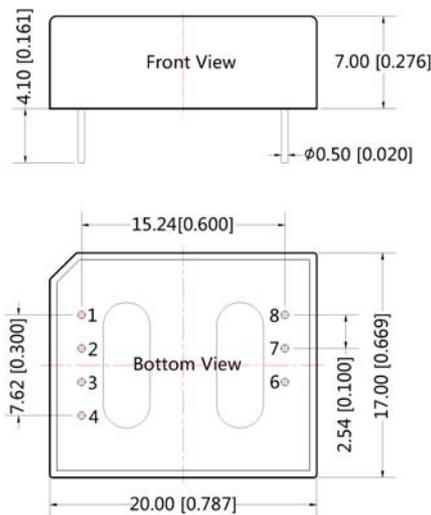
Recommended external circuit parameters:

Model	TD301D232H	TD501D232H
C1	220uF/10V(Electrolytic capacitor)	
TVS1	SMCJ5.0A	SMCJ6.5A
C2、C3	1 μ F/25V	
L1	130 μ H	
TVS2、TVS3	SMCJ15CA	
R1、R2	12 Ω /2W(Wire-wound resistor)	
GDT1	B3D090L-C	

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

Dimensions and Recommended Layout

THIRD ANGLE PROJECTION



Note : Grid 2.54*2.54mm

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

Pin-Out		
Pin	Designation	Function
1	VCC	Input Power+
2	GND	GND
3	TXD	TTL/CMOS Input
4	RXD	TTL/CMOS Output
6	R_IN	RS-232 Input
7	T_OUT	RS-232 Output
8	RGND	Isolation Power Output RGND

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 $T_a=25^{\circ}\text{C}$, 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. We can provide product customization service, please contact our technicians directly for specific information;
5. Specifications of this product are subject to changes without prior notice.

Morsun Guangzhou Science & Technology Co., Ltd.

Address: No. 5, Kehui St. 1, Kehui Development Center, Science Ave., Guangzhou Science City, Luogang District, Guangzhou, P. R. China
Tel: 86-20-38601850-8801 Fax: 86-20-38601272 E-mail: info@mornsun.cn