FEATURES：

- Integrated high efficient isolatedDC-DCconverter
- High baud rate of up to 200kbps
- Two-port isolation test voltage(2.5kVDC)
- Operating ambient temperature range: -40℃to+85℃
- The bus supports maximum32 nodes
- Set isolation and ESD bus protectioninone

Selection Guide

Part No.	Power input (VDC)	Baud rate (kbps)	Static Current (mA)	Max. Operating Current (mA)	Number of Nodes
TD301D485H	3.15-3.45	200	20	130	32
TD501D485H	4.75-5.25	200	20	130	32

customized accepted,pls contact sales for details

3.3V Input Specifications

Item		Symbol	Min.	Typ	Max.	Unit
Power Supply Input Voltage		Vcc	3.15	3.3	3.45	VDC
TXD Logic Level	High-level	VIH	0.7Vcc	3.3	3.6	
	Low-level	VIL	0	-	0.8	
RXD Logic Level	High-level	VOH	Vcc-0.4	3.1	-	
	Low-level	VOL	0	0.2	0.4	
Pin Current			ITXD≤2mA; IRXD≤2mA; ICON≤5mA			
Serial Interface			Compatible with + 3.3 V UART interface only			

5V Input Specifications

Item		Symbol	Min.	Min.	Max.	Unit
Power Supply Input Voltage		Vcc	4.75	5	5.25	VDC
TXD Logic Level	High-level	VIH	0.7Vcc	5	5.5	
	Low-level	VIL	0	-	0.8	
RXD Logic Level	High-level	VOH	Vcc-0.4	4.8	-	
	Low-level	VOL	-	0.2	0.4	
Pin Current			ITXD≤2mA; IRXD≤2mA; ICON≤5mA			
Serial Interface			Compatible with +5V UART interface only			

Output Specifications

Item	Symbol	Min.	Typ.	Max.	Unit

Difference Leve	Vdiff(d), RL=54Ω	1.5	2	-	VDC
Difference load resistance		54	-	-	Ω
Difference Input Impedance	-7V≤VCM≤+12V	96	-	-	Ω
Bus Interface Protection		ESD protection			

Gerneral Specifications

ITEM	Operating Conditions	Value
Electric Isolation		Two-terminal isolation (input and output are mutuallyisolated)
Isolation Test	Electric Strength Test for 1 min., leakage current <5mA	2.5kVDC
Case Temperature Rise	Ta=25℃	≤50℃
Temperature Coefficient	0.03%/℃	100% full load
Operating Temperature	-40～+85℃	
Storage Temperature	-55～+105℃	
Storage Humidity	10%RH - 90%RH	Non-condensing
Application Environment		The presence of dust, severe vibration, shock andcorrosivegasmay cause damage to the product
Cooling Method	Free air convection	
Case Material	Black plastic; flame-retardant and heat-resistant (UL94 V-0)	
Weight	4g（Typ）	

**Unless specified, otherwise all other parameters are tested under the following conditions: nominal input voltage, pure resistive load, 25℃ room temperature environment.

## Dimensions and Recommended Layout
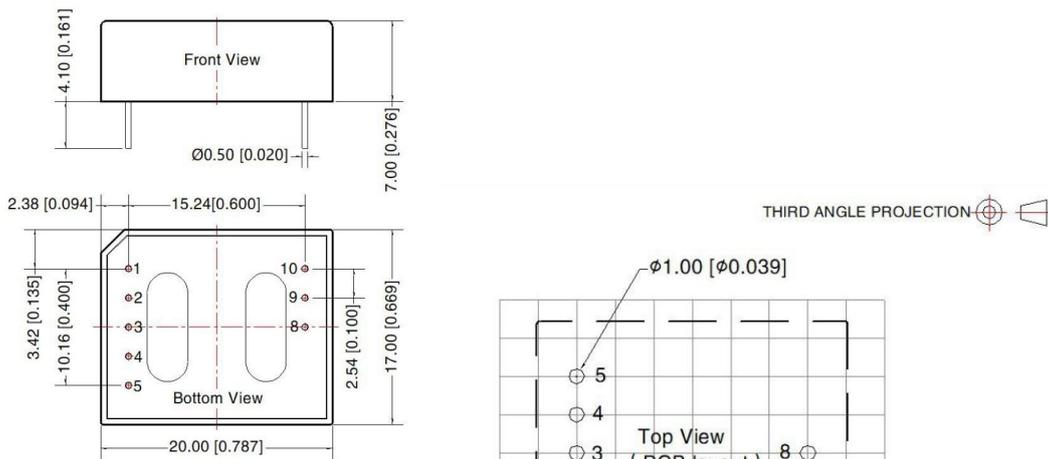
Note:
Unit: mm[inch]
Pin diameter tolerances: ±0.10[±0.004]
General tolerances: ±0.50[±0.020]
The layout of the device is for reference only, please refer to the actual product

Note: Grid 2.54*2.54mm

Pins

Pin-Out		
Pin	Mark	Function
1	VCC	Input Power
2	GND	GND
3	TXD	TD_D485H Sending Pin
4	RXD	TD_D485H Receiving Pin
5	CON	Sending&Receiving Control Pin
8	B	TD_D485H B Pin
9	A	TD_D485H A Pin
10	RGND	Isolation Power Output RGND

Recommended Circuit
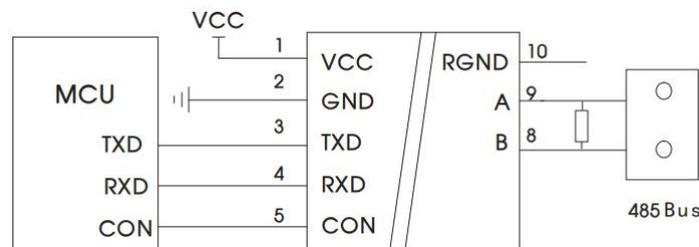
Recommended EMC Circuit
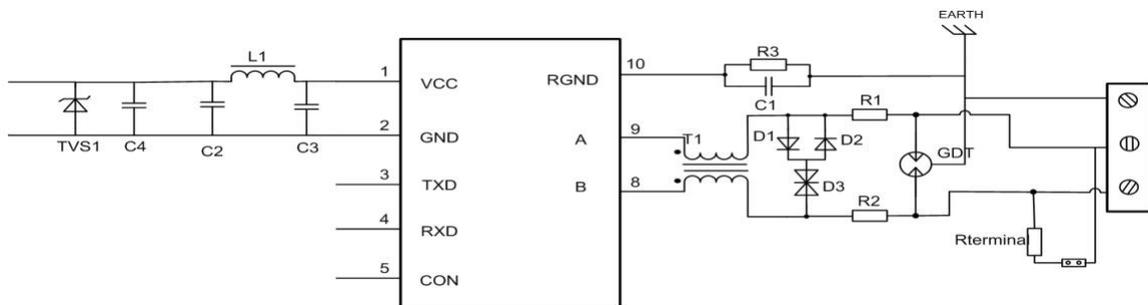
Component	Recommended part, value	Component	Recommended part, value
R3	1MΩ	R1, R2	2.7Ω /2W
C1	1nF, 2kV	D1, D2	1N4007
T1	ACM2520-301-2P	D3	SMBJ8.5CA
GDT	B3D090L	$R_{terminal}$	120Ω
C2/C3	1uF/50V	L1	10uH
TVS1	SMCJ5.0A (TD301D485H(G)) / SMCJ6.5A(TD501D485H(G))		
C4	220uF/10V(Electrolytic capacitor)		

Noted

1. Input current: Ensure that the output current of the power supply meets the instantaneous starting current of the power module (that is, twice the average input current of the power module).

2. Output load requirements: Avoid no-load use. When the actual power consumption of the load is less than 10% of the rated output power of the module or no load occurs, connect an external resistance to the output end (the sum of the external resistance and the load power is greater than or equal to 10% of the rated load) or select a module with a smaller rated power.

3. The external capacitance of the output end should not be too large; otherwise, the module may be overcurrent or poorly started. For details, see the external capacitance recommendation table.

4. External LC filter circuit can be connected for occasions with high ripple noise requirements.