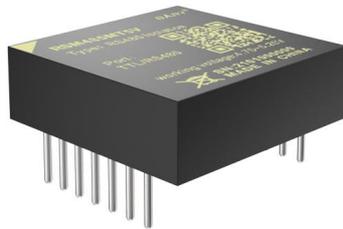




RSM485MT5V Specification

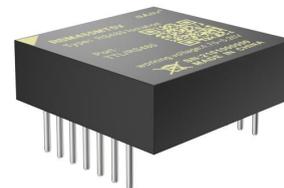
Single-speed RS485 isolation sending and receiving module



Chapter One Specification

1.1. Introduction

RSM485MT5V is a single-way and semi-duplex high-speed RS485 isolation transmission and receiving module, integrating high-reliability isolation power supply and high-strength signal isolation chip, as well as a standard RS485 protocol transmission and receiving module integrating RS485 transmission and receiving chip and bus protection device.



The main function of the product is to convert the TTL logic level to the differential level of the RS485 protocol, or to convert the RS485 differential signal to the TTL level.

The product has an isolated power output of 5V / 50mA, with a maximum power of 0.25W.

Import and output of 3000VDC electrical isolation, plastic seal ultra-thin design products can be easily embedded in the user equipment, to realize the connection function of the RS485 protocol network.

RS485 port module has a built-in TVS transient suppression device to protect its ports from surge currents caused by ESD, EFT, and lightning.

1.2. Product characteristics

- Ultra-small volume: 25.4 * 25.4 * 8mm;
- Communication rate: 1,200 ~ 256,000 b p s;
- Maximum contacts: 64;
- Isolation voltage: 3,000 V;
- Isolation voltage output: 5V / 50mA 0.25W;
- Isolated output voltage: 5V / 50mA;
- Operating temperature: -40 ~ + 85°C;
- Isolation power supply: the high-strength isolation DC-DC is integrated in the chip;
- Port protection: built-in TVS transient surge spike suppression;

Chapter Tow Specifications and parameter

2.1. Absolute Rating

No	Limit Parameter	Min	Max	Remark

1	inputvoltage	4.5	5.5	Vdc (When the empty load output around 6V)
2	outputvoltage	4.8	6	V
3	Maximum output current	0	50	mA (5VoutputMaximum current shall not exceed 50mA, otherwise it may be permanently damaged)
4	working temperature	-40	+85	ta=40°C, tc=85°C

2.2. Working Parameter

No	main parameter	main parameter	main parameter	main parameter	main parameter
Input	Input voltage	4.75	5	5.25V	Vdc(not recommendedInput exceed 5.25V)
	input ripple wave	-	-	<350	mV
	Input electricity	250	-	-	It is recommended to be greater than300mA
	Communication level	2.8	3.3	5.25	V
	CON_High	3	-	5.5	V
	CON_Low	0	-	0.8	V
Output transfer	Output voltage	5.2	5.3	5.4	VIN=5V (idler)
	DC-DC efficient	-	75	-	%(Maximum load time)
	transmission speed	1200	-	256000	bps
	Number of nodes	-	-	128	Piece(Up to 128 nodes are supported)
	Send and receive switch delay	2	-	5	us
	Transceiver control	3	3.3	5.25	V
Isolation and pressure resistance environment	Communication level TTL	2.8	3.3	5.25	V
	Input /Output	2750	3000	-	VDC(Time of 1 minute, leakage current<5mA)
environment	working temperature	-40	25	+85	ta=40°C,tc=85°C
	Working humidity	20	-	90	% No condensation
	Storage temperature	-40	+25	+85	°C room temperature
	Store humidity	20	-	90	% Dry dry at room temperature
Other	product size	25.4*25.4*8mm			

	Product weight	-	7.5	-	g
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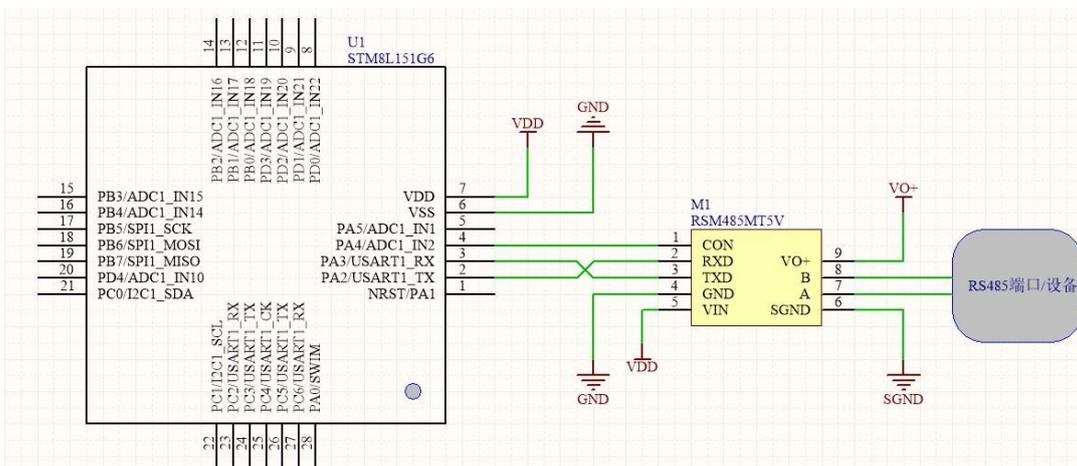
Chapter Three Basic operation

3.1. Matters need attention

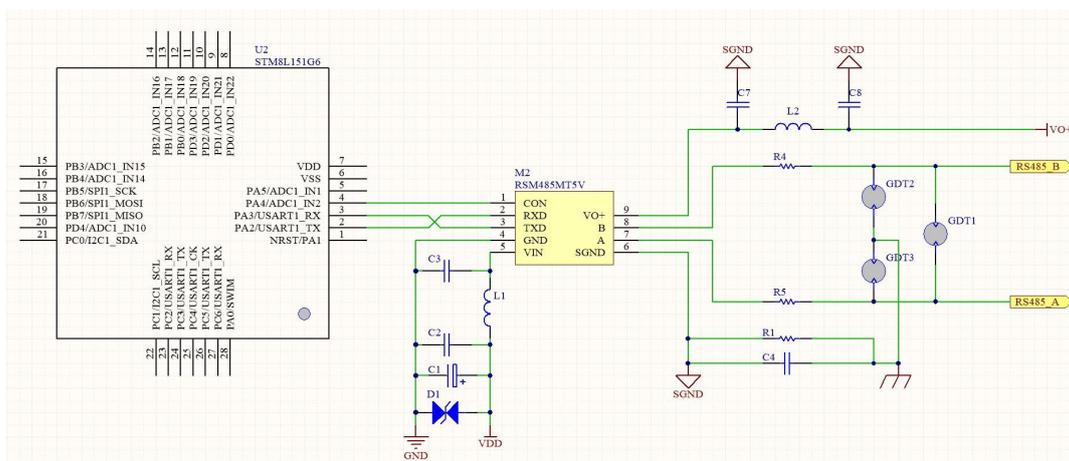
- Please read the technical manual carefully before use, please contact our technical support;
- The maximum input voltage shall not exceed 5Vdc, otherwise the module's own isolation power supply output will exceed > 5.5V, without no need to care;
- If the user needs to use the module with the isolation 5V power supply output, please note that the input voltage is not higher than 5V, do not care;
- If the user needs to use the module with the isolation 5V power supply output, it is recommended to increase the level of pressure stabilization, do not need to care;
- During daily maintenance, the input power supply should be disconnect first;
- Please do not install the product in hazardous areas;
- DC power supply is used for the product power supply, and AC power supply is strictly prohibited;
- It is strictly prohibited to disassemble the products without permission to prevent equipment failure or failure;
- Operating this module requires certain professional skills, rigorous non-professional life operation!
- This product has no power supply reverse connection protection, please pay attention to the positive and negative poles, the wrong connection will cause permanent damage to the module;
- The products have been strictly inspected and quality controlled before delivery. In case of abnormal work or suspected internal module failure, please timely contact the nearest agent or our technical support company.
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3.2. Typical application



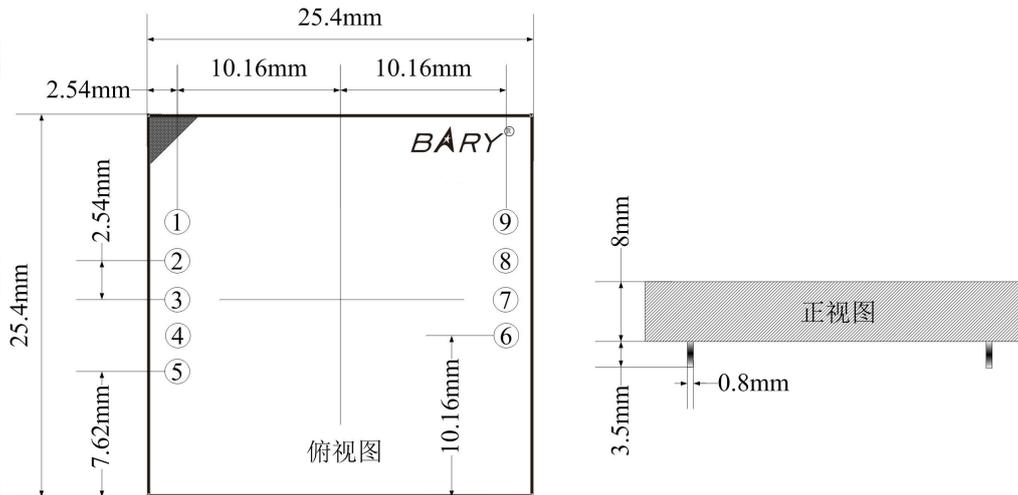
3.3. EMC Solution-Recommended circuit



item	item				
	±V0.5KV	±V1KV	±V2KV	±V4KV	±V6KV
C1	220uF/10V(electrolyze)				
D1	SMCJ5.0CA				
C2,C3	1uF/10V				
L1	10uH				
C4	1nF/2KV				
R1	1M/1/2W				
R4,R5	0R		10R/2W(resistance winding)		
GDT1,GDT2,GDT3	0R		G30-A90X	S30-90X	S50-90X
*Note: GDT1~3 can be replaced by a three-stage gas discharge pipe; the three secondary devices in grade 4~6KV can be replaced by a three-stage gas discharge pipe, such as B3D090L-C.					

Chapter Four Ordnance characteristics and pin definition

4.1. Product size



4.2. Feet definition

No	Feet name	Feet name	Feet name
1	CON	Input	Mission Mission (High = TX, Low = Rec)
2	RXD	Input	Module TTL serial port data Input
3	TXD	Output	Module TTL serial port data Output
4	GND	Input	DC power supply Input negative pole
5	VIN	Input	DC power supply Input positive pole
6	SGND	Output	Isolation voltage is Output negative electrode
7	A	Input /Output	RS485 bus port A
8	B	Input /Output	RS485 bus port B
9	VO+	Output	Isolation voltage is the Output positive electrode

Chapter Five Product selection

product model	Input voltage	Output voltage	Output current	interface	way to install
RSM485MT5V	4.75~5.25V	5.0V	50mA	RS485/UART_TTL	Plastic seal plug-in

RSM485HT3S	3.0~5.25V	3.3V	50mA	RS485/UART_TTL	Naked plate patch 【SMD】
RSM485HT3D	3.0~5.25V	3.3V	50mA	RS485/UART_TTL	Naked board plug-in 【DIP】
RSM485HT5S	4.5~5.25V	5.0V	50mA	RS485/UART_TTL	Naked board plug-in 【SMD】
RSM485HT5D	4.5~5.25V	5.0V	50mA	RS485/UART_TTL	Naked board plug-in 【DIP】



Revise the history

No	Edition	Date changed	Revision note	Maintain people
1	V1.0	20211228	The first edition, for the first release	LJ

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