USR-K3 Hardware Manual

File version: 1.0.0.01
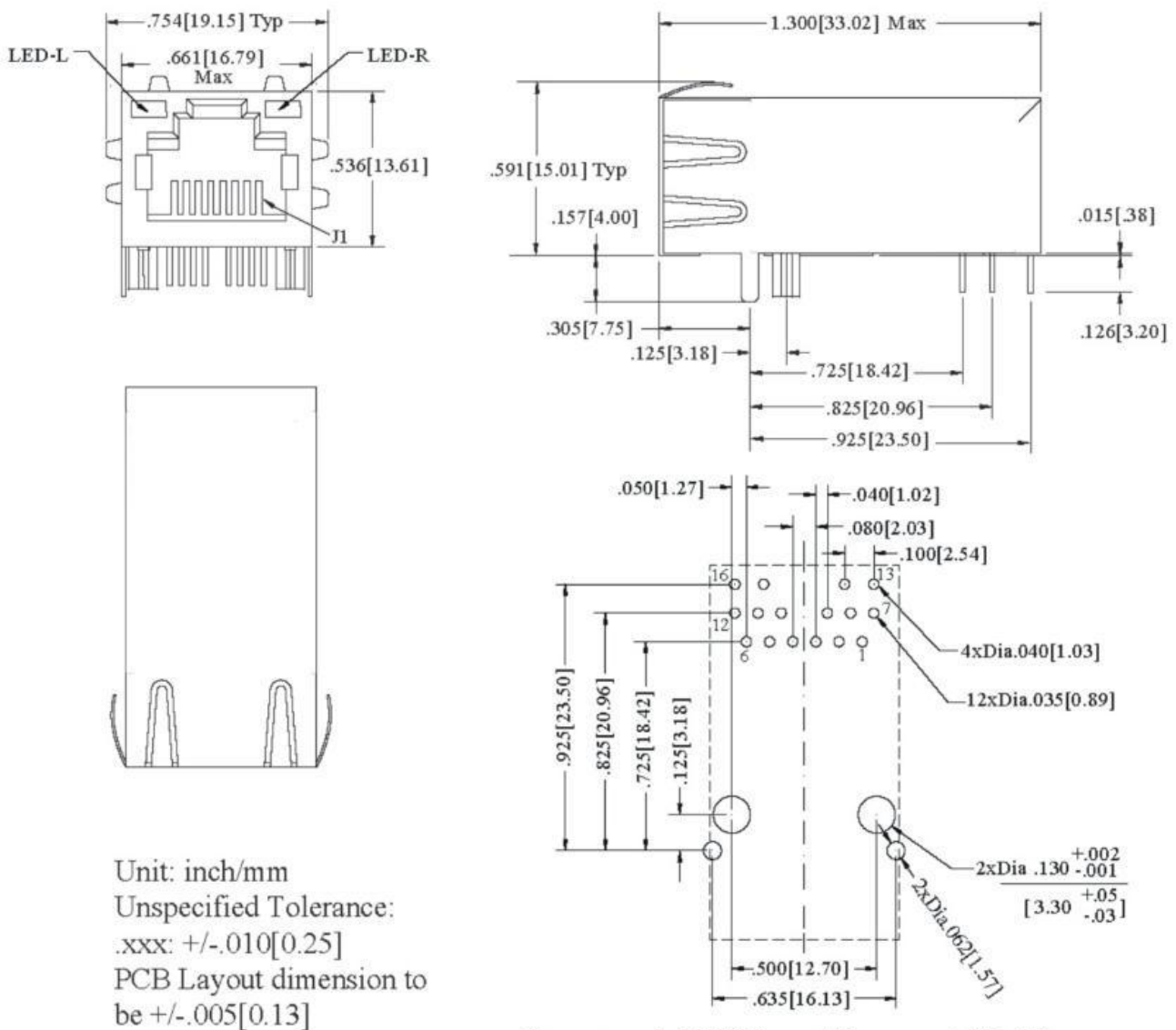
Content

1. Product Overview

1.1. Dimension

Module size:33.03*19.01*19.15 mm, error ±0.2mm, pin size as follows:

Figure 1 Dimension diagram

1.2. Pin Definition
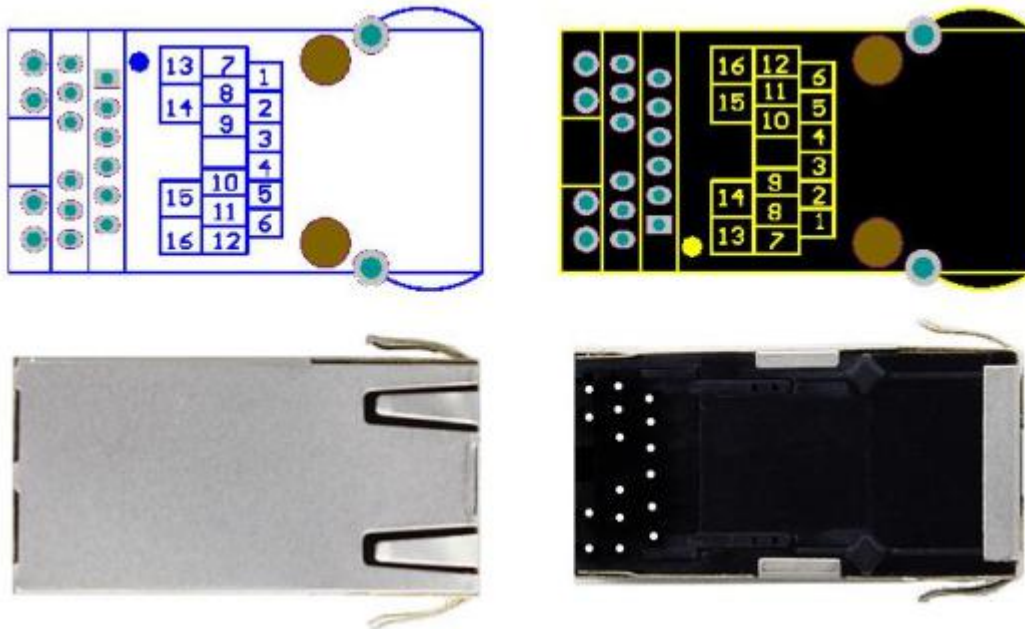
PIN	Name	Signal Type	Definition
1	NC	NC	Not available
2	NC	NC	Not available
3	CTS	I	Can be used as hardware flow control CTS pin (Clear to send). Default not available.
4	RST	I	Inputting low level over 300ms to reset the module
5	RTS	O	Can be used as hardware flow control RTS pin (request to send). Default is RS485 receive/send controlling pin, high level to send.
6	Reload	I	After module powering off, pulling down Reload pin to 0V, then powering up, keeping Reload pin 0V over five seconds and pull up Reload pin(3.3V), module will restore default settings. Reload pin connects to internal 10K Ohm pull-up resistor.
7	LED_DATA+	O	Ethernet interface LED_DATA+ pin
8	RXD	I	Serial port receiving pin(3.3V, TTL level)
9	TXD	O	Serial port transmitting pin(3.3V, TTL level)
10	GND	P	Power ground
11	VCC	P	3.3V VCC
12	LED_LINK+	O	Ethernet interface LED_LINK+ pin
13	LED_DATA-	O	Ethernet interface LED_DATA- pin
14	LED_3V3	P	Power supply pin for Ethernet interface LED

15	LED_3V3	P	Power supply pin for Ethernet interface LED
16	LED_LINK-	O	Ethernet interface LED_LINK- pin

Figure 2 Pin definition

1.3. Ethernet interface LED

LED	Function	Description
Green	Indicating connection status	Green LED will light after module connecting to network
Yellow	Indicating data transmission	Yellow LED will blink when module has data transmission

Figure 3 Ethernet interface LED

2. Hardware Design
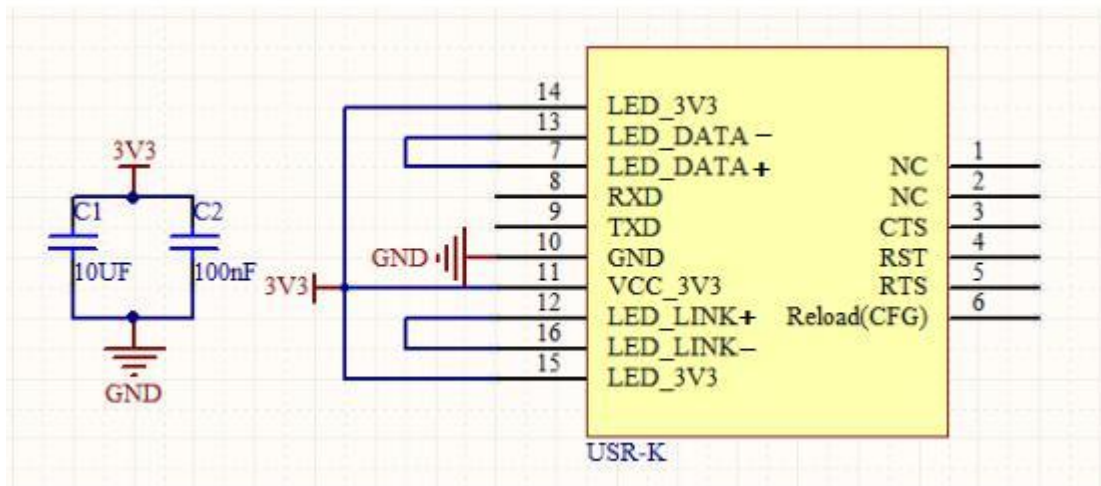
2.1. Typical Connection

Figure 4 Typical connection

2.2. Power Interface

USR-K3 adopts 3.3V power supply and working current is 110mA@3.3V. Pin 11 is VCC 3.3V pin which can connect to 10UF/6V3/10% and 100nF/50V/10% bypass capacitor to make module work stably. Circuit diagram as follow:
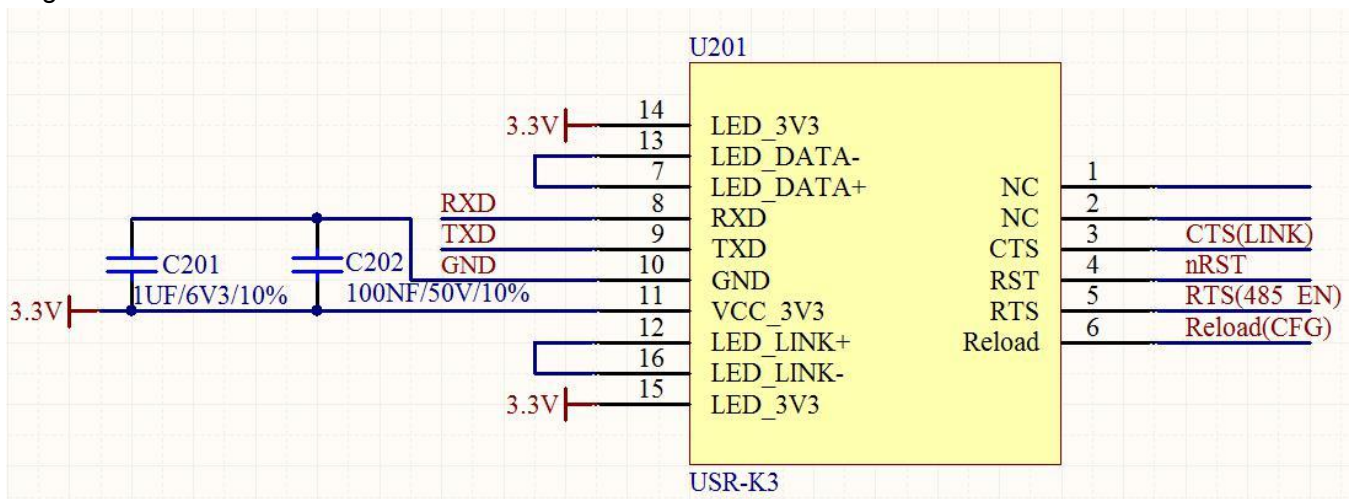

Figure 5 Power interface

2.3. UART Interface

UART is serial data interface that can connect the RS-232 chip and transfer to the RS-232 level. UART interface includes TXD/RXD.Taking the RS-232 level as a reference circuit diagram as follow:
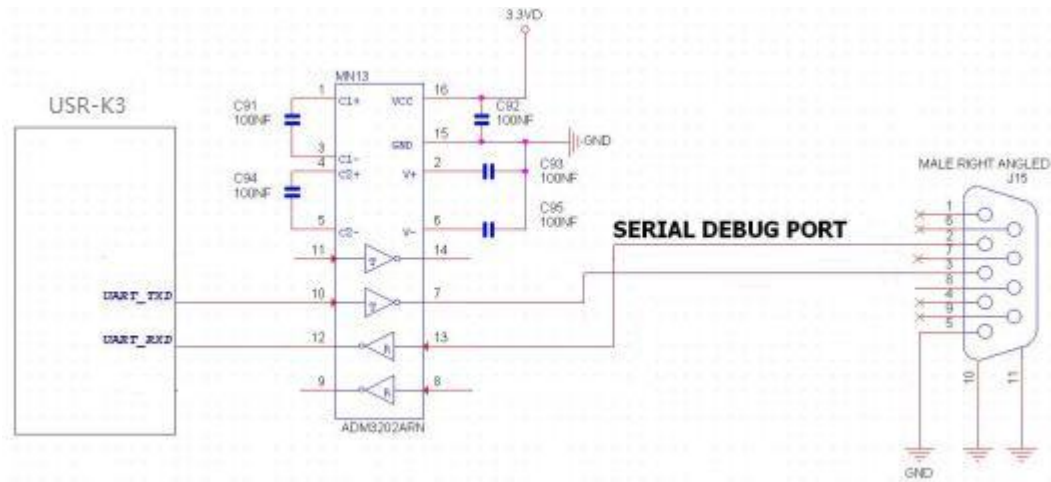

Figure 6 RS232 level UART interface

When communicating to MCU with 3.3V, just connecting TXD of module to RXD of MCU and RXD of module to TXD of MCU. When communicating to MCU with 5V, switching circuit is necessary.

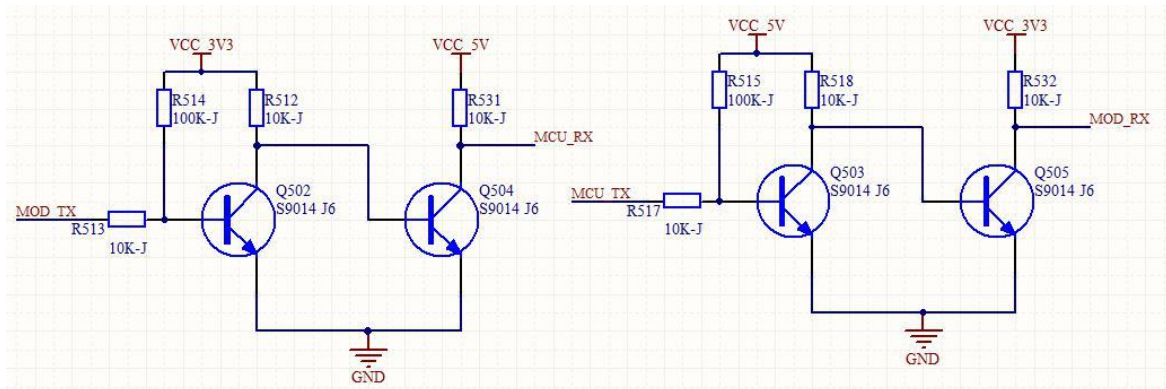Switching circuit diagram as follow:

Figure 7 Switching circuit

3. Contact

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4. Disclaimer

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5. Update History

2017-10-26   V1.0.0.01 created based on Chinese version V1.0.0.