

USB to Serial Converter – BM010

OPEN SOURCE HARDWARE MODULE



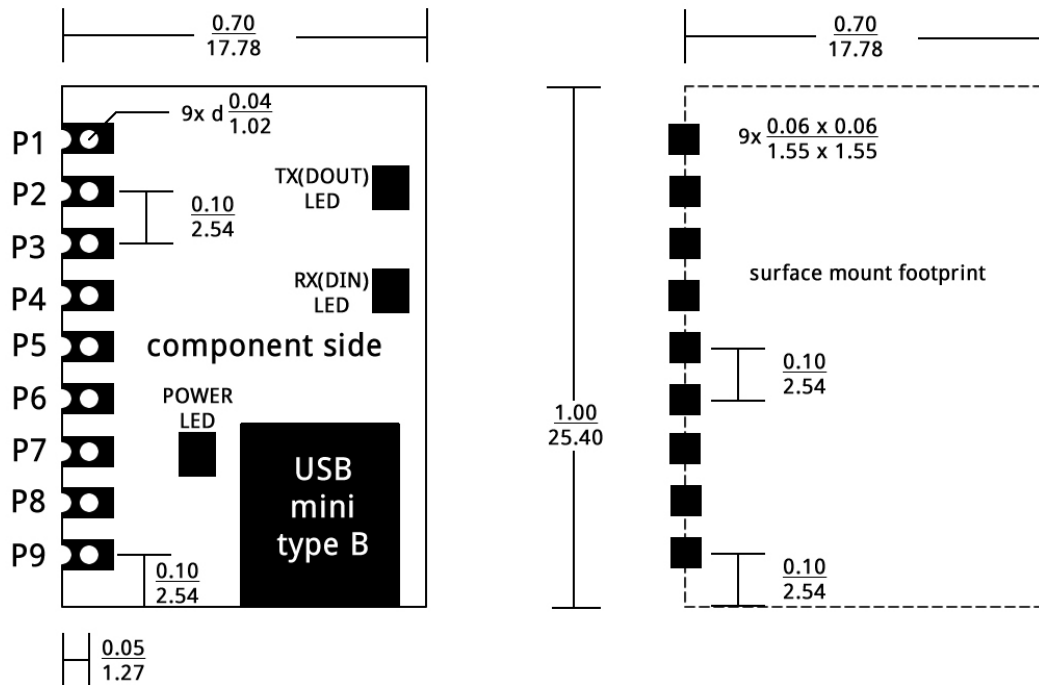
Contact Solutions Cubed, LLC for your custom designs:

Solutions Cubed is an innovative electronic design firm. We have created successful designs for a myriad of industries including mass produced consumer products, deep-sea robotic components, and encrypted encoders for the banking industry. We love meeting new customers and are interested in hearing about your design needs.

Product Description:

This breakout board carries a FTDI FT232R USB to serial converter. The module creates an easy to use USB to logic level serial port. It's great for new designs or for upgrading legacy systems from serial ports to USB interfaces.

- Asynchronous serial data transmission from 300BPS to 115200BPS
- 3.3V or 5.0V operation
- Serial communication pins can work down to 1.8V by supplying that voltage at the VDDIO pin
- TX(DOUT), RX(DIN), and power indicator LEDs
- On-board USB mini type B connector
- TX(DOUT), RX(DIN), CTS, and DTR serial port pins

Dimensions:**9-pin SIP Mechanical Dimensions** $\frac{\text{inches}}{\text{mm}}$ 

Specifications:

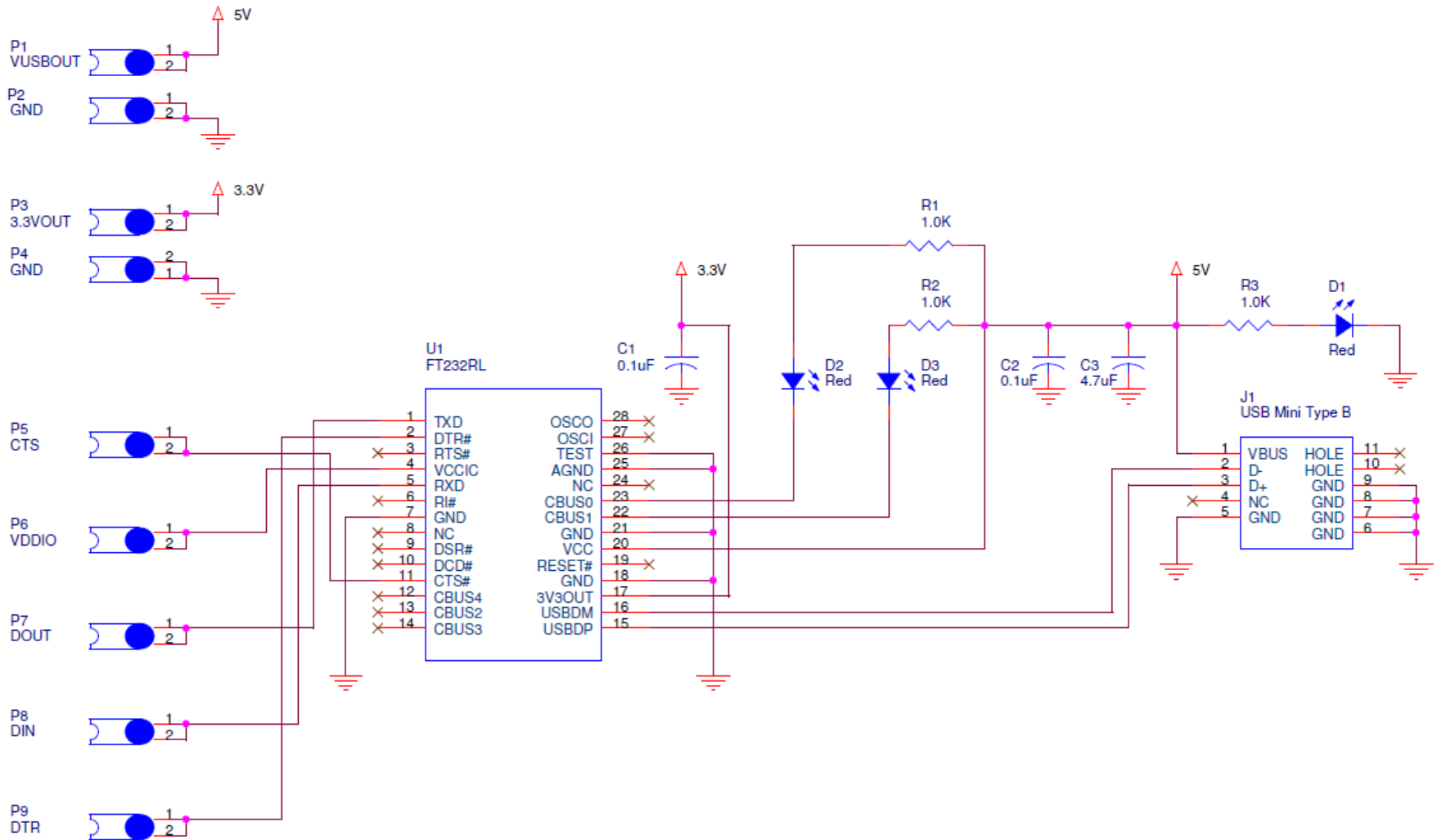
Characteristic	Min	Typ	Max	Unit	Notes
Operating voltage	4		5.25	V	VUSBOUT output
Operating current		4	10	mA	LEDs draw roughly 3mA each
Baud rates	300		115200	BPS	chip is specified to run at much higher baud rates, but these have not been tested on this module
Operating temperature	-40		+85	°C	

Pin Functions and Notes

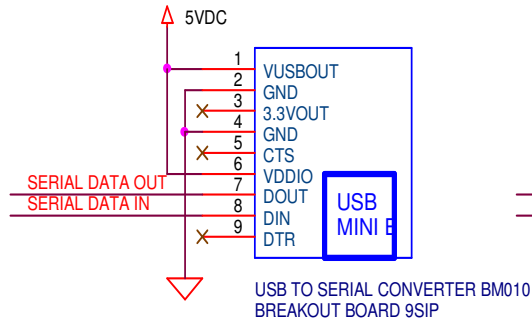
#	Name	Maximum Voltage	Notes
1	VUSBOUT	NA	Power output: USB bus voltage from PC
2	GND	0V	Ground return for the power supply
3	3.3VOUT	NA	Power output: 3.3V output can be used to power VDDIO for 3.3V systems, should source no more than 50mA
4	GND	0V	Ground return for the power supply
5	CTS	VDDIO	Logic input: Clear to send input to the serial port
6	VDDIO	VUSBOUT	Power input: provides the voltage reference for the i/o pins, and can be powered from 1.8V to 5.25V
7	DOUT(TX)	VDDIO	Logic output: serial data out of the module
8	DIN(RX)	VDDIO	Logic input: serial data into the module
9	DTR	VDDIO	Logic output: Data terminal ready pin

User Notes/Tips

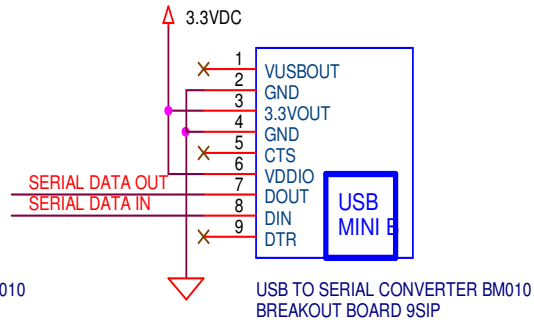
- For additional information on the FT232RL visit the FTDI Chip web site and review the datasheet.
- Visit www.solutions-cubed.com for application notes related to this module.
- The module can be powered through the DIN (RX) line if the USB power is removed and the DIN line remains at VDDIO. If this causes the device to not initialize correctly as a USB serial port power cycling may be required.



5V SYSTEM

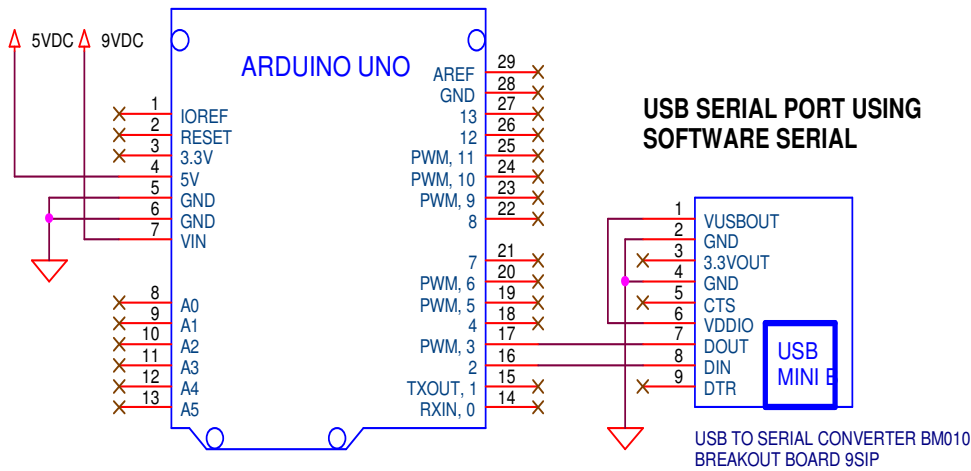


3.3V SYSTEM



ARDUINO CONNECTIONS

ARDUINO UNO3



USB TO SERIAL TO IR CONVERSION

