Overview

The USB Serial Converter is serial adapter that bridges UART serial data to USB as a virtual serial port. The connector allows you to communicate with a device that requires serial data at common serial baud rates.
The serial converter provides a 5.0V signal level. It is also compatible with slave devices which use 3.3V signal levels, as long as they are 5.0V tolerant. The device is fully powered from the USB bus. Driver support is available for Windows, Mac OS X and Linux.
Old versions of the S27-USB-SERIAL are labeled with STX and SRX. These refer to the direction of the slave device serial direction that should connect to the USB Serial Converter. I.e. STX is for bits going from the slave device to the USB host; SRX is for bits going from the USB host to the slave device.

Features

- 5.0V and 3.3V logic level tolerant
- Powered via USB VBUS (5.0V)
- 0.1” female header based that directly interfaces with BrainStem™ technology.

Absolute Maximum Ratings

Stresses beyond those listed under ABSOLUTE MAXIMUM RATINGS cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated under RECOMMENDED OPERATING CONDITIONS is not implied. Exposure to absolute-maximum-rated conditions for extended periods affects device reliability.

Parameter	Conditions	Minimum	Typical	Maximum	Units
Input Voltage (VCC)		-0.5	5.0	6.0	V
Input Voltage (USB D+, USB D-)		-0.5	-	3.8	V
Input Voltage (all other inputs)		-0.5	-	VCC + 0.5	V
Input Current (Isupply)		0.0	-	15.0	mA
DC Output Current (all outputs)		-	-	24.0	mA
Operating Temperature		-40.0	-	85.0	C

Electrical Characteristics

The values presented apply over the full operating temperature, otherwise specifications are at T_A = 25 °C.

Parameter	Conditions	Minimum	Typical	Maximum	Units
Input Voltage (VCC)		4.5	5.0	5.5	V
Nominal Supply Current		-	15.0	-	mA
Logic Low Threshold	VCC = 5.0V	0.3	0.4	0.6	V
Logic High Threshold	VCC = 5.0V	3.2	4.1	4.9	V

Supported Baud Rates

The USB Serial Converter supports data transfer at the following baud rates **(when supported by the slave device and host operating system)**. Some error is associated with baudrates close to 1 Mbps as described below.

Standard	Actual	Error
300	300	0.00%
600	600	0.00%
1200	1200	0.00%
2400	2400	0.00%
4800	4800	0.00%
9600	9600	0.00%
19200	19230	0.16%
38400	38461	0.16%
57600	57692	0.16%
115200	115384	0.16%
230400	230769	0.16%
460800	461538	0.16%
921600	923076	0.16%

Pin Functionality

All pin mapping functionality is described in the following table.

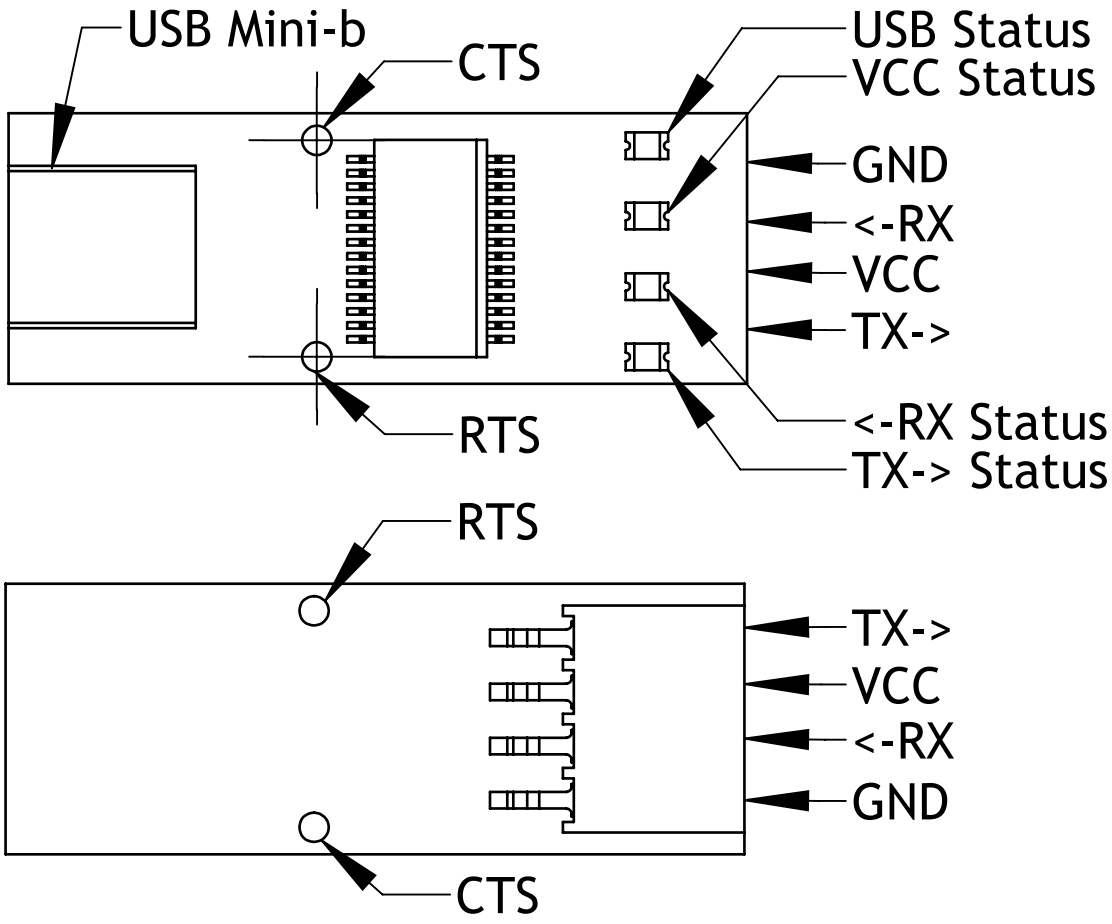

Figure 1: USB Serial Converter Pinout drawing.

Applications Information

The USB Serial Converter supports a wide range of baud rates - some supported values may require **hardware flow control (RTS, CTS) to be physically connected and supported by the communication device**.

Mechanical

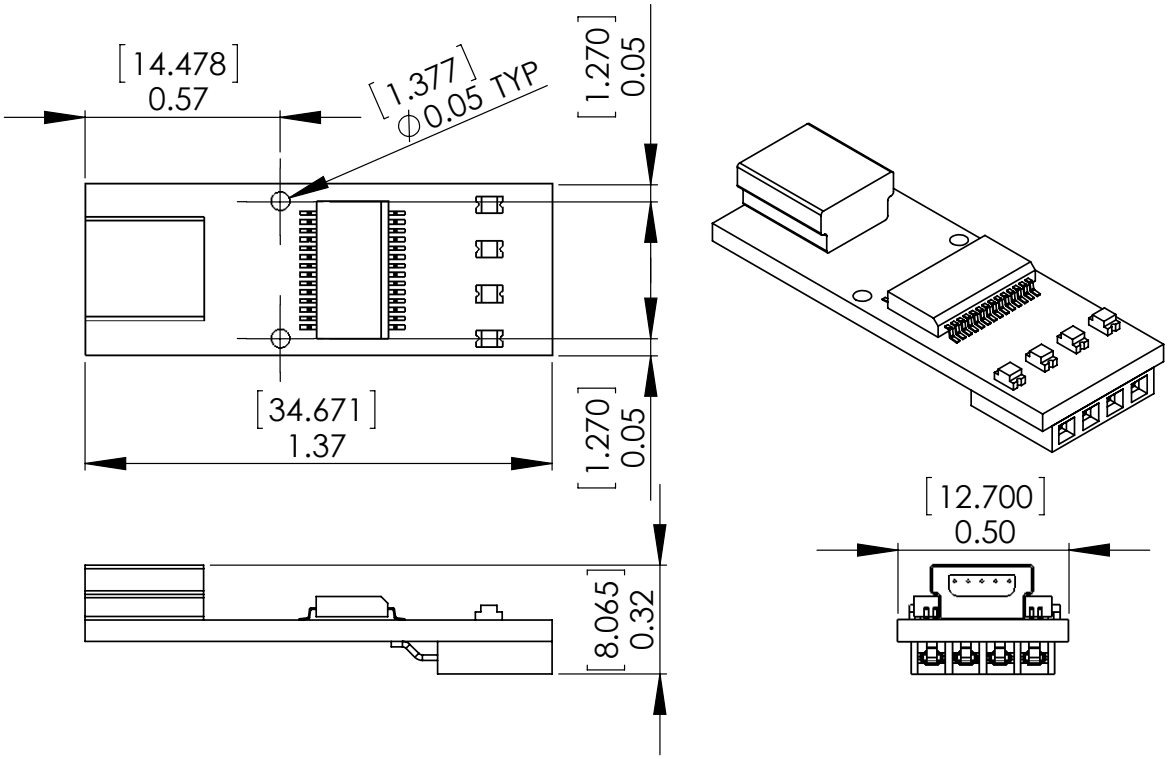

Figure 2: USB Serial Converter mechanical dimensions shown in inches [mm].

Document Revision History

All major documentation changes will be marked with a dated revision code.

Revision	Date	Engineer	Description
1.0	July 30, 2014	MJK	Updated revision format