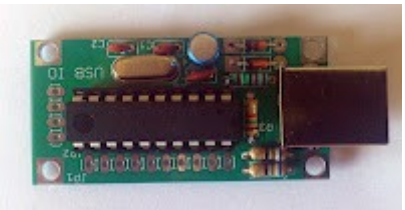
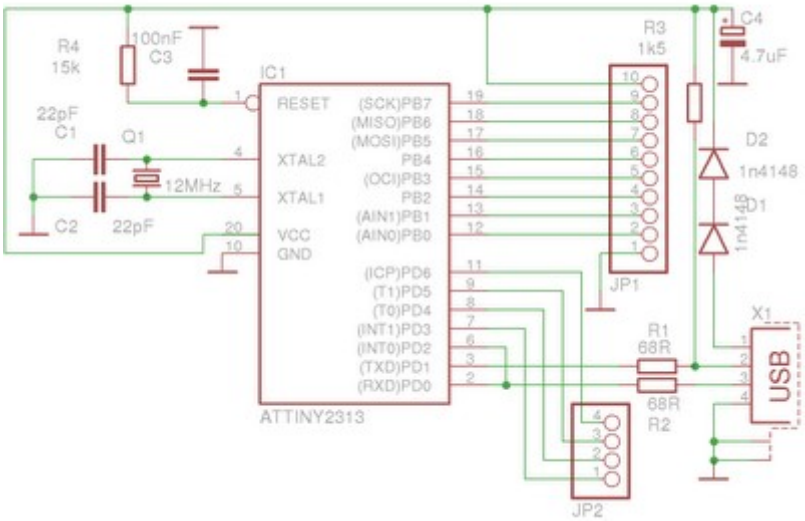
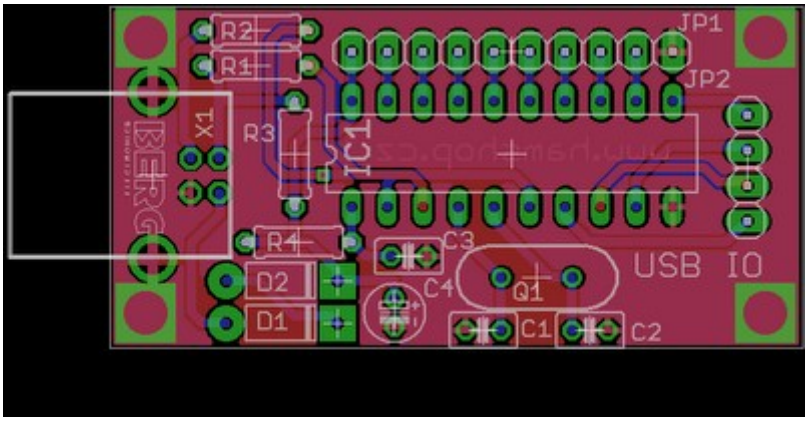
Universal USB IO with ATTINY2313 – Hamshop.cz



For a long time is available virtual USB port (USB-V) for AVR microcontrollers. It is a software solution for USB port in the microcontroller including drivers for Windows and Linux. This solution is now used to built cheap programmers and many other devices. I tried to create a simple universal board, where is everything needed for the USB connection and all the rest of the MCU pins are routed to the pads. The board is equipped with ATtiny2313, which has a sufficient number of ports.

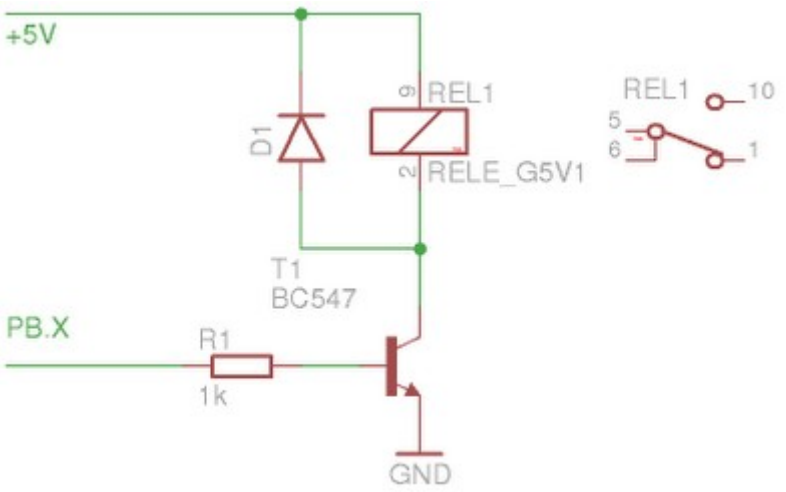


Schematic



PCB

The first applications for this board is a simple switch controlled via USB, which can control up to 8 relays. It uses the MCU port PB. The EEPROM MCU storing last state. So even after power failure, the switch returns to its original state. Software is based on code from the demo-USB and is slightly modified



How to connec raleay to the board

The software is the control software for Windows and Linux (on WIN you need to install drivers). Switch operation is very simple, just run the control program PowerSwitch with the correct parameters:

To switch port 3 to ON (PB3 to MCU), enter (Attention on Linux, run as root):

powerSwitch on 3

For OFF of port 3:

powerSwitch off 3

To switch port 3 to OFF for 5 seconds:

powerSwitch off 3 5

Port status:

powerSwitch status

All software source code and binaries for WIN and LINUX can be downloaded from:

http://www.hamshop.cz/data/items/170_40.zip