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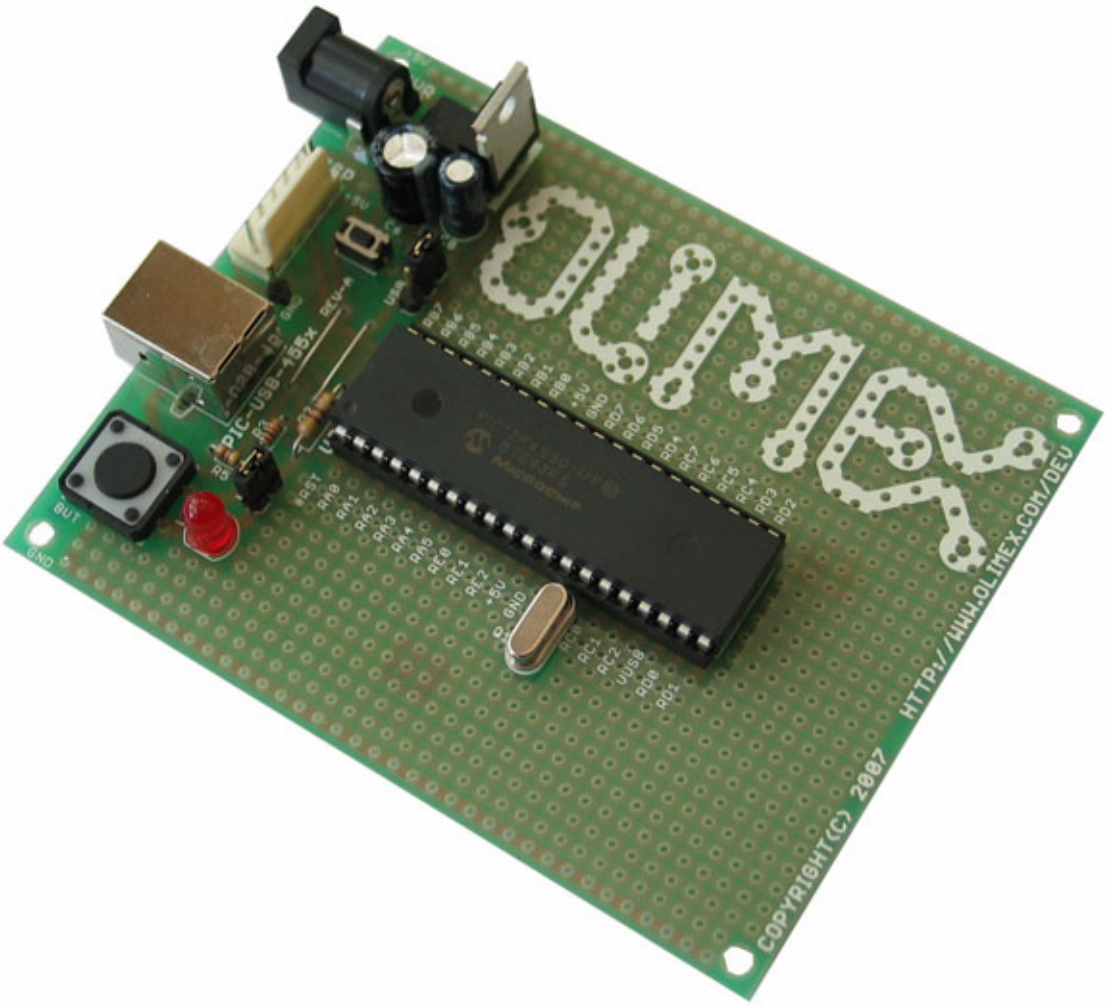

PIC-USB-4550 development board

Users Manual

Rev.A, June 2007

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INTRODUCTION:

PIC-USB-4550 board is development board, which allow you to prototype and develop USB applications with PIC18F4550 microcontrollers.

What you can do with PIC-USB-4550? Let's see what we have:

PIC-USB-4550 have USB connector to connect and interface with PC or other USB host. Microchip provide free firmware for USB HID (human interface device) device which you can use to make custom mouse, joystick, CDC (communication class device), Audio class device (make your own microphone, speaker etc USB devices), Mass storage device (add your own USB disks), USB to RS232 etc etc. Using the Microchip bootloader you can program your code and change your firmware vie USB without the need for programmer!

The on-board ICSP connector allow you to program the PIC on the board without pulling it of the socket, by ICSP programmer like PIC-MCP, PIC-MCP-USB, PIC-PG1, PIC-PG2, PIC-PG3, PIC-PG4 or to program and debug it with PIC-ICD2, PIC-ICD2-POCKET or PIC-ICD2-TINY.

PIC-USB-4550 can be powered from the USB or from external source. This is jumper selectable. When the board is powered from the USB your power budget is 5V/100mA i.e. your circuit should not exceed this power. If your circuit need more power you can connect external power supply. The external power supply circuit have diode bridge after the power supply jack which allow you to power this board with both AC and DC power supply adapters. The input voltage could be anything within the range +7.5 – 15V DC or 6-12V AC.

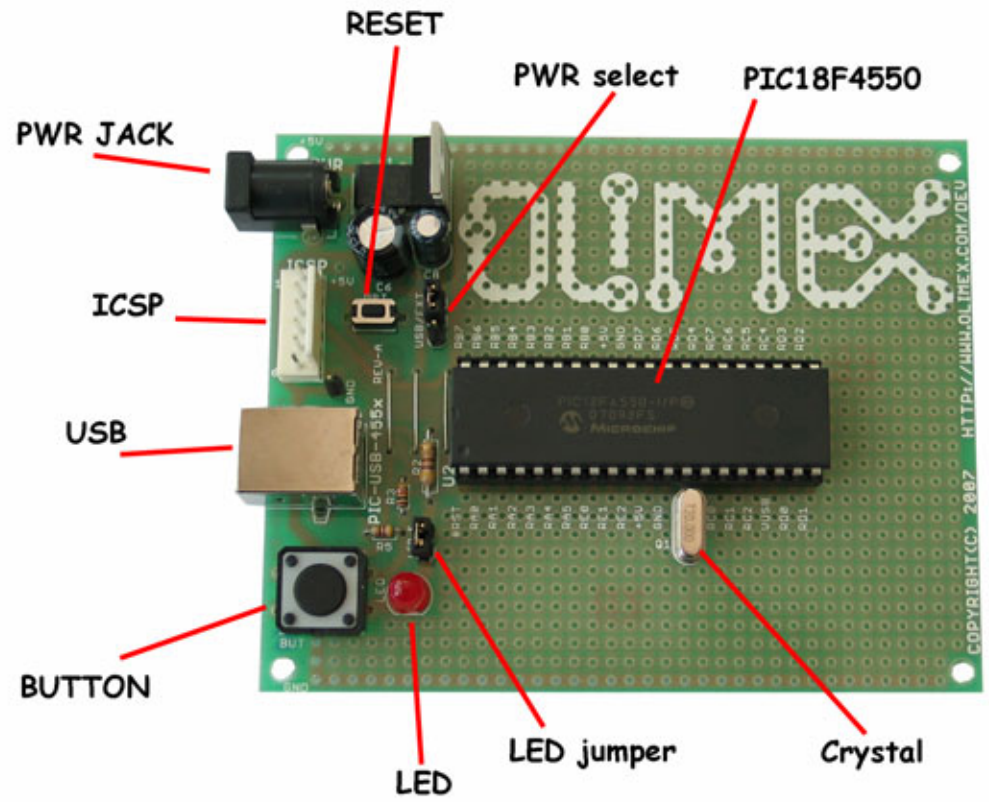
The oscillator circuit is made with 20 Mhz crystal oscillator, so you can run your PIC at maximum performance.

The RESET circuit is made with simple RC circuit and RESET push button.

PIC-USB-4550 have user button for user input connected to PIC microcontroller's RC4 port. When RC4 port is initialized as INPUT you will read "0" when the button is pressed and "1" when it is depressed. This button also is used to enter BOOTLOADER programming mode.

Status LED is connected via jumper to PIC microcontroller's RD3 port. When your RD3 port is initialized as OUTPUT and set to "0" LED will go ON, when RD3 port is set to "1" LED will go OFF.

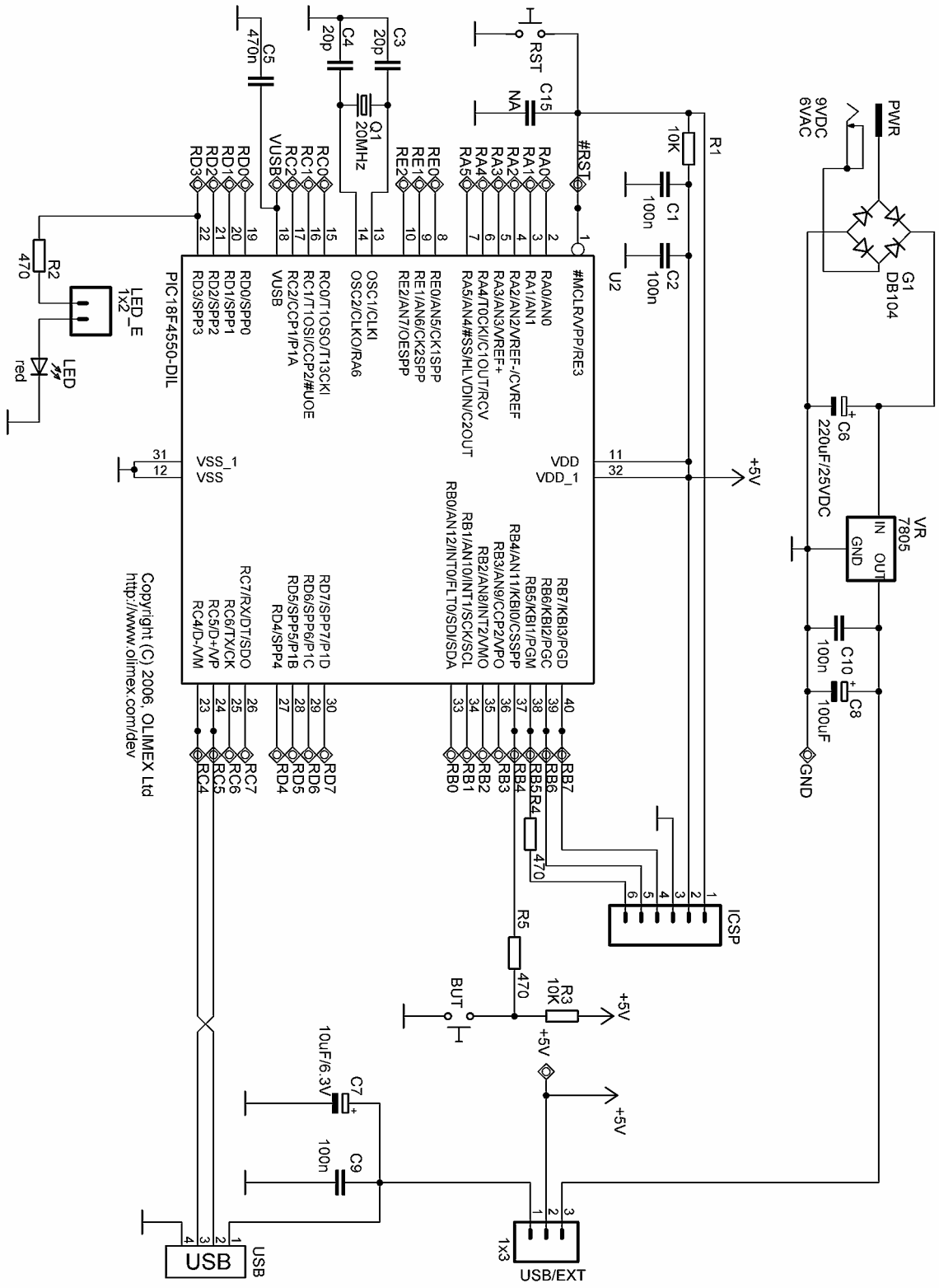
FEATURES:



- **ICSP/ICD connector for programming with PIC-MCP, PIC-MCP-USB, PIC-PG1,PIC-PG2, PIC-PG3 or PIC-PG4 and programming and debugging with PIC-ICD2, PIC-ICD2-POCKET, PIC-ICD2-TINY**
- **USB 2.0 type B connector allows board to be interfaced to PC host.**
- **PIC18F4550-I/P on DIL40 socket**
- **Quartz crystal 20Mhz**
- **LED connected to RD3 through jumper**
- **user Button connected to RB4**
- **Reset button**
- **Power plug-in jack with diode bridge can be powered with AC or DC power supply**
- **5V voltage regulator**
- **Extension slot on every uC pin**
- **Gird 100 mils**
- **GND bus**
- **Vcc bus**
- **Four mounting holes 3,3 mm (0,13")**
- **FR-4, 1.5 mm (0,062"), green soldermask, white silkscreen component print**
- **Dimensions 100x80 mm (3,9x3,15")**

All boards produced by Olimex are ROHS compliant

HARDWARE:


PWR
9VDC
6VAC
G1
DB104
C6
220uF/25VDC
VR
7805
IN
GND
OUT
C10
100n
C8
100uF
GND
R1
10K
C1
100n
C2
100n
U2
RST
C15
NA
#RST
C5
470n
C4
20p
C3
20p
Q1
20MHz
R2
470
LED_E
1x2
LED
red
PIC18F4550-DIL
#MCLR/VPP/RE3
RA0/AN0
RA1/AN1
RA2/AN2/VREF-/CVREF
RA3/AN3/VREF+
RA4/T0CKI/C1OUT/RCV
RA5/AN4/#SS/HLVDIN/C2OUT
RE0/AN5/CK1SPP
RE1/AN6/CK2SPP
RE2/AN7/OESPP
OSC1/CLKI
OSC2/CLKO/RA6
RC0/T1OSO/T13CKI
RC1/T1OSI/CCP2/#UOE
RC2/CCP1/P1A
VUSB
RD0/SPP0
RD1/SPP1
RD2/SPP2
RD3/SPP3
VSS_1
VSS
VDD
VDD_1
RB7/KBI3/PGD
RB6/KBI2/PGC
RB5/KBI1/PGM
RB4/AN11/KBI0/CSSPP
RB3/AN9/CCP2/VPO
RB2/AN8/INT2/VMO
RB1/AN10/INT1/SCK/SCL
RB0/AN12/INT0/FLT0/SDI/SDA
RC7/RX/DT/SDO
RC6/TX/CK
RC5/D+/VP
RC4/D-/VM
RD7/SPP7/P1D
RD6/SPP6/P1C
RD5/SPP5/P1B
RD4/SPP4
+5V
ICSP
R4
470
R5
470
BUT
R3
10K
C7
10uF/6.3V
C9
100n
USB
USB/EXT
1x3
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http://www.olimex.com/dev

SOFTWARE:

USB bootloader

USB HID mouse

Blink LED

ORDER CODE:

PIC-USB-4550 – assembled and tested with PIC18F4550-I/P (no kit, no soldering required)

PIC-USB-4550/PCB – blank PCBs only

How to order?
You can order to us directly or by any of our distributors.
Check our web www.olimex.com/dev for more info.

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