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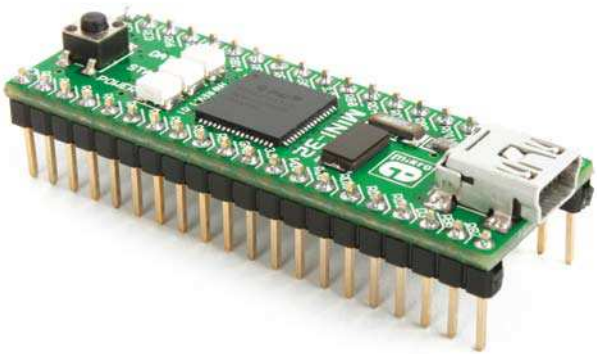


MINI-32™

The whole PIC32 development board fitted in DIP26 form factor, containing powerful PIC32MX534F064H microcontroller. It's pin compatible with PIC16F887 and PIC18(L)F45K20 microcontrollers!

MikroElektronika
DEVELOPMENT TOOLS | COMPILERS | BOOKS

MINI PIC32

TO OUR VALUED CUSTOMERS

I want to express my thanks to you for being interested in our products and for having confidence in Mikroelektronika.

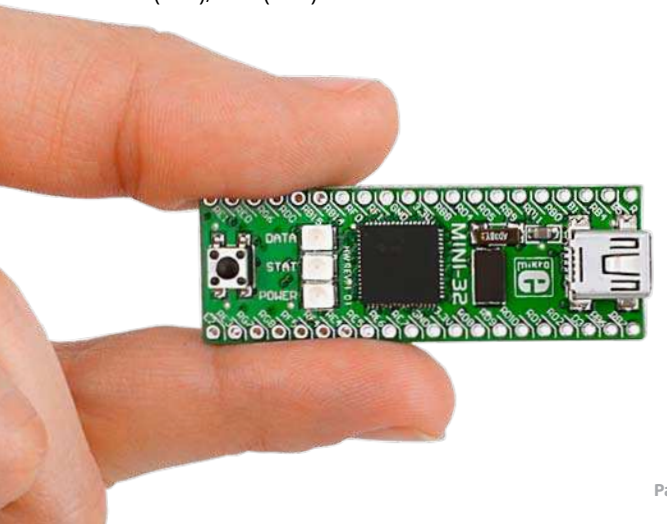
The primary aim of our company is to design and produce high quality electronic products and to constantly improve the performance thereof in order to better suit your needs.

Nebojsa Matic
General Manager

Table of Contents

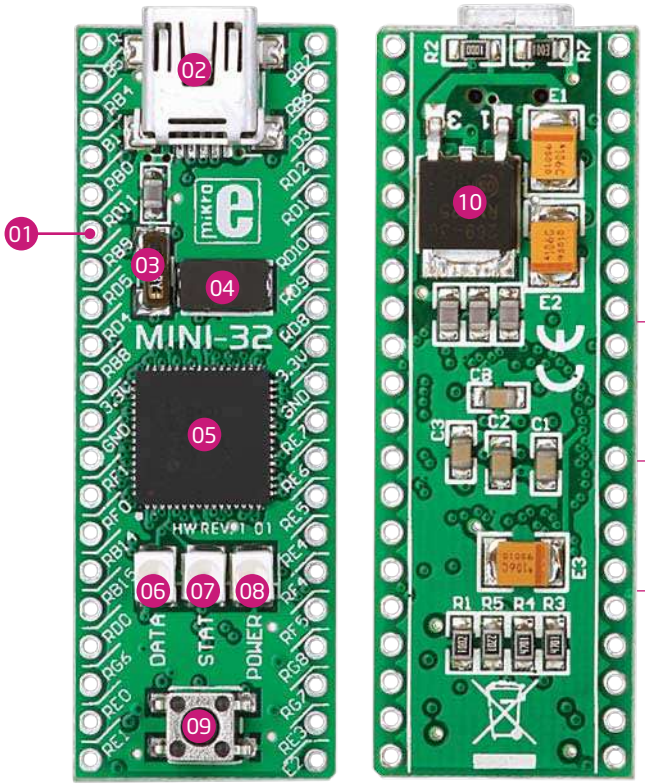
Introduction to MINI-32

Miniature and powerful development tool designed to work as stand alone device or as MCU card in DIP40 socket. MINI-32 is pre programmed with USB HID bootloader so it is not necessary to have external programmer. If there is need for external programmer (mikroProg) attach it to MINI-32 via pads marked with RB6 (PGC), RB7 (PGD) and MCLR.



Key features

01 Connection Pads
02 USB MINI-B connector
03 32.768kHz Crystal oscillator
04 8 MHz Crystal oscillator
05 Microcontroller PIC32MX534F064H
06 DATA LED (connected on RD6)
07 STAT LED (connected on RG6)
08 POWER supply LED
09 Reset button
10 Power supply regulator



System Specification

power supply

3.3V via pads or 5V via USB

power consumption

depends on MCU state (max current into 3.3V pad is 300mA)

board dimensions

50.8 x 17.78mm (2 x 0.7")

weight

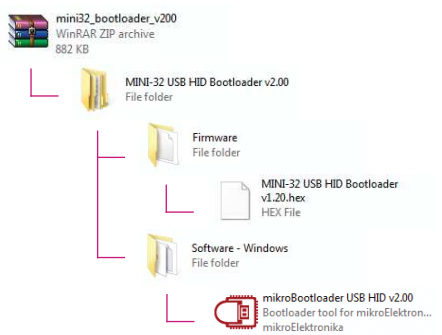
~9g (0.02 lbs)

1. Programming with mikroBootloader

You can program the microcontroller with bootloader which is pre programmed into the device by default. To transfer .hex file from a PC to MCU you need bootloader software (**mikroBootloader USB HID**) which can be downloaded from:

http://www.mikroe.com/eng/downloads/get/1678/mini32_bootloader_v200.zip

After software is downloaded unzip it to desired location and start mikroBootloader USB HID software.



step 1 – Connecting MINI-32

Figure 1-1: USB HID mikroBootloader window

01 To start, connect the USB cable, or if already connected press the **Reset** button on your MINI-32 board. Click the **"Connect"** button within 5s to enter the bootloader mode, otherwise existing microcontroller program will execute.

step 2 - Browsing for .HEX file

Figure 1-2: Browse for HEX

01 Click the **"Browse for HEX"** button and from a pop-up window (**Figure 1-3**) choose the .HEX file which will be uploaded to MCU memory.

step 3 - Selecting .HEX file

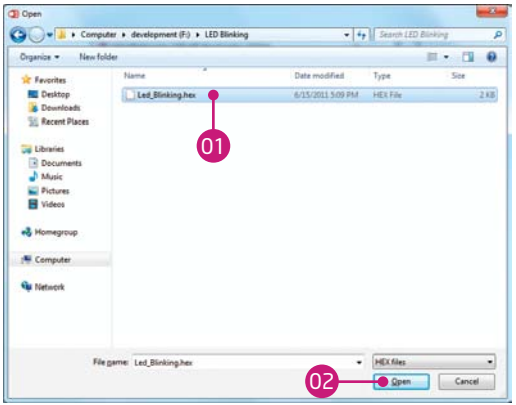


Figure 1-3: Selecting HEX

01 Select .HEX file using open dialog window.

02 Click the **"Open"** button.

step 4 - Uploading .HEX file

Figure 1-4: Begin uploading

01 To start .HEX file bootloading click the **"Begin uploading"** button.

Figure 1-5: Progress bar

01 You can monitor .HEX file uploading via progress bar

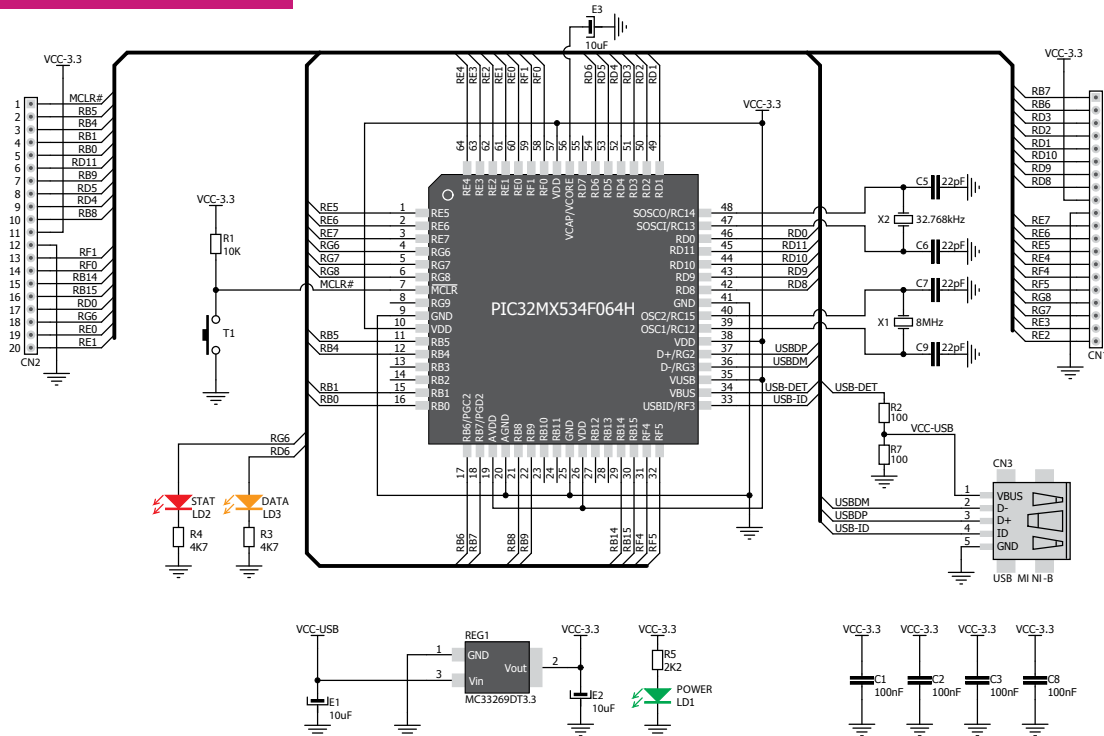
step 5 - Finish upload

Figure 1-6: Restarting MCU

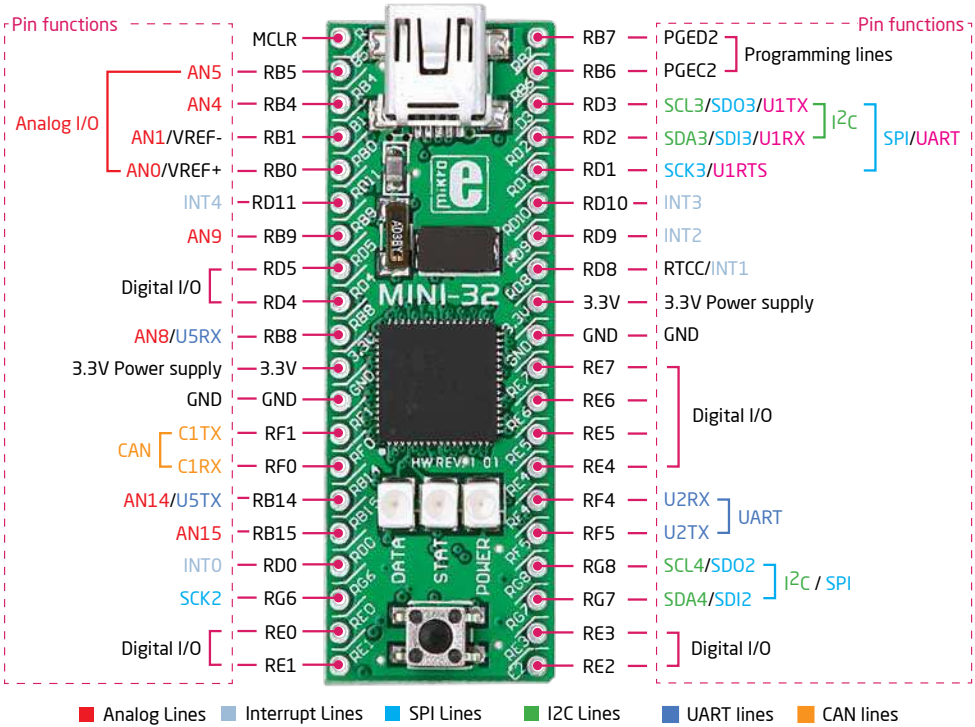
01 Click the **"OK"** button after uploading is finished and wait for 5 seconds. Board will automatically reset and your new program will execute.

Figure 1-7: mikroBootloader ready for next job

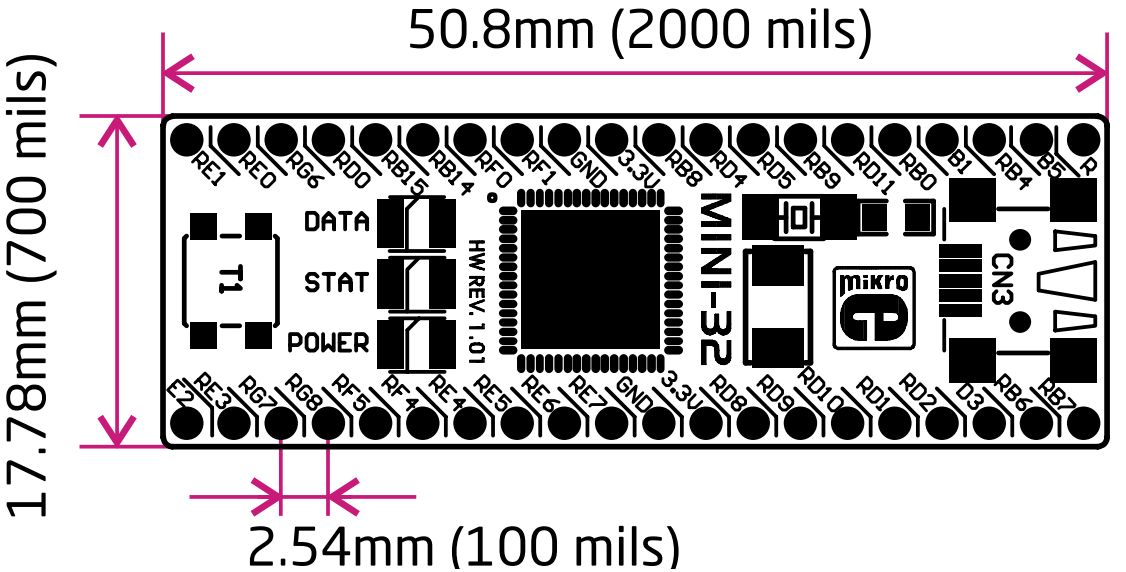
2. Schematic


PIC32MX534F064H
CN2
CN1
CN3
USB MINI-B
T1
STAT LD2
DATA LD3
POWER LD1
REG1
MC33269DT3.3
X2 32.768kHz
X1 8MHz
USB-DET
USB-ID
USBDM
USBDP
VCC-USB
VCC-3.3

3. Pinout


Pin functions
MCLR
AN5
RB5
AN4
RB4
Analog I/O
AN1/VREF-
RB1
AN0/VREF+
RB0
INT4
RD11
AN9
RB9
RD5
Digital I/O
RD4
AN8/U5RX
RB8
3.3V Power supply
3.3V
GND
GND
CAN
C1TX
RF1
C1RX
RF0
AN14/U5TX
RB14
AN15
RB15
INT0
RD0
SCK2
RG6
RE0
Digital I/O
RE1
MINI-32
HW REV#1.01
DATA
STAT
POWER
RB7
RB6
RD3
RD2
RD1
RD10
RD9
RD8
3.3V
GND
RE7
RE6
RE5
RE4
RF4
RF5
RG8
RG7
RE3
RE2
Pin functions
PGED2
PGEC2
Programming lines
SCL3/SDO3/U1TX
SDA3/SDI3/U1RX
I2C
SPI/UART
SCK3/U1RTS
INT3
INT2
RTCC/INT1
3.3V Power supply
GND
Digital I/O
U2RX
U2TX
UART
SCL4/SDO2
SDA4/SDI2
I2C / SPI
Digital I/O
Analog Lines
Interrupt Lines
SPI Lines
I2C Lines
UART lines
CAN lines

4. Dimensions



Notes:

Notes:

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