

MINI-M0™

development board for STM32

The whole STM32 development board fitted in DIP40 form factor, containing high-performance STM32F051R8 ARM Cortex-M0 microcontroller.

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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.

A white, handwritten signature in cursive script, appearing to read 'N. Matic', set against a dark green background.

Nebojsa Matic
General Manager

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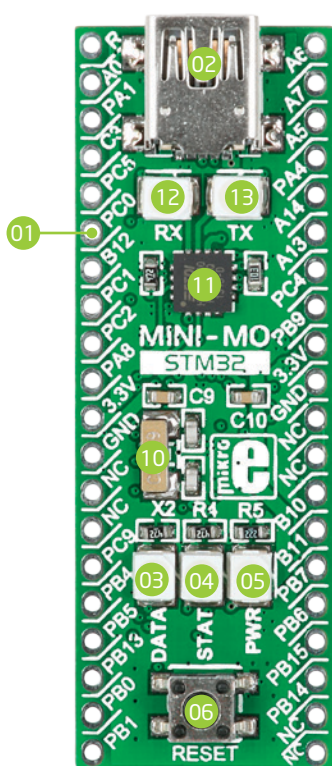
Introduction to MINI-M0 for STM32

Miniature and high-performance development tool designed to work as stand alone device or as MCU card in DIP40 socket. MINI-M0 for STM32 is preprogrammed with USB-UART bootloader so it is not necessary to have external programmer. If there is need for external programmers (mikroProg™ or ST-LINK V2) attach it to MINI-M0 for STM32 via pads marked with PA14 (TCK/SWC), PA13 (TMS/SWD), and RST#.



Key features

- 01 Connection Pads
- 02 USB MINI-B connector
- 03 DATA LED
- 04 STAT LED
- 05 POWER supply LED
- 06 Reset button
- 07 Power supply regulator
- 08 Microcontroller STM32F051R8
- 09 16 MHz Crystal oscillator
- 10 32.768kHz Crystal oscillator
- 11 FTDI FT230x chip
- 12 UART RX LED
- 13 UART TX LED



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

~6g (0.013 lbs)

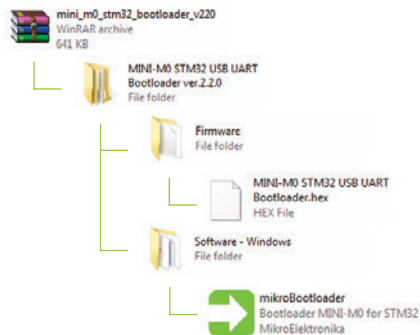
1. Programming with mikroBootloader

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



http://www.mikroe.com/downloads/get/2055/mini_m0_bootloader_v220.zip

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



mikroBootloader software

note Before starting mikroBootloader software, connect MINI M0 for STM32 to a PC using a USB cable provided with the package

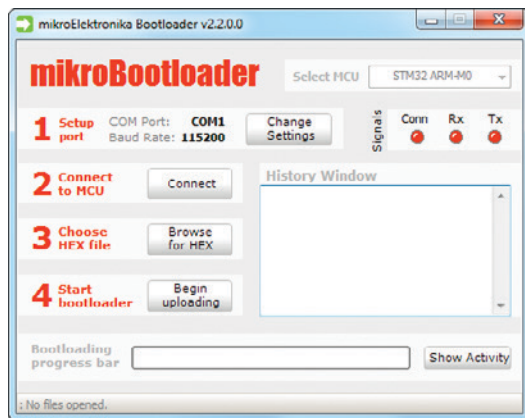


Figure 2-1: mikroBootloader window

01 When you start mikroBootloader software, a window as shown in **Figure 2-1** should appear

Identifying device COM port

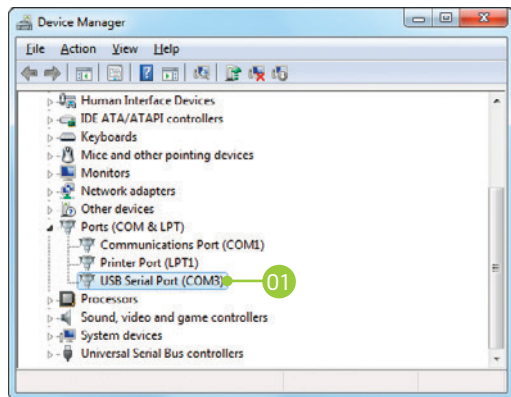


Figure 2-2: Identifying COM port

- 01 Open **Device Manager** window and expand **Ports section** to see which COM port is assigned to MINI M0 for STM32 (in this case it is COM3)

step 1 - Choosing COM port

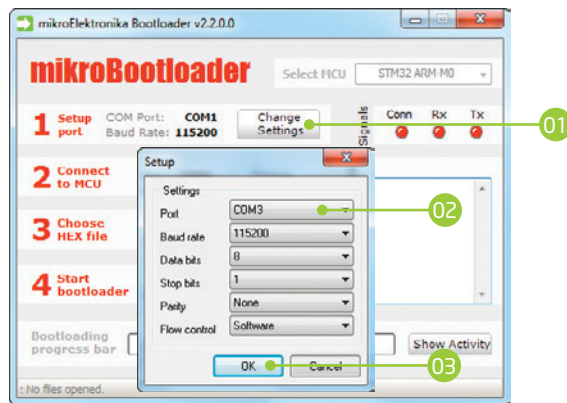


Figure 2-3: Choosing COM port

- 01 Click the **Change Settings** button
- 02 From the drop down list, select appropriate COM **port** (in this case it is COM3)
- 03 Click **OK**

step 2 - Establishing Connection

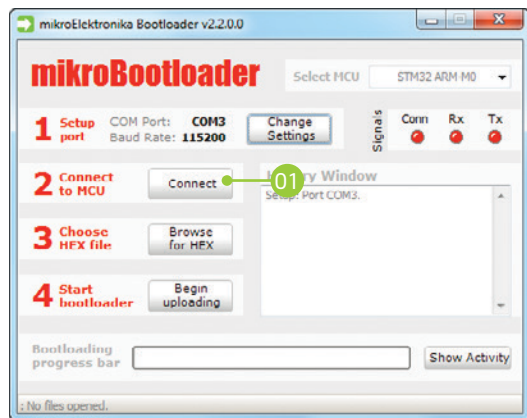


Figure 2-4: Connecting with mikroBootloader

- 01 Press the **Reset** button on MINI M0 for STM32 board and click the **Connect** button within 5s, otherwise the existing microcontroller program will run. If connected, the button's caption will be changed to **Disconnect**

step 3 - Browsing for .HEX file



Figure 2-5: Browse for HEX

- 01 Click the **Browse for HEX** button and from a pop-up window (Figure 2-6) choose a .HEX file to be uploaded to MCU memory

step 4 - Selecting .HEX file

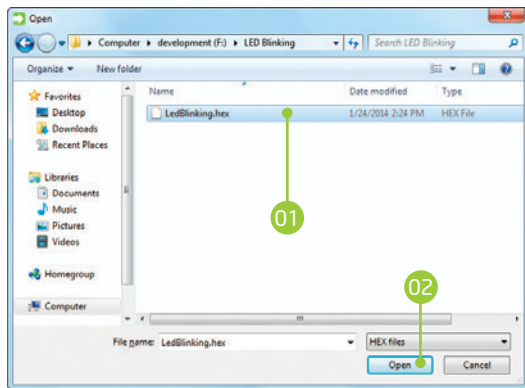


Figure 2-6: Locating and selecting .hex file

- 01 Select .HEX file using open dialog window.
- 02 Click the **Open** button

step 5 - Uploading .HEX file

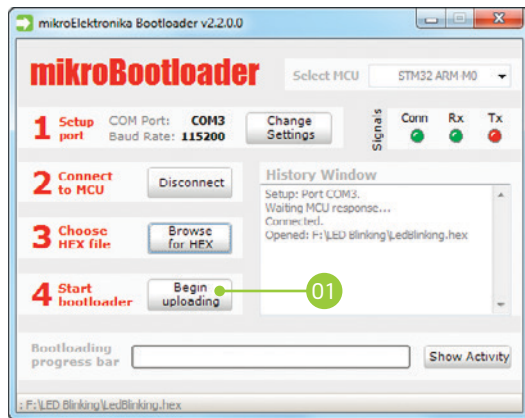
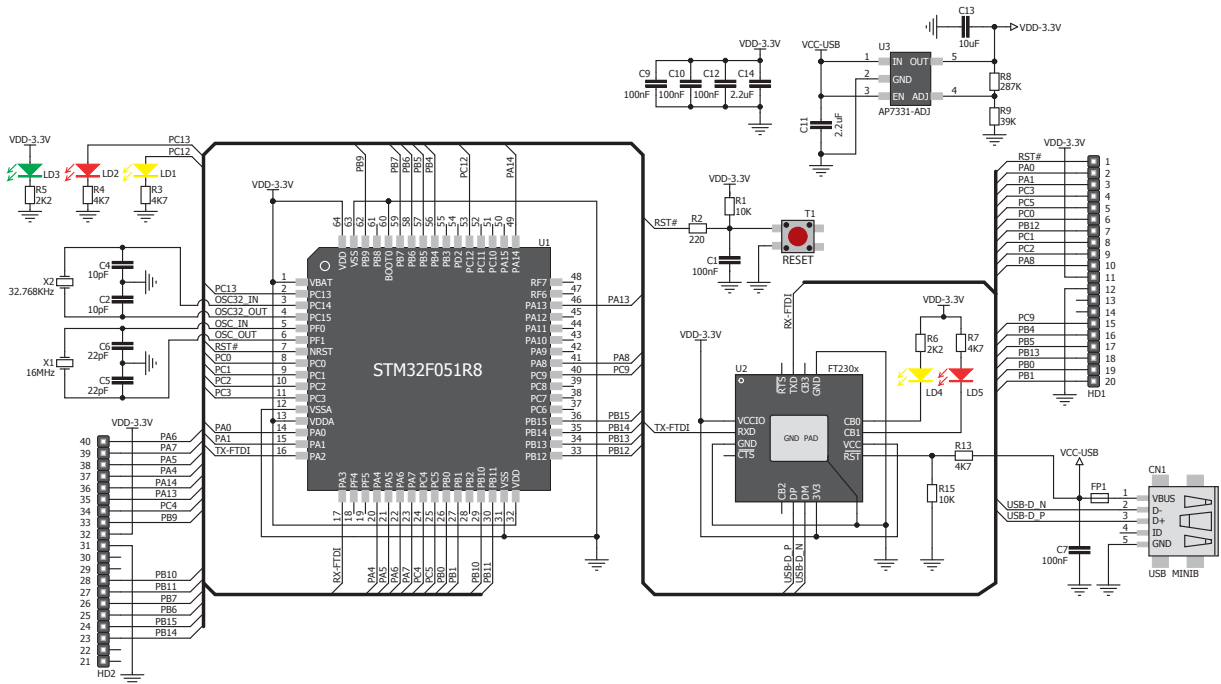


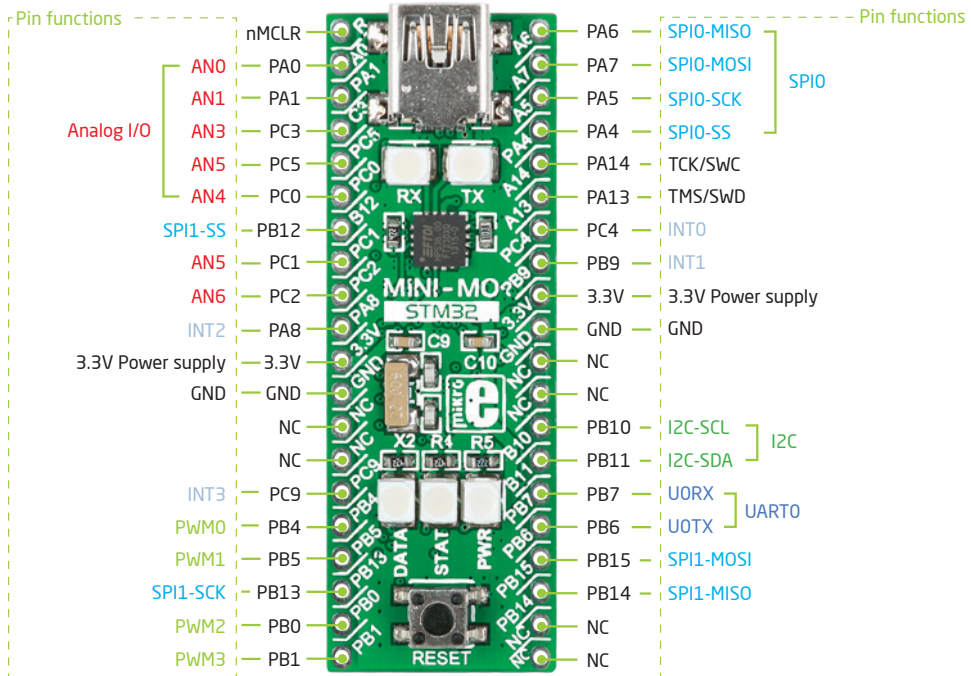
Figure 2-7: Begin uploading

- 01 To start .HEX file bootlodng click the **Begin uploading** button

2. Schematic

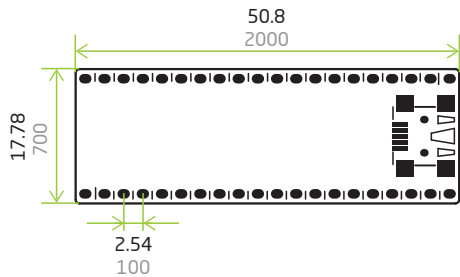


3. Pinout



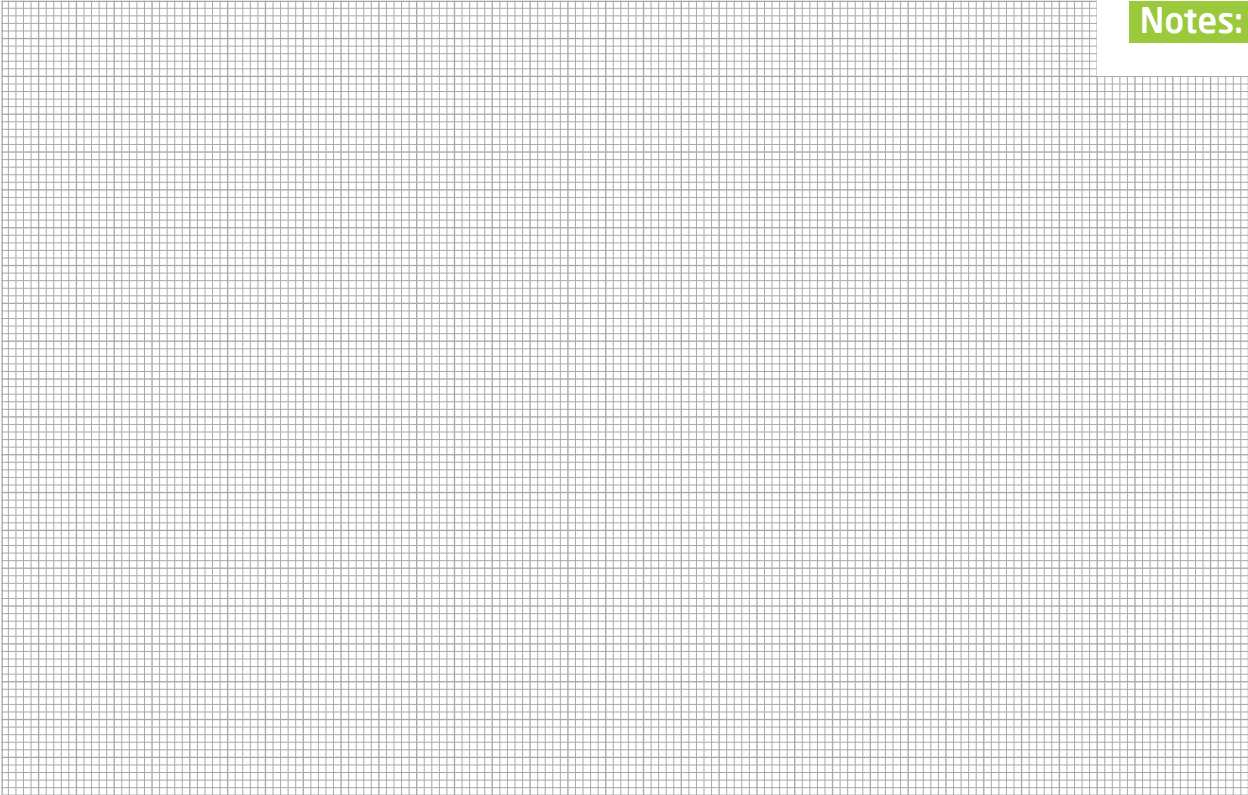
■ Analog Lines
 ■ Interrupt Lines
 ■ SPI Lines
 ■ I2C Lines
 ■ UART lines
 ■ PWM lines

4. Dimensions



Legend

— mm
— mils



Notes:

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MINI-M0 for STM32
ver. 1.00



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