

MINI-M4™

development board for Tiva™ C Series

The whole Tiva™ C Series development board fitted in DIP40 form factor, containing powerful Tiva™ C Series TM4C123GH6PM microcontroller.

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.

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

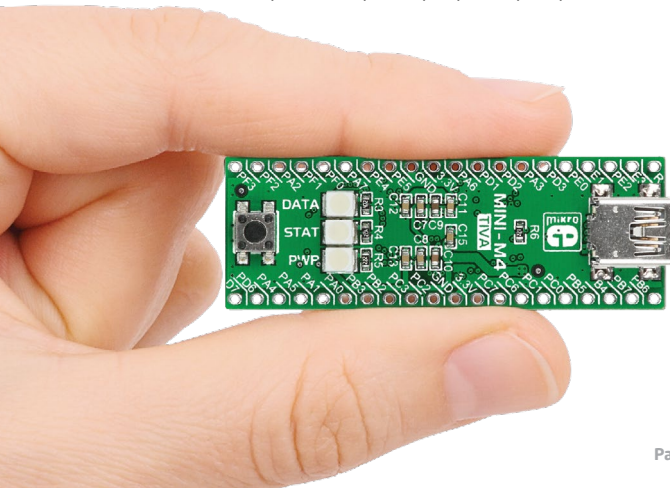
Nebojsa Matic
General Manager

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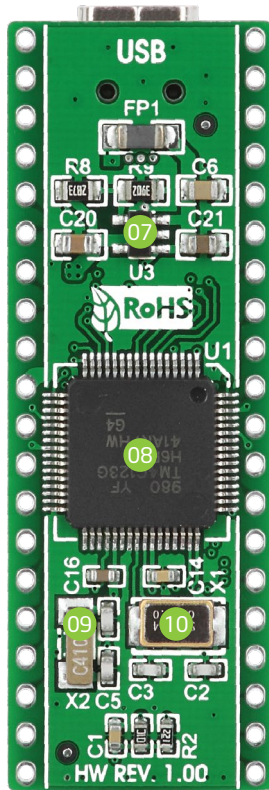
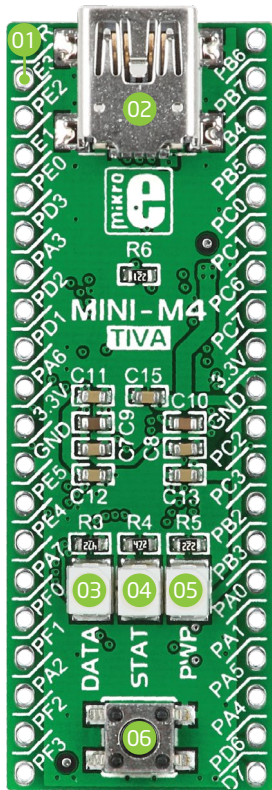
Introduction to MINI-M4 for Tiva™ C Series

Miniature and powerful development tool designed to work as a standalone device or as a MCU card in DIP40 socket. MINI-M4 for Tiva™ C Series is preprogrammed with USB HID bootloader so it is not necessary to have an external programmer. If you need to use an external programmer (like mikroProg™) attach it to MINI-M4 for Tiva™ C Series via pads marked with **PC0** (TCK/SWC), **PC1** (TMS/SWD), **PC2** (TDI), **PC3** (TDO) 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 Tiva™ C Series TM4C123GH6PM
- 09 32.768kHz Crystal oscillator
- 10 16 MHz Crystal oscillator



System specifications



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)

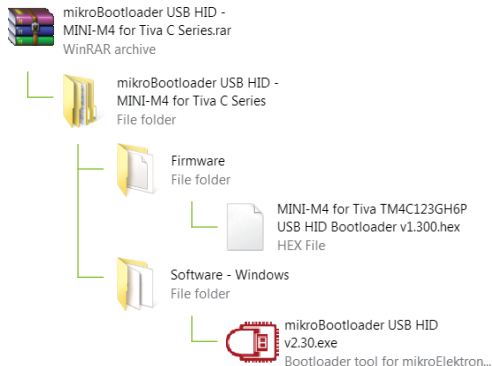
1. Programming with mikroBootloader

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



www.mikroe.com/downloads/get/2108/mikrobootloader_mini_m4_tiva_v230.zip

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



step 1 - Connecting MINI-M4



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-M4 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

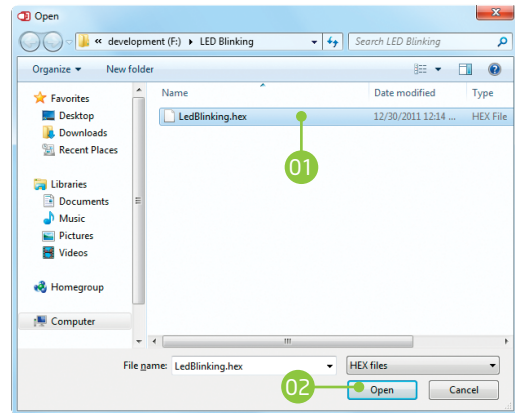


Figure 1-3: Selecting HEX

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

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

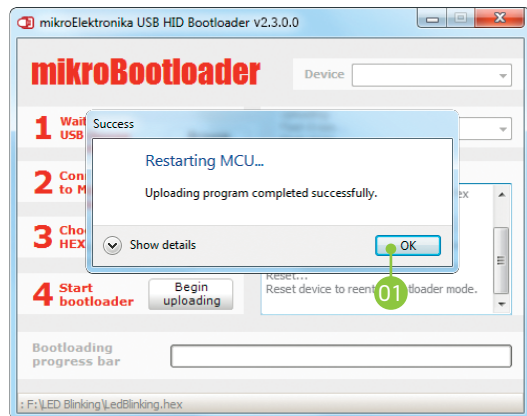


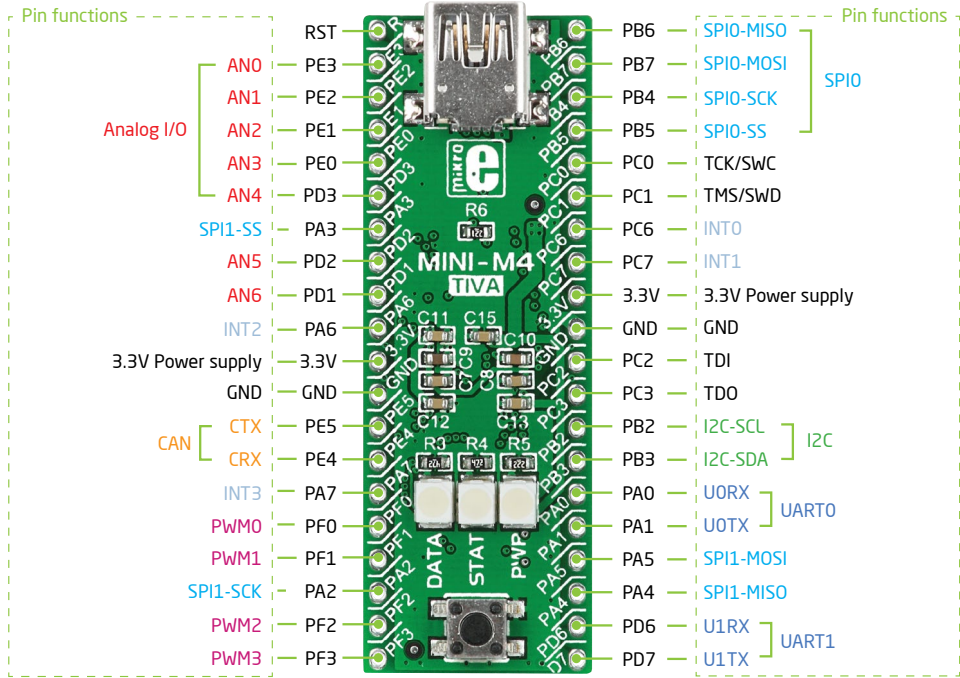
Figure 1-6: Restarting MCU

- 01** Click **OK** 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

3. Pinout



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

Notes:

Notes:

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