

# 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.

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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', is positioned on the right side of the page.

Nebojsa Matic  
General Manager

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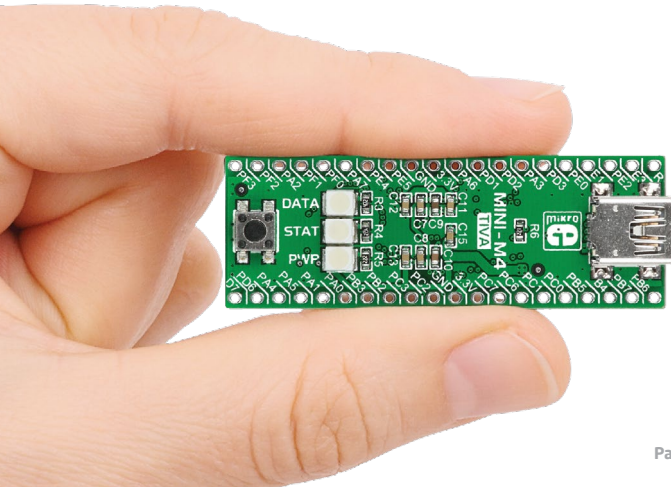
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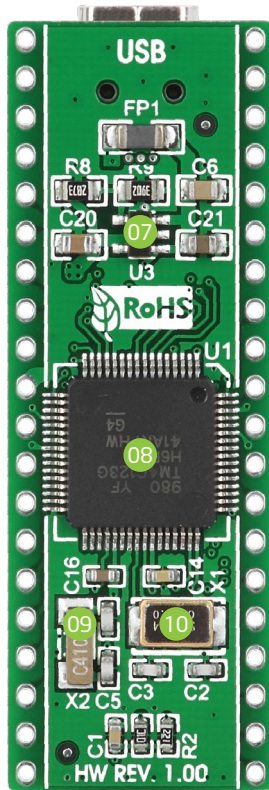
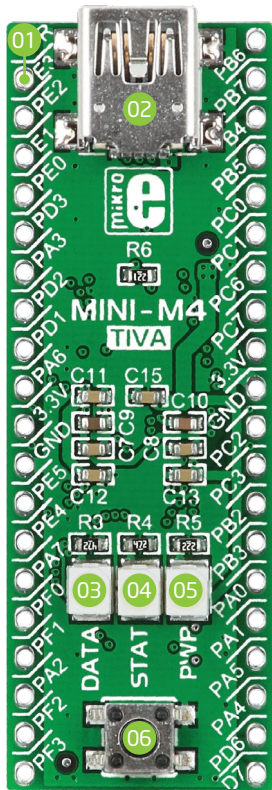
# Introduction to MINI-M4 for Tiva™ C Series

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)

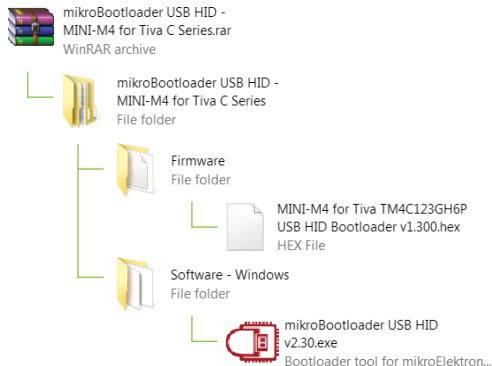
# 1. Programming with mikroBootloader

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](http://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

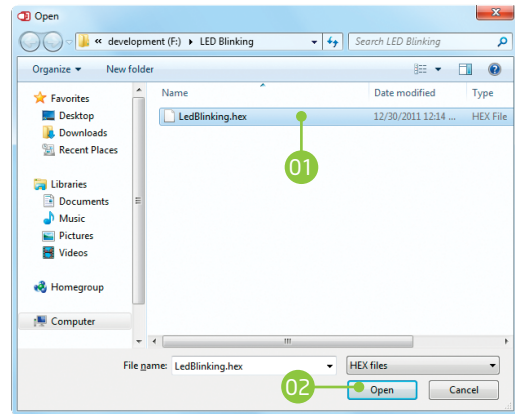


Figure 1-3: Selecting HEX

- 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



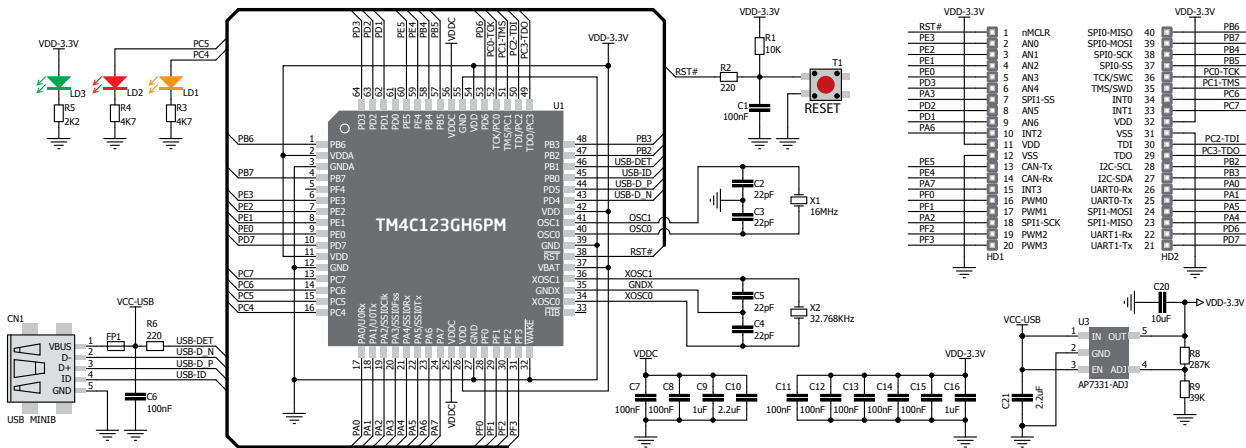
Figure 1-6: Restarting MCU

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

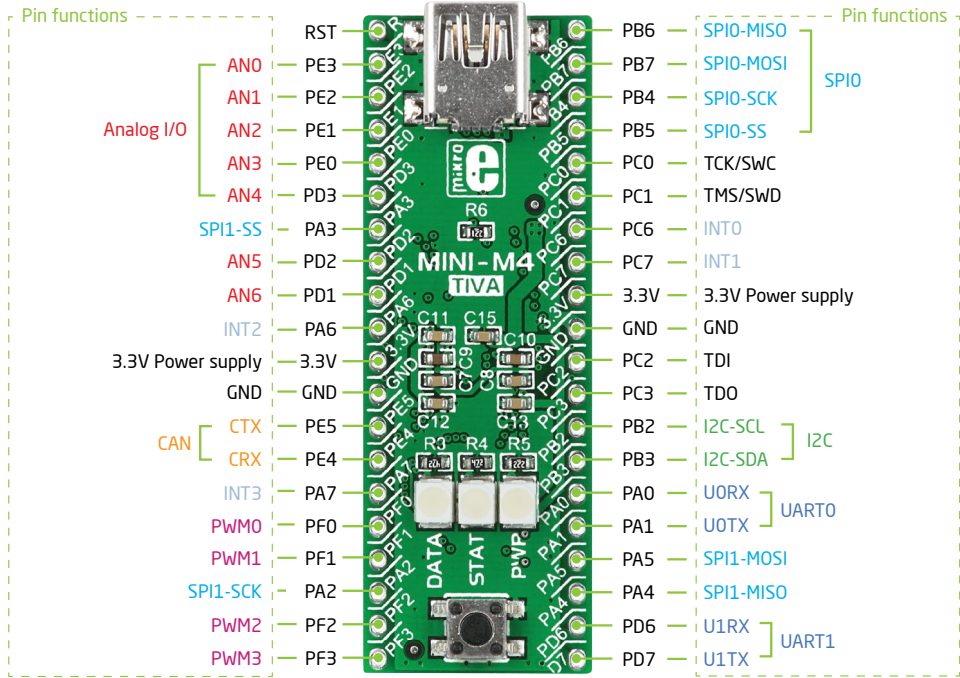


Figure 1-7: mikroBootloader ready for next job

# 2. Schematic

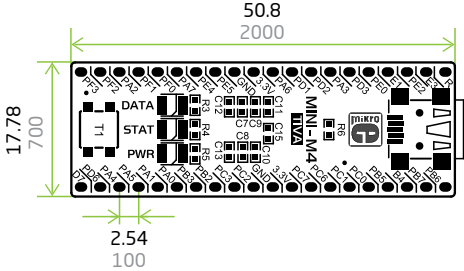


# 3. Pinout

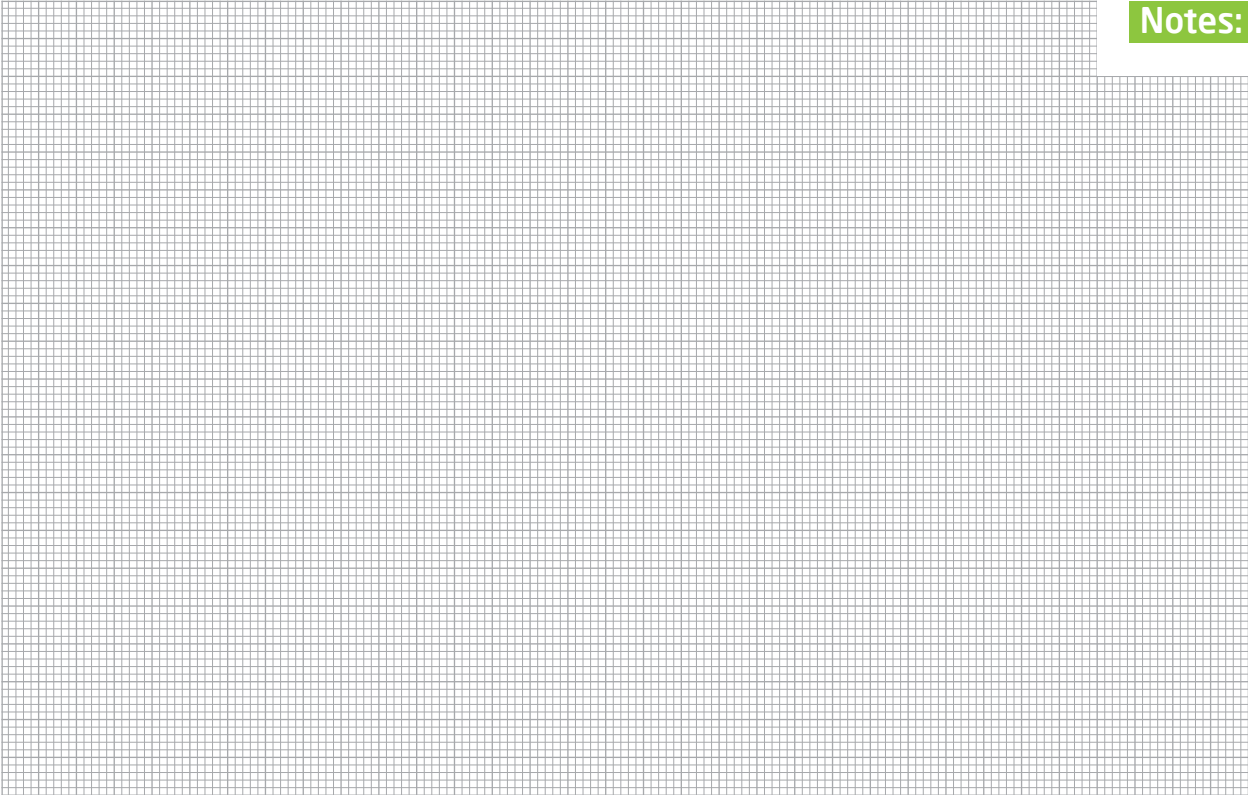


■ Analog Lines  
 ■ Interrupt Lines  
 ■ SPI Lines  
 ■ I2C Lines  
 ■ UART lines  
 ■ CAN lines  
 ■ PWM lines

# 4. Dimensions



**Legend**  
— mm  
— mils



Notes:

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MINI-M4 for Tiva C Series Manual  
ver. 1.00







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