The whole KINETIS development board fitted in DIP40 form factor, containing the MK64FN1M0VDC12 microcontroller.
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
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Miniature and powerful development tool designed to work as stand alone device or as MCU card in DIP40 socket. MINI-M4 for Kinetis is an ARM® Cortex™-M4 development board containing MK64FN1M0VDC12 microcontroller.

The board is pre programmed with USB HID 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-M4 for STM32 via pads marked with TK.
Key features

01 Connection Pads
02 USB MICRO connector
03 DATA LED
04 STAT LED
05 POWER supply LED
06 Reset button
07 Power supply regulator
08 Microcontroller MK64FN1M0VDC12
09 12 MHz Crystal oscillator
10 32.768kHz Crystal oscillator
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:

https://download.mikroe.com/examples/starter-boards/mini/kinetis/mini-m4-kinetis-mikrobootloader-v100.zip

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

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

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

Select .HEX file using open dialog window.

Click the "Open" button.
step 4 - Uploading .HEX file

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

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
3. Pinout

**Pin functions**

**Analog I/O**
- AN0
- AN1
- AN2
- AN3
- AN4
- SPI1-CS
- AN5
- AN6
- INT2
- INT3
- PWM0
- PWM1
- SPI1-SCK
- PWM2
- PWM3

**3.3V Power supply**
- GND
- VDD
- VSS
- nMCLR

**CAN**
- CTX
- CRX
- CAN-Tx
- CAN-Rx

**Interrupt Lines**
- INT0
- INT1
- INT2
- INT3

**SPI Lines**
- SPI0-SS
- SPI0-SCK
- SPI0-MOSI
- SPI0-MISO
- SPI1-SS
- SPI1-SCK
- SPI1-MOSI
- SPI1-MISO

**I2C Lines**
- I2C-SCL
- I2C-SDA

**UART Lines**
- UART0-Tx
- UART0-Rx
- UART1-Tx
- UART1-Rx

**Power supply**
- 3.3V Power supply
- 5V Power supply

**Ground**
- GND

**Other Lines**
- TMS/SWD
- TDI
- TDO
- SPI0-SS
- SPI0-SCK
- SPI0-MOSI
- SPI0-MISO
- SPI1-SS
- SPI1-SCK
- SPI1-MOSI
- SPI1-MISO
- UART0-Tx
- UART0-Rx
- UART1-Tx
- UART1-Rx
- CAN-Rx
- CAN-Tx

**Legend**

- Red: Analog Lines
- Blue: Interrupt Lines
- Green: SPI Lines
- Yellow: I2C Lines
- Purple: UART lines
- Orange: CAN lines
- Pink: PWM lines
4. Dimensions

50.8mm (2000 mils)

17.78mm (700 mils)

2.54mm (100 mils)
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