

MINI-32^m development board for PIC32MZ

PIC32 development board fitted in a DIP40 form factor, containing a powerful microcontroller.





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Nebojsa Matic General Manager

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Introduction to MINI-32 for PIC32MZ

Miniature and powerful development tool designed to work as a standalone device or as a MCU card in DIP40 socket. MINI-32 for PIC32MZ 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-32 for PIC32MZ via pads marked with TMS, TDO, TCK, TDI.



Key features







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:



download.mikroe.com/examples/starter-boards/mini/ pic32mz/mini-pic32mz-mikrobootloader-usb-hid-v280.zip

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



step 1 - Connecting MINI-32



Figure 1-1: USB HID mikroBootloader window

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

🗊 mikroElektronika l	JSB HID Bootloader	v2.8.0.	0		x
mikroBo	otioade	r	Device	MINI-32 PIC32MZ	•
1 Wait for USB link	4	м	С Туре	PIC32MZ	•
2 Connect to MCU	Disconnect	History Window Attach USB HID device or reset if attached. Waiting MCU response		*	
3 Choose HEX file	Browse for HEX	-01	ected.		
4 Start bootloader	Begin uploading				Ŧ
Bootloading progress bar					
: No files opened.					

Figure 1-2: Browse for HEX

OI 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 Open.

step 4 - Uploading .HEX file

🗊 mikroElektronika U	JSB HID Bootloader \	/2.8.0.0		X
mikroBo	otloadei	Device	MINI-32 PIC32MZ	Ŧ
1 Wait for USB link	4	МСИ Туре	PIC32MZ	Ŧ
2 Connect to MCU	Disconnect	History Window Attach USB HID device or reset if attached Waiting MCU response Connected. Opened: F:\LED Blinking\LedBlinking.hex		*
3 Choose HEX file	Browse for HEX			
4 Start bootloader	Begin uploading	-01		-
Bootloading progress bar				
F: \LED Blinking \LedBlin	king.hex			

Figure 1-4: Begin uploading



mikroElektronika USB HID Bootloader	v2.8.0.0
mikroBootloader	Device MINI-32 PIC32MZ 🔻
1 Wait for 😪	MCU Type PIC32MZ 🔻
2 Connect Disconnect	History Window Attach USB HID device or reset if attached.
3 Choose Browse The For HEX	Connected. Opened: F:\LED Blinking\LedBlinking.hex Uploading: Flash Erase
4 Start Stop uploading	Flash Write
Bootloading progress bar	
: F: \LED Blinking \LedBlinking.hex	01

Figure 1-5: Progress bar



01 You can monitor .HEX file uploading via progress bar

step 5 - Finish upload

mikroElektronika USB HID Bootloader v2.8.0.0	x
mikroBootloader Device	¥
1 Wait Success	-
2 Con Uploading program completed successfully.	*
3 Cho Show details	ш
4 Start Begin Reset device to reen to to address mode.	•
Bootloading progress bar	
: F: \LED Blinking \LedBlinking.hex	

Figure 1-6: Restarting MCU



mikroBo	otioade	Device
1 Wait for USB link	str tr	МСИ Туре
2 Connect to MCU	Connect	History Window Opened: F:\LED Blinking\LedBlinking.hex
3 Choose HEX file	Browse for HEX	Flash Erase Flash Write Completed successfully. Disconnected.
4 Start bootloader	Begin uploading	Reset Reset device to reenter bootloader mode.
Bootloading		

Figure 1-7: mikroBootloader ready for next job

2. Schematic



3. Pinout



4. Dimensions



mils





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