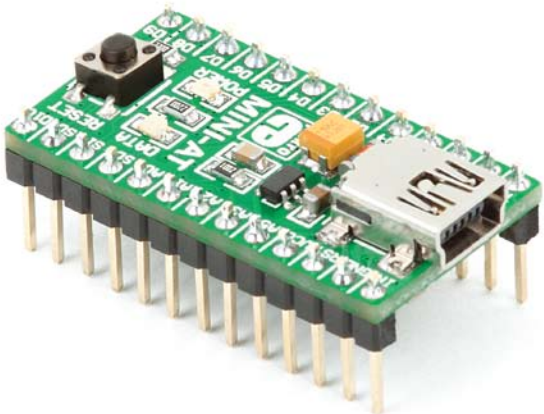


MINI-AT™

Small AVR development board fitted in DIP26 form factor, containing ATmega328 microcontroller.

MINI AVR

MikroElektronika
DEVELOPMENT TOOLS | COMPILERS | BOOKS

TO OUR VALUED CUSTOMERS

I want to express my thanks to you for being interested in our products and for having confidence in Mikroelektronika.

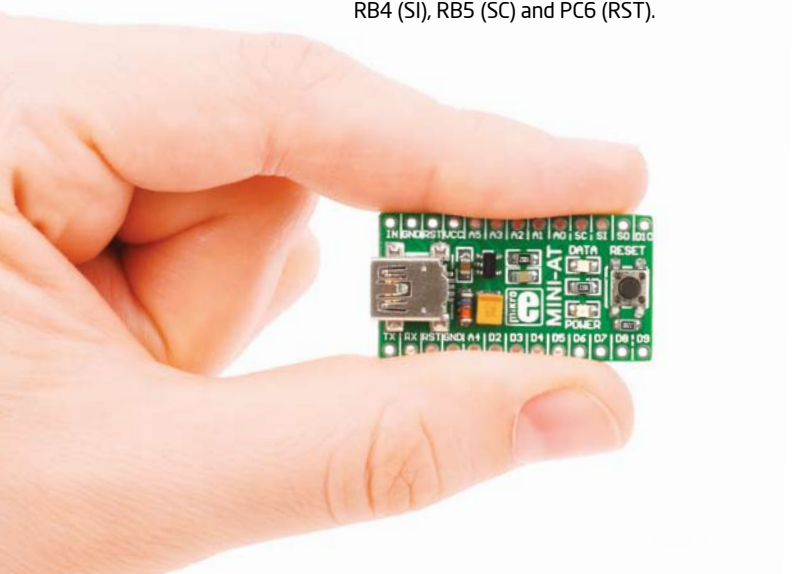
The primary aim of our company is to design and produce high quality electronic products and to constantly improve the performance thereof in order to better suit your needs.

Nebojsa Matic
General Manager

Table of Contents

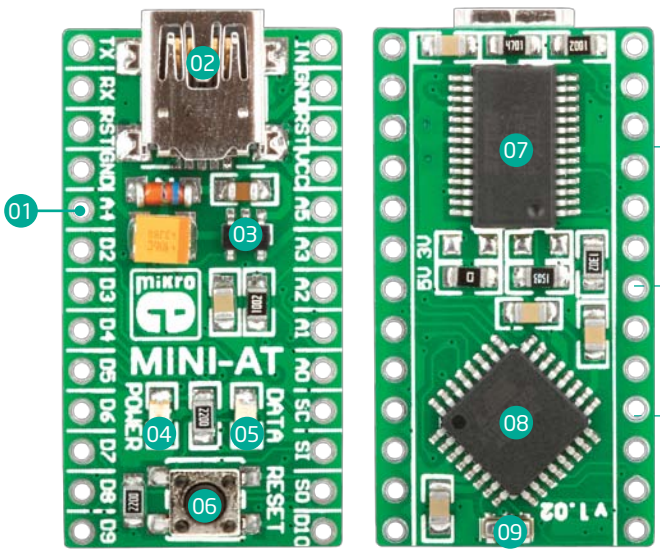
Introduction to MINI-AT

Miniature and powerful development tool designed to work as a stand alone device or as MCU card in DIP26 socket. MINI-AT is pre programmed with bootloader so it is not necessary to have external programmer. If there is a need for external programmer (AVR ISP) attach it to MINI-AT via pads marked with PB3 (SO), RB4 (SI), RB5 (SC) and PC6 (RST).



Key features

01 Connection Pads
02 USB MINI-B connector
03 Power supply regulator
04 POWER supply LED
05 DATA LED
06 Reset button
07 FTDI IC
08 Microcontroller ATmega328
09 Crystal oscillator



System Specification

power supply

3.3V or 5V via USB (depending on which MINI-AT board you are using)

power consumption

depends on MCU state (max current is 300mA)

board dimensions

33.02 x 17.78mm (1.3 x 0.7")

weight

~4g (0.009 lbs)

1. Programming with Bootloader

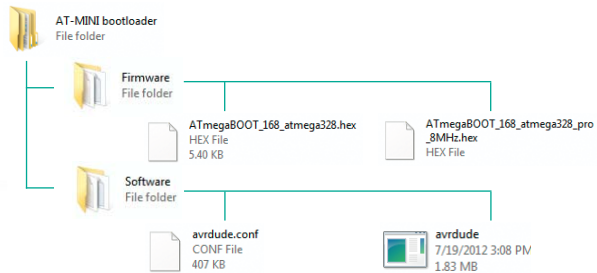
When you are ready to start writing your first projects for MINI-AT, you need to download and install the desired AVR compiler. Choose between mikroC, mikroBasic and mikroPascal compilers, which can be found on following address:

http://www.mikroe.com/eng/categories/view/21/avr-compilers/

After the installation run the compiler and write the desired code. You can also use provided LedBlinking example as your first project. When you are done writing the code click on **Project->Build (F11)** option to create output .HEX file. Now you need to upload the generated .HEX into the MCU. But before that connect MINI-AT to a PC via MINI-B USB cable (**Figure 1-1**).

Now you will need to download and install the bootloader application and integrate it with your compiler. Download link is available on the MINI-AT webpage. We also provided a nice video tutorial which will guide you though the bootloading process.

http://www.mikroe.com/eng/products/view/649/mini-at-board/



NOTE: *If you accidently overwrite the bootloader program it is possible to load it again. In the Firmware folder you can find bootloader .hex files which can be loaded into the microcontroller via the AVR ISP programmer.*

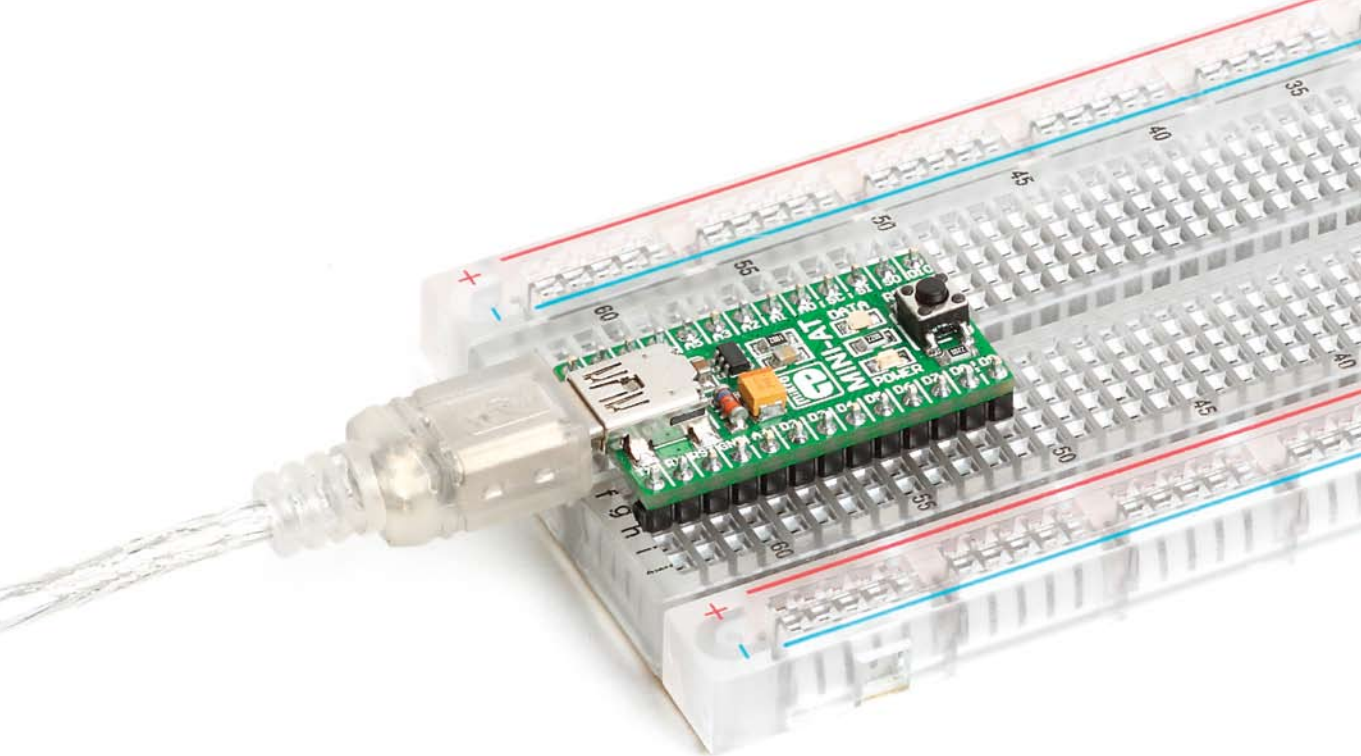


Figure 1-1: Connected MINI-AT via USB cable

2. Schematics

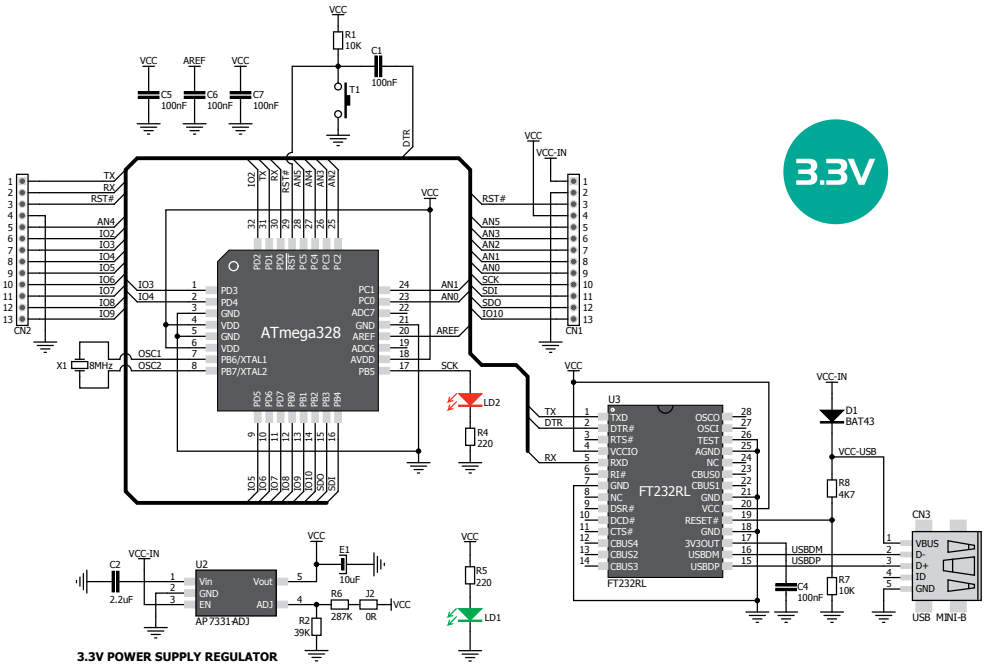


Figure 2-1: MINI-AT schematic with 3.3V power supply

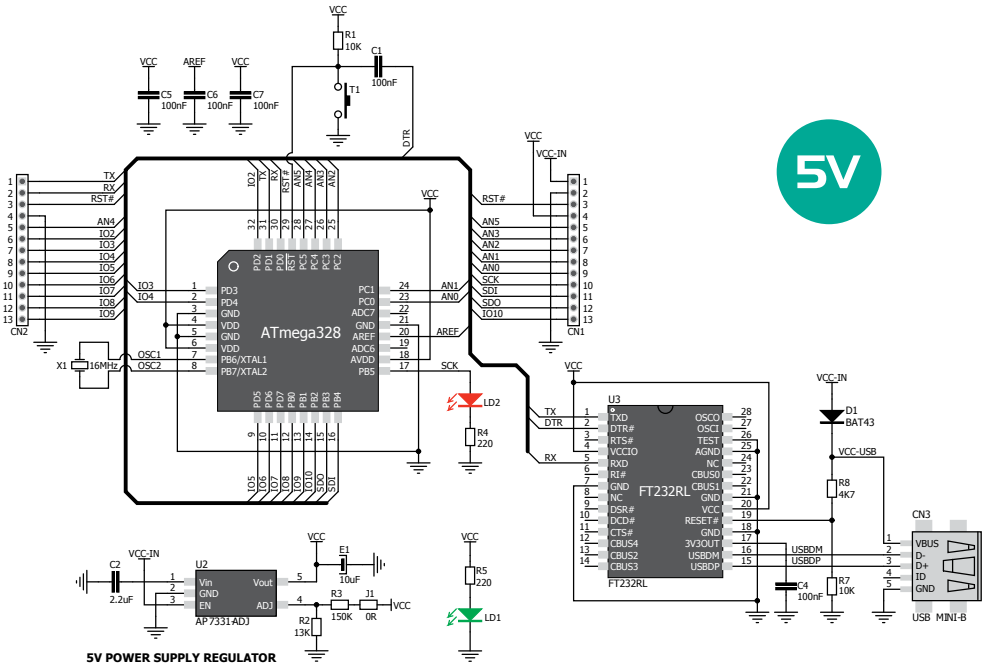
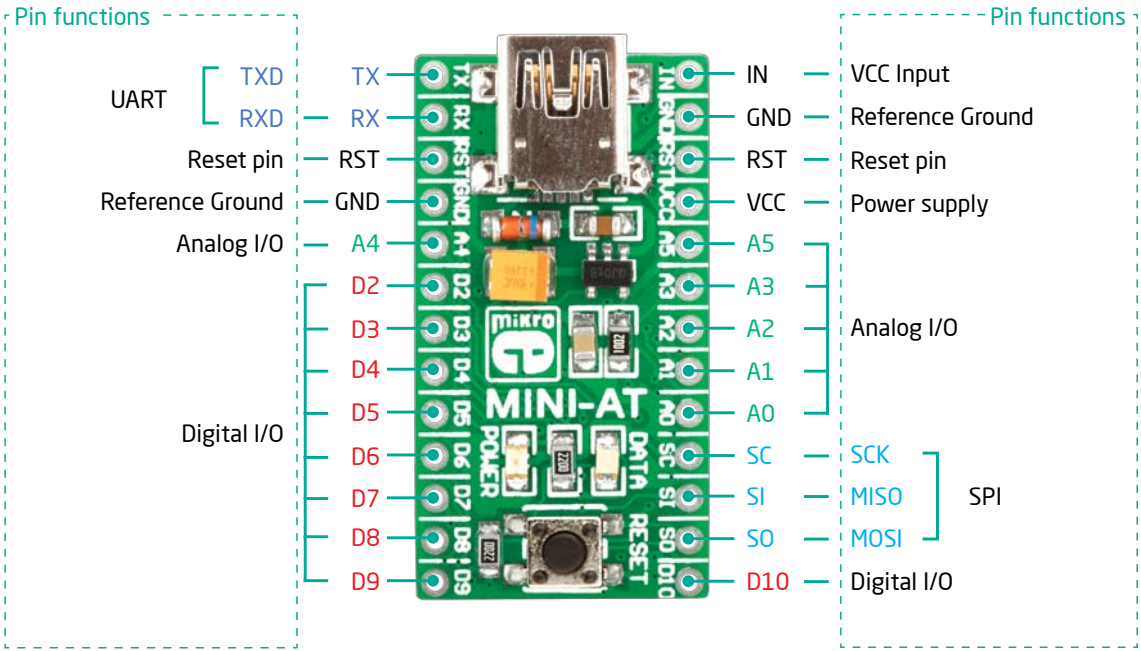
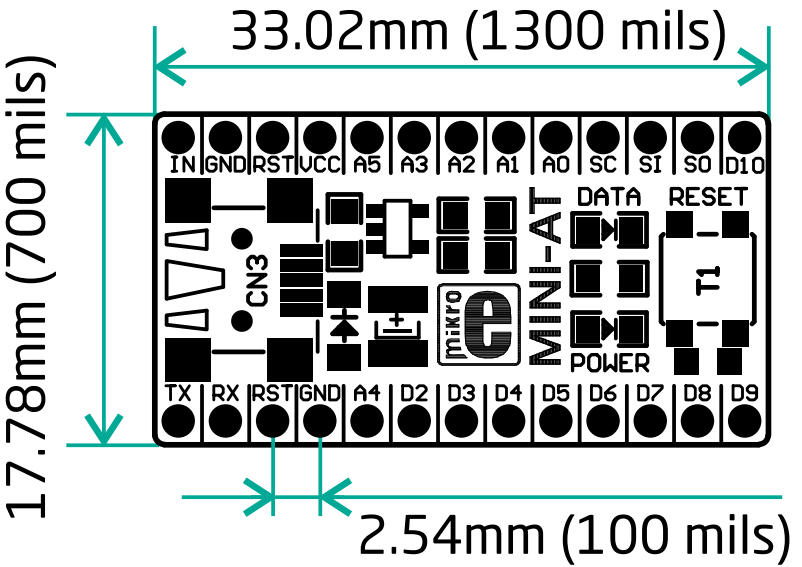


Figure 2-2: MINI-AT schematic with 5V power supply

3. Pinout


Pin functions
UART
TXD
RXD
Reset pin
Reference Ground
Analog I/O
Digital I/O
TX
RX
RST
GND
A4
D2
D3
D4
D5
D6
D7
D8
D9
MINI-AT
IN
GND
RST
VCC
A5
A3
A2
A1
A0
SC
SI
SO
D10
Pin functions
VCC Input
Reference Ground
Reset pin
Power supply
Analog I/O
SCK
MISO
MOSI
SPI
Digital I/O
Digital lines
Analog Lines
SPI Lines
UART lines

4. Dimensions



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