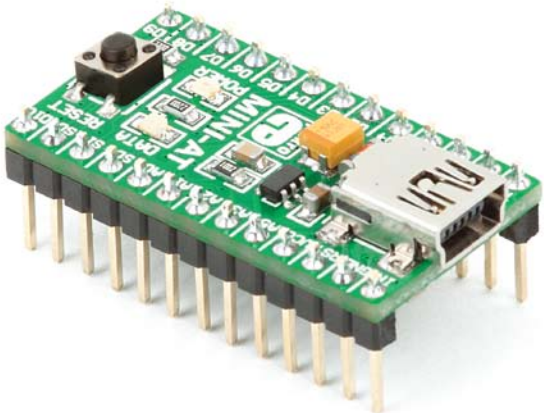


MINI-AT™

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

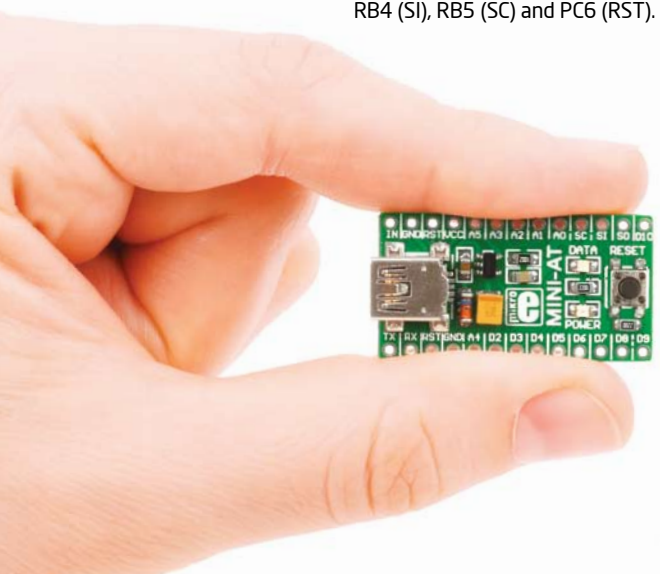
The ATMEGA and Windows® logos and product names are trademarks of ATMEL® and Microsoft® in the U.S.A. and other countries.

Table of Contents

Introduction to MINI-AT 4
Key features 4
System Specification 5
1. Programming with Bootloader 6
2. Schematics 8
3. Pinout 10
4. Dimensions 11

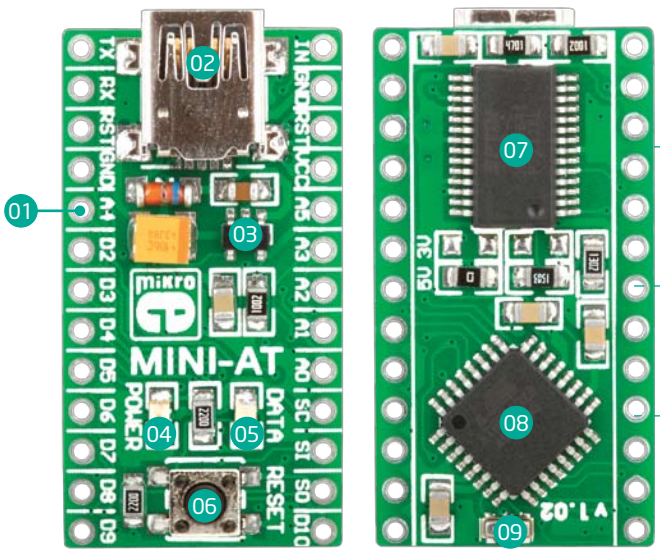
Introduction to MINI-AT

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

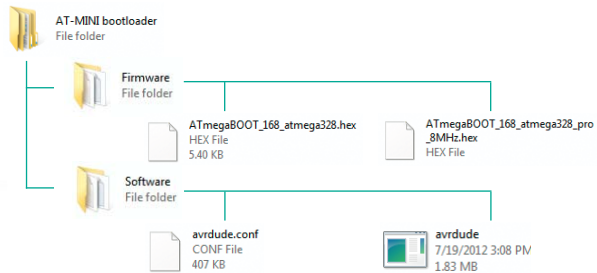
When you are ready to start writing your first projects for MINI-AT, you need to download and install the desired AVR compiler. Choose between mikroC, mikroBasic and mikroPascal compilers, which can be found on following address:

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.*

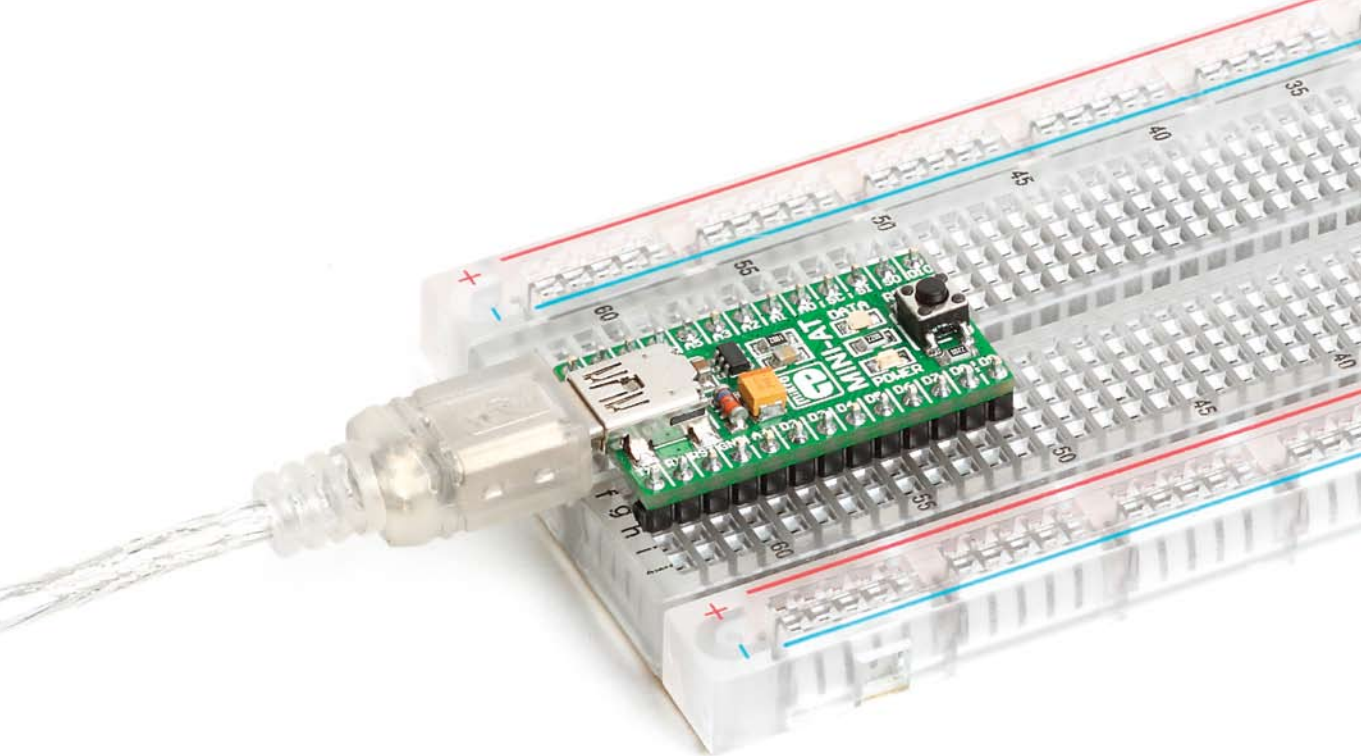


Figure 1-1: Connected MINI-AT via USB cable

2. Schematics

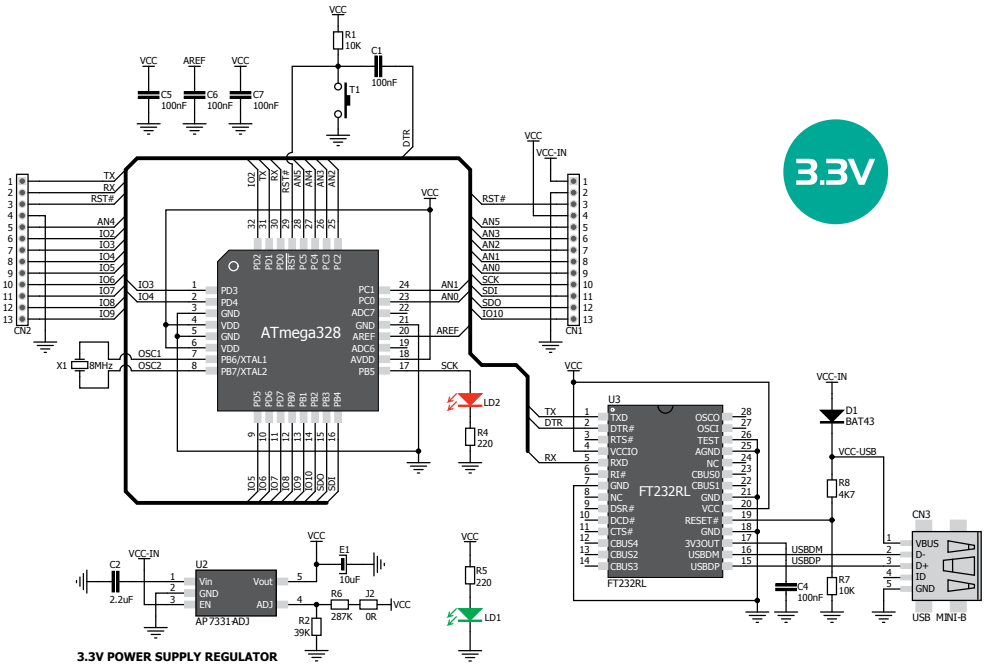


Figure 2-1: MINI-AT schematic with 3.3V power supply

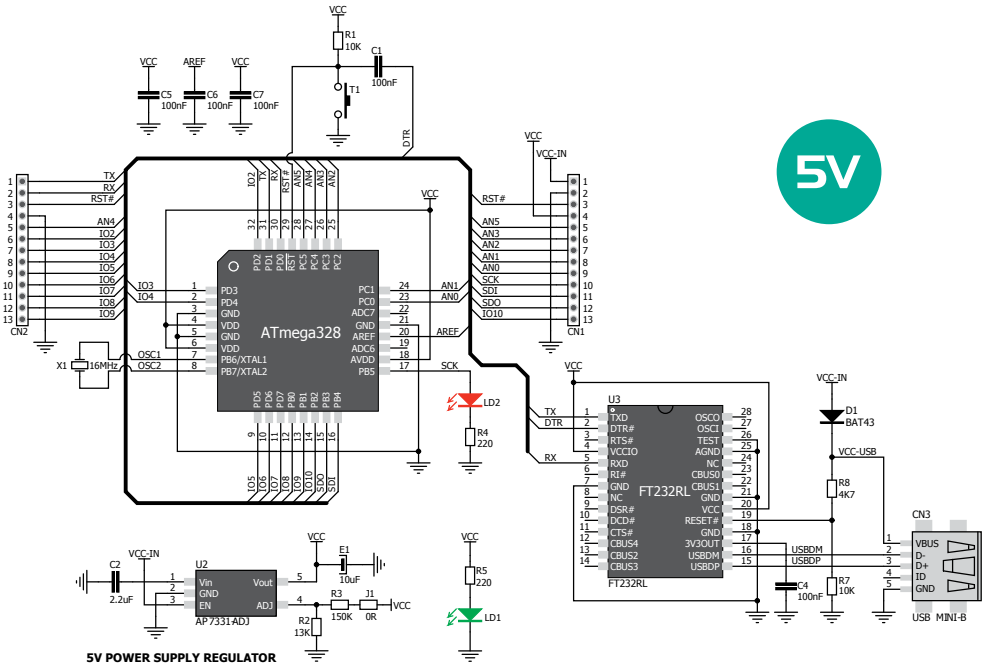
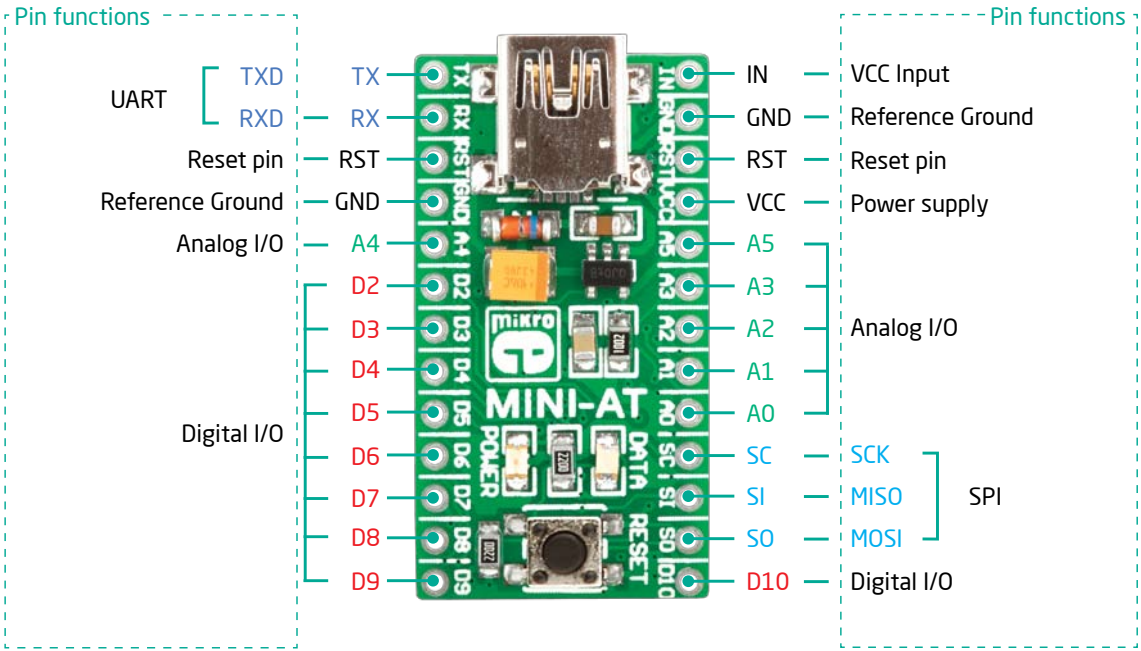
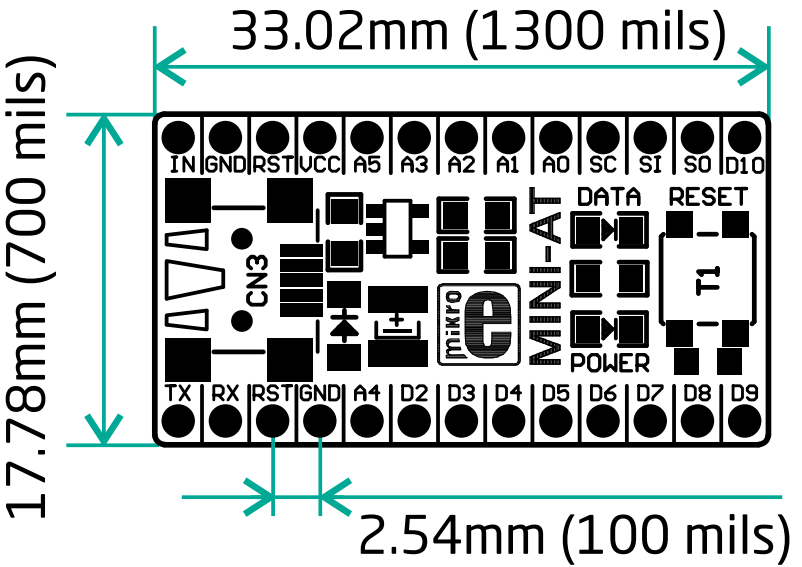


Figure 2-2: MINI-AT schematic with 5V power supply

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



Notes:

Notes:

Notes:

DISCLAIMER

All the products owned by MikroElektronika are protected by copyright law and international copyright treaty. Therefore, this manual is to be treated as any other copyright material. No part of this manual, including product and software described herein, may be reproduced, stored in a retrieval system, translated or transmitted in any form or by any means, without the prior written permission of MikroElektronika. The manual PDF edition can be printed for private or local use, but not for distribution. Any modification of this manual is prohibited.

MikroElektronika provides this manual 'as is' without warranty of any kind, either expressed or implied, including, but not limited to, the implied warranties or conditions of merchantability or fitness for a particular purpose.

MikroElektronika shall assume no responsibility or liability for any errors, omissions and inaccuracies that may appear in this manual. In no event shall MikroElektronika, its directors, officers, employees or distributors be liable for any indirect, specific, incidental or consequential damages (including damages for loss of business profits and business information, business interruption or any other pecuniary loss) arising out of the use of this manual or product, even if MikroElektronika has been advised of the possibility of such damages. MikroElektronika reserves the right to change information contained in this manual at any time without prior notice, if necessary.

HIGH RISK ACTIVITIES

The products of MikroElektronika are not fault - tolerant nor designed, manufactured or intended for use or resale as on - line control equipment in hazardous environments requiring fail - safe performance, such as in the operation of nuclear facilities, aircraft navigation or communication systems, air traffic control, direct life support machines or weapons systems in which the failure of Software could lead directly to death, personal injury or severe physical or environmental damage ('High Risk Activities'). MikroElektronika and its suppliers specifically disclaim any expressed or implied warranty of fitness for High Risk Activities.

TRADEMARKS

The MikroElektronika name and logo, the MikroElektronika logo, mikroC™, mikroBasic™, mikroPascal™, EasyAVR™, mikroBUS™, Click Boards™, MINI-AT™, mikroProg™, and mikromedia™ are trademarks of MikroElektronika. All other trademarks mentioned herein are property of their respective companies.
All other product and corporate names appearing in this manual may or may not be registered trademarks or copyrights of their respective companies, and are only used for identification or explanation and to the owners' benefit, with no intent to infringe.

Copyright © MikroElektronika, 2012, All Rights Reserved.

If you want to learn more about our products, please visit our website at www.mikroe.com
If you are experiencing some problems with any of our products or just need additional information, please place your ticket at www.mikroe.com/esupport
If you have any questions, comments or business proposals, do not hesitate to contact us at office@mikroe.com

MINI - AT Manual
ver. 1.02

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Development Boards & Kits - AVR ***category:***

Click to view products by MikroElektronika ***manufacturer:***

Other Similar products are found below :

3264 ATAVRPARROT ATSAMR21B18MZ210PAT CS-EASE-03 EV35F40A A100053 1222 MIKROE-2474 1260 KIT0018 1405 DEV-10914 1500 1639 1657 174 193 2000 2010 3208 ATRCB256RFR2 ATXMEGAA1U-XPRO 2085 ATSTK600-SC48 2290 2466 2488 DEV-11520 2590 296 3000 ATAVRBLE-IOT ATTINY416-XNANO DFR0010 DFR0100 DFR0164 DFR0191 DFR0221 DFR0222 DFR0225 DFR0233 DFR0282 DFR0327 DRI0027 KIT0111 K030007 DFR0351 DEV-13614 KIT-14265 3379