Groundstudio Jade Pro Micro development board

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Board Pinout

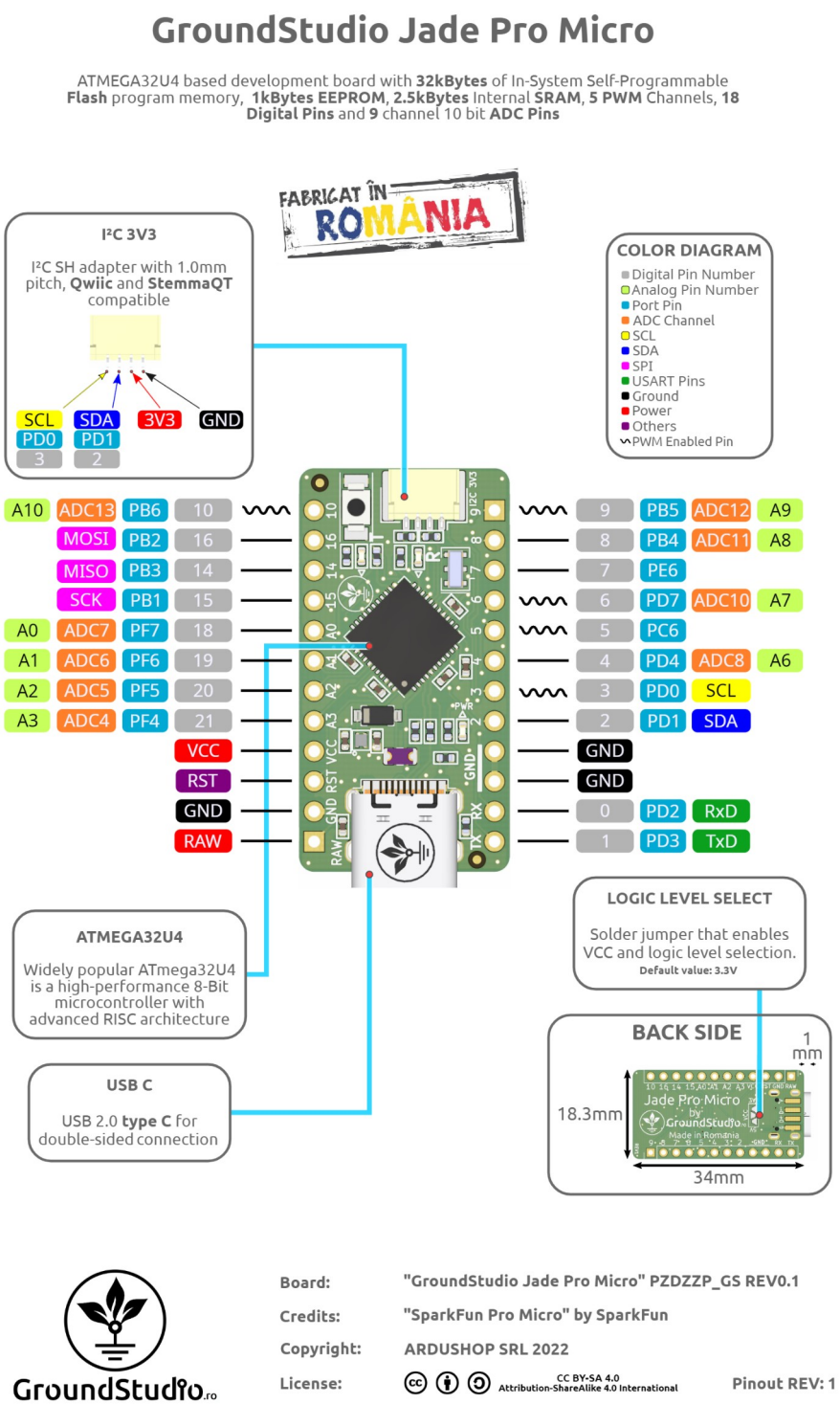

Figure 1: GroundStudio Jade Pro Micro pinout [Revision 1]

Board Circuit Schematic

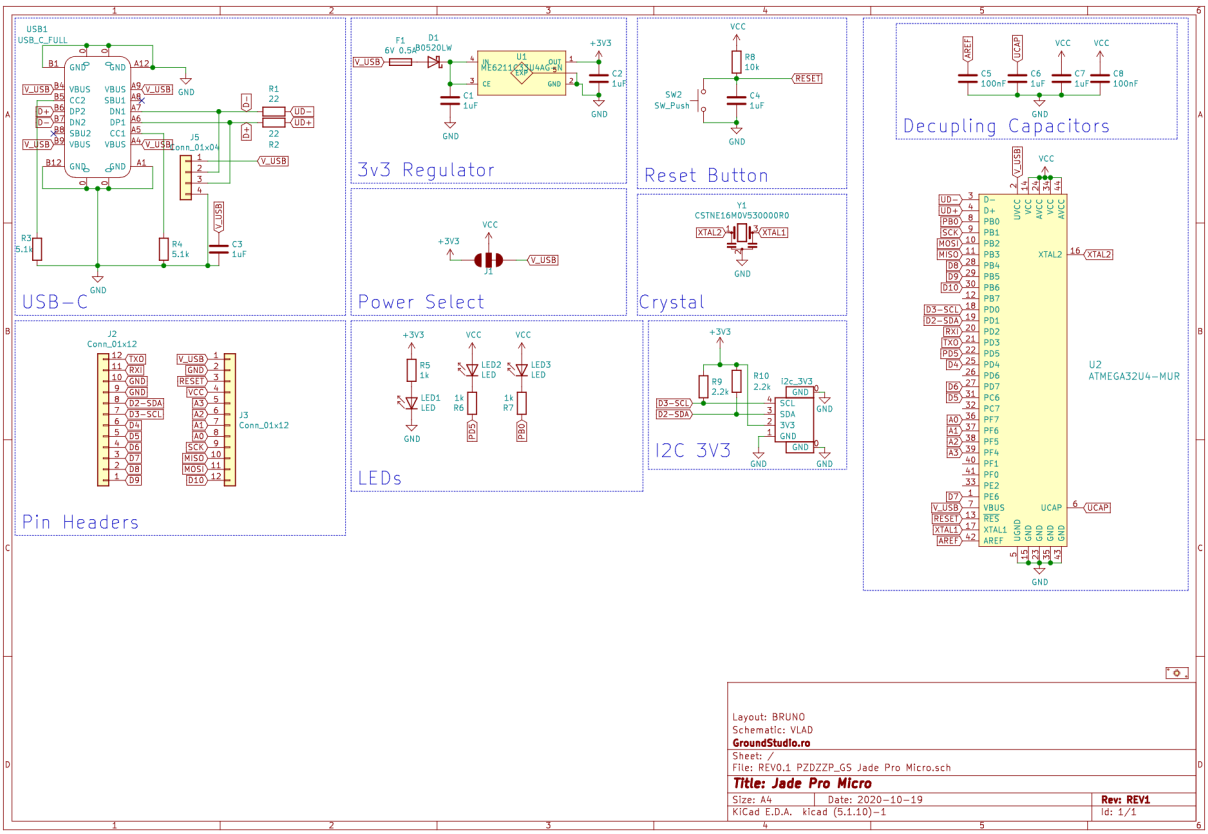

Figure 2: GroundStudio Jade Pro Micro schematic circuit [Revision 0.0.1]

Open Source

This is an Open Source project, you can find all the technical documents online:

https://github.com/GroundStudio/GroundStudio_Jade_Pro_Micro

License

Overview

Because we want to bring real improvements to the customer's liking, the Jade Pro Micro development board is an improved version of the classic Pro Micro board. The board has the same dimensions as the original Pro Micro, but we have added some additional features by reducing some components on the board and improving the microUSB adapter with a usb type C adapter. Because we want an easier use of the product, we have also added an adapter I2C_3V3 for quick connection via I2C to compatible devices.

This little board has all the Arduino features you're familiar with: 9 10-bit ADC channels, 5 PWM pins, 18 digital I/O pins, as well as Rx and Tx hardware serial connections. It works at a frequency of 16Mhz and a supply voltage of 5V.

Power pins

- RAW: must be between the values 4.3V and 5.5V

- VCC: this voltage has a default value of 5V but can be changed with the help of the VCC selection jumper on the back of the pcb.

- RST: can be used to reboot Jade Pro Micro.

- GND: this pin is the common ground voltage (reference 0V) for the system.

I/O pins

The I/O pins of the Pro Micro board are 18 in total. Each pin can be used as a digital input or output. These pins are referred to in the Arduino IDE by an integer value between 0 and 21 (pins A0-A3 can be referred to digitally using either their analog or digital pin number).

Nine pins have analog-to-digital converters (ADCs) and can be used as analog inputs with 10-bit resolution. These are useful for reading potentiometers or other analog devices that use the function "analogWrite([pin],[value])"

There are also UART (serial), I2C and SPI hardware pins. They can be used to interface with digital devices such as LCDs, IMUs and other serial sensors.

Jumper for voltage selection 3.3V (EXPERIMENTAL)

The Jade Pro micro development board is built to work implicitly with the voltage of 5V. This can be changed using the "VCC" jumper on the back of the pcb.

The operating voltage of the Jade Pro Micro development board determines the maximum allowable voltage on any of the I/O pins, in the case of this board, be careful not to interfere with different logic levels.

It is very important to know which voltage is selected, so you will have to make the difference when you get to load the code in the Arduino IDE.

How we power the Pro Micro

Since the main feature of the Jade Pro Micro is the USB functionality, this is also the most common power supply, but alternatively it can be powered through the "RAW" or "VCC" pin.

A power supply entering the "RAW" pin must be between the values of 4.3V and 5.5V.

If you supply the board through the "VCC" pin, note that it is not stabilized. Use this type of power supply only if you have a source that provides an accurate, stabilized voltage of 5V.

Technical specifications

Microcontroller: **ATmega32U4** with Pro Micro Bootloader

Voltage regulator: ME6211C33U4AG-N (3V3/500mA)

Digital I/O pins: **18** (of which 5 PWM output pins (3, 5, 6, 9, 10))

Analog Input Pins: **9** ((A0, A1, A2, A3, 4(A6), 6(A7), 8(A8), 9(A9), 10(A10)))

USB 2.0 **type C** adapter

I2C_3V3 adapter (SH type with 1mm pitch)

Dimensions approx. pcb: **34mm x 18.3mm**

Legal disclaimer notice

This development board is considered a subassembly in accordance with FCC CFR Title 47 §15.101(e):

https://www.ecfr.gov/current/title-47/chapter-I/subchapter-A/part-15/subpart-B/section-15.101#p-15.101(e)

The device does not have a standalone functionality and does not include an enclosure or power supply.

The device is mainly intended for development and prototyping but it can be integrated into a product. In this case it is the responsibility of the developer/manufacturer to obtain all the necessary certifications.

GroundStudio is a registered trademark of ARDUSHOP SRL:

https://www.tmdn.org/tmview/#/tmview/detail/EM500000018364087

Developer info

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Datasheet Revision History

[Revision 1] - Initial version release