

the Epi 32U4 is a tiny, Arduino-compatible, USB Type-C dev board powered by the ATmega32U4 microcontroller. It's designed to be as small as practically possible, and it provides quite a few protective features to keep it operating well in noisy environments. That includes a fuse and ESD protection as well as a ferrite bead and a low-pass filter for analog reference in case the power supply is noisy. It can easily be soldered directly to another PCB thanks to the castellated headers and flat bottom, or screwed down and wired by hand.

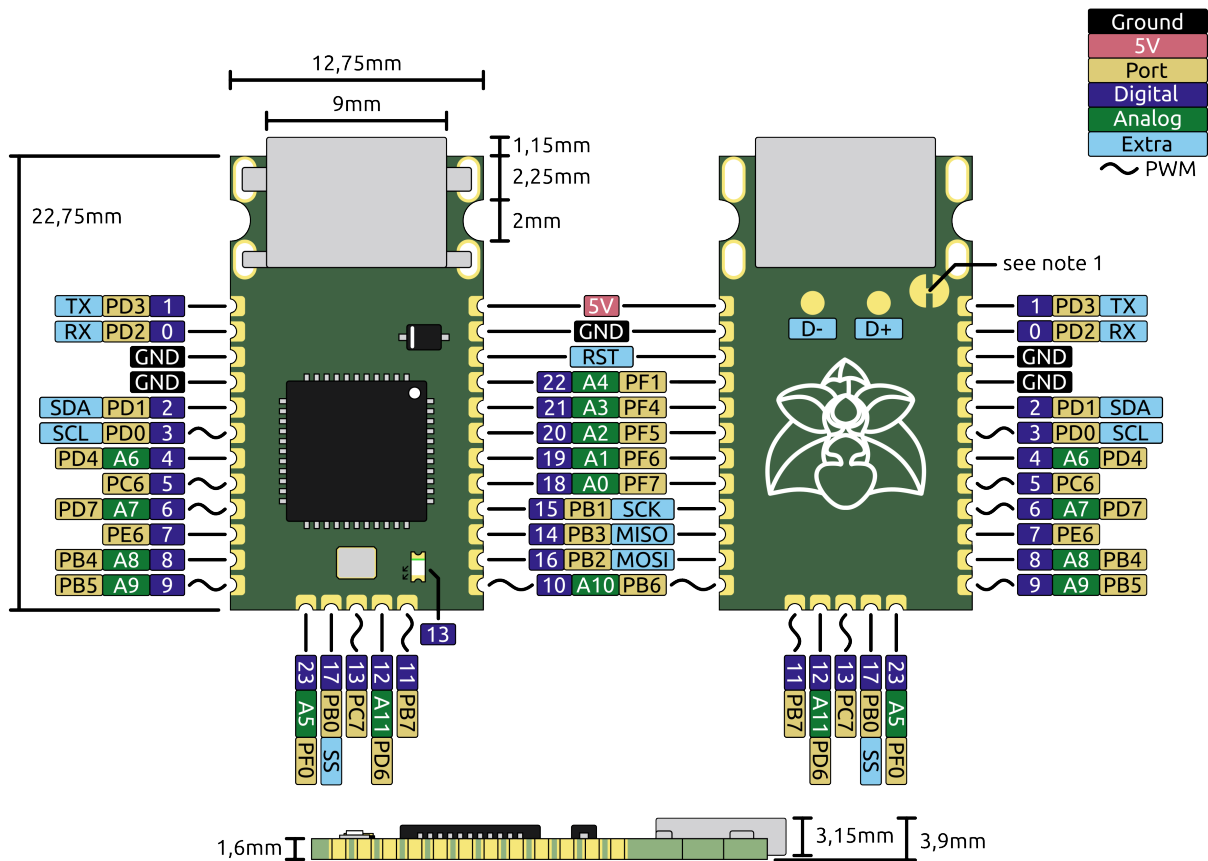
## Features:

- ATmega32U4-MU<sup>1</sup>
  - Runs at 16MHz with a high-precision crystal oscillator
  - 32KB flash memory
  - 2,5KB SRAM
  - 1KB EEPROM
- Accepts 4,5-5,5V
- Castellated pins at a 1,27mm spacing
- ESD protection on the USB data lines and power input
- 500mA polyfuse on the USB power line
- Ferrite bead on the USB power line
- Low-pass filter for the analog voltage reference
- 24 usable IOs
- Portruding USB-C port with screw mounting slots beside it
- LED on pin 13
- Operating temperature range of -40°C to 85°C
- Made in the EU(Sweden and Germany)
- Open source under the CERN OHL-P licence

<sup>1</sup> See data sheet for more details:

[https://ww1.microchip.com/downloads/en/DeviceDoc/Atmel-7766-8-bit-AVR-ATmega16U4-32U4\\_Datasheet.pdf](https://ww1.microchip.com/downloads/en/DeviceDoc/Atmel-7766-8-bit-AVR-ATmega16U4-32U4_Datasheet.pdf)

# Pinout and dimensions:



not to scale

<sup>1</sup> This jumper connects the USB connector's shield directly to ground, as it should be if powered entirely through the USB port. Cut if you intend to use the board with USB and an external power supply simultaneously. When cut the shield will instead be routed through a dampening circuit to ground.