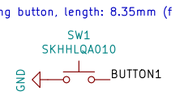
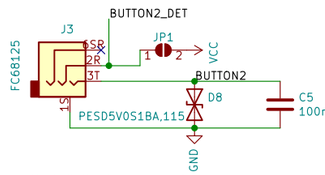
Button 1 (internal)

long button, length: 8.35mm (from pin)



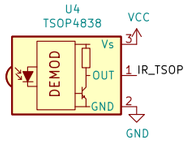
Button 2 (ext. with ADC)



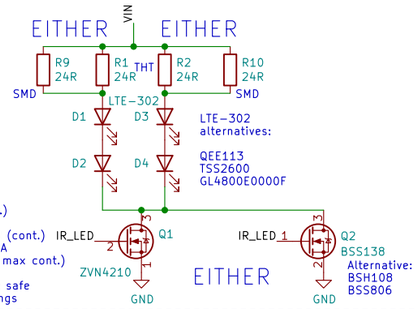
D8–9 & C5–6 might be DNP in construction kit

Note: if external power supply is needed (e.g. sensor connected via jack plug), bridge JP1.
Via pin D3 (input_pulldown) the voltage can be detected.
Button 2 is connected to D1 (v2 & v3 board) and D15/A1 (v3 board only).

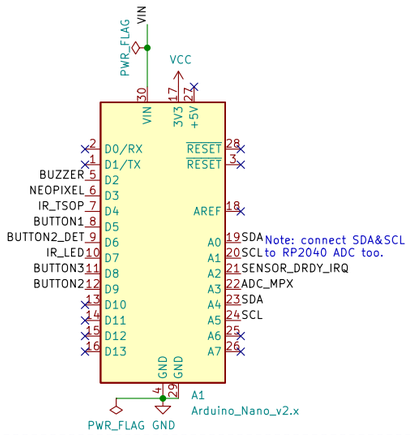
IR (infrared) RX



IR (infrared) TX

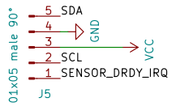


Arduino Nano Connect RP2040

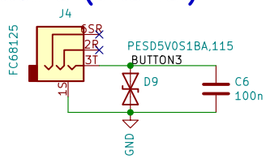


Note: connect SDA&SCL to RP2040 ADC too.

Sensors

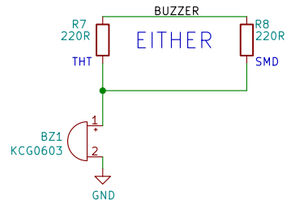


Button 3 (external)

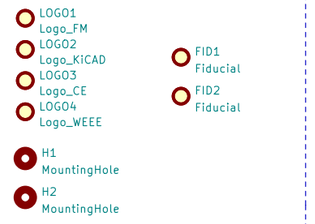


Jacks (same as on FABI)
Cliff FC68125
RS Pro 805-1655
Lumberg 1503 19
Aliexpress: "PJ321C" hard to find, here is a link:
www.aliexpress.com/item/32665420060.html
Note: might not fit that well!

Buzzer

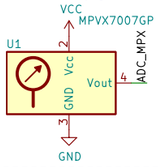


Mechanical



Pressure sensor

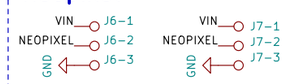
Alternative: DNP MPVX sensor
and use the pin header for an external
sensor (e.g. hall sensor for FLipPad)



EITHER

place the sensor board with the pressure sensor here
TODO: design sensor board with Honeywell MPR series

Neopixel



Note: place only if necessary
(e.g. NP ring in case)

Breaking changes:
* !! new I2C address of EEPROM: 0b1010001
  (prev: 0b1010000)
* 3 LEDs are replaced by a Neopixel connector (pin D5)

Additions:
* Button 2 is connected to A1 too with JP1
  3V3 can be provided to plug.
* D3 can be used to detect if there are 3V3 on button 2
* Instead of MPX pressure sensor, a breakout for Honeywell MPR series (I2C)
  can be connected to J7

Minor changes:
* Program button is NC
* 4 IR LEDs
* AUX header is moved 4mm to the sensors

Orders in addition to BOM

FLipMouse
* Silicon tube, 2x4mm, ~5cm length
* LuerLock with M5 screw
* Sensor board PCB (see second KiCAD project & BOM)
* TBA: screws according to case
* Mouthpieces

FLipPad
* Glide adapter PCB (see addons folder for KiCAD project & BOM)

Both:
* Neopixel Strip (one LED needed)
* 3D printed case (depending on type)
* HotShoe Adapter
* USB cable with magnetic plug
* Packaging

These parts should be placed in the .xls BOM file.

<beni@asterics-foundation.org>
Benjamin Aigner
AsTeRICS Foundation

Sheet: /
File: FM3_mainboard.kicad_sch

Title: FLipMouse (FLipPad) Mainboard

Size: A3	Date: 2022-04-07	**Rev: v3.1**
KiCad E.D.A. kicad 6.0.6+dfsg-1		Id: 1/1