LelePad
Assembly Instructions

Last updated 2021.9.6

LeleLab

⚠️ Safety Precautions

- Read this Safety Precautions first.
- It's recommend that you first learn basic soldering technique if you have no PCB soldering experience.
- Be careful when using Solder Iron. It is very hot and could damage your body or other appliances, even power cords.
- Make sure to solder in a well ventilated environment to avoid harmful fume intake.
- When soldering, always disconnect the board first to prevent damaging the PCB.
- PCB cleaning solvents are volatile, flammable, and irritant. Please beware of potential fire hazard and use Q-tips to avoid direct contact of the skin. (Cleaning the PCB after soldering is optional, you could skip the step. It won't affect the functionality of the product.)
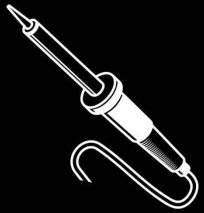- We recommend Pb-free soldering tin, as it's better for both your health and environment.

Menu

1.1 Prepare - See what we have

五金件 / 轴体 / 卫星轴

定位版、主板、底板 三合一 PCB

卫星轴缓冲垫

Switch Diode

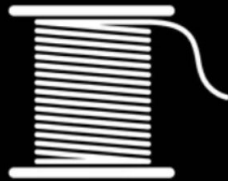Button

OLED 屏幕带插座 / 主控芯片 / 6P双排针
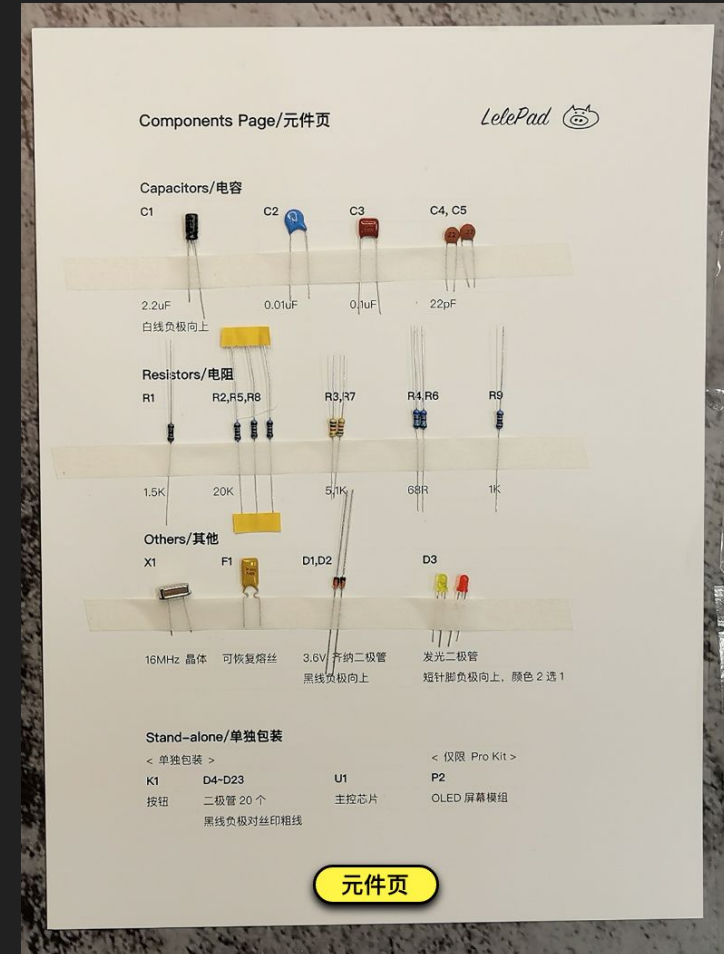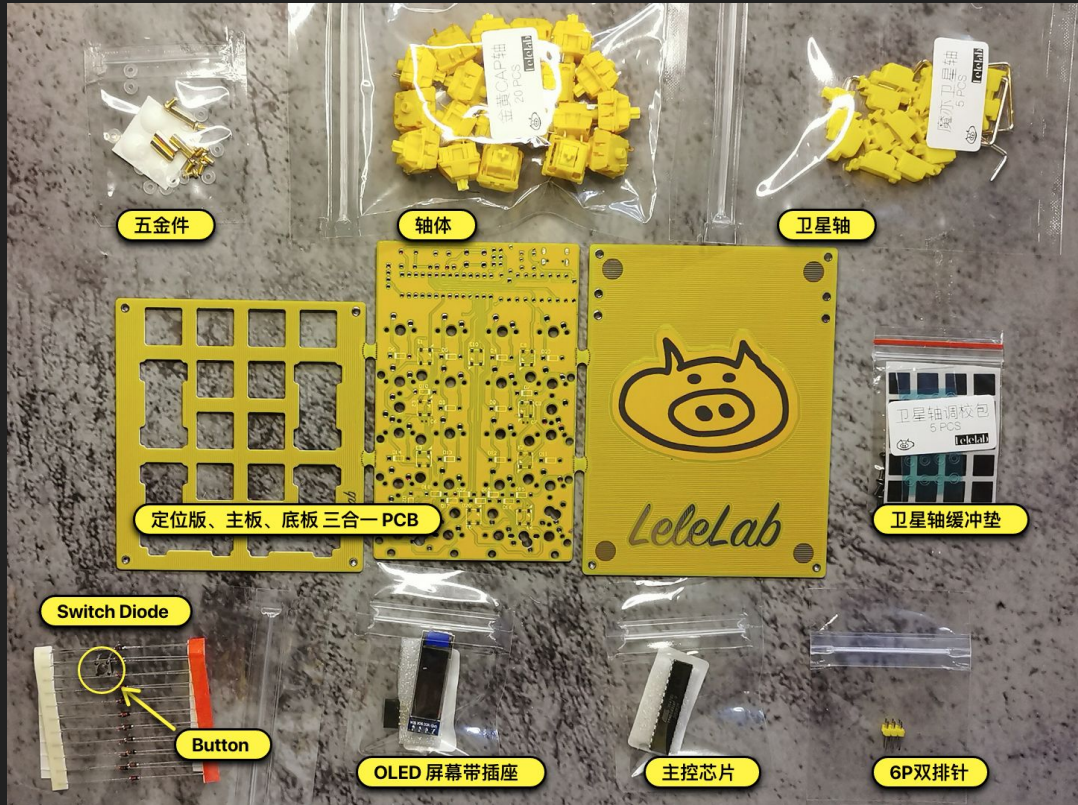
Miscellaneous components are put on the components page

1.2 Prepare - Tools Needed

Soldering
Iron

Solder

(Pb-Free
recommended)
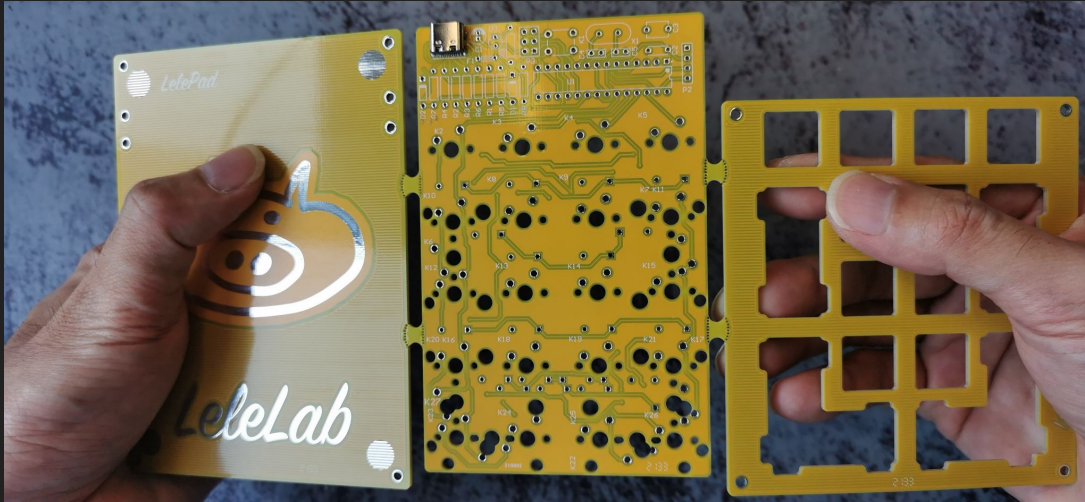
Wire Cutter

Cross

Screw Driver

Cleaning

Solvent

(Optional)

2. Solder Components

1. Breaking off the PCB
2. Get to know Component Designators
3. Soldering Resistors
4. Soldering Capacitors
5. Soldering Diodes
6. Soldering MCU
7. Soldering Other Components

You can refer this long video of the whole process at, https://b23.tv/creVQ5 (in Chinese)
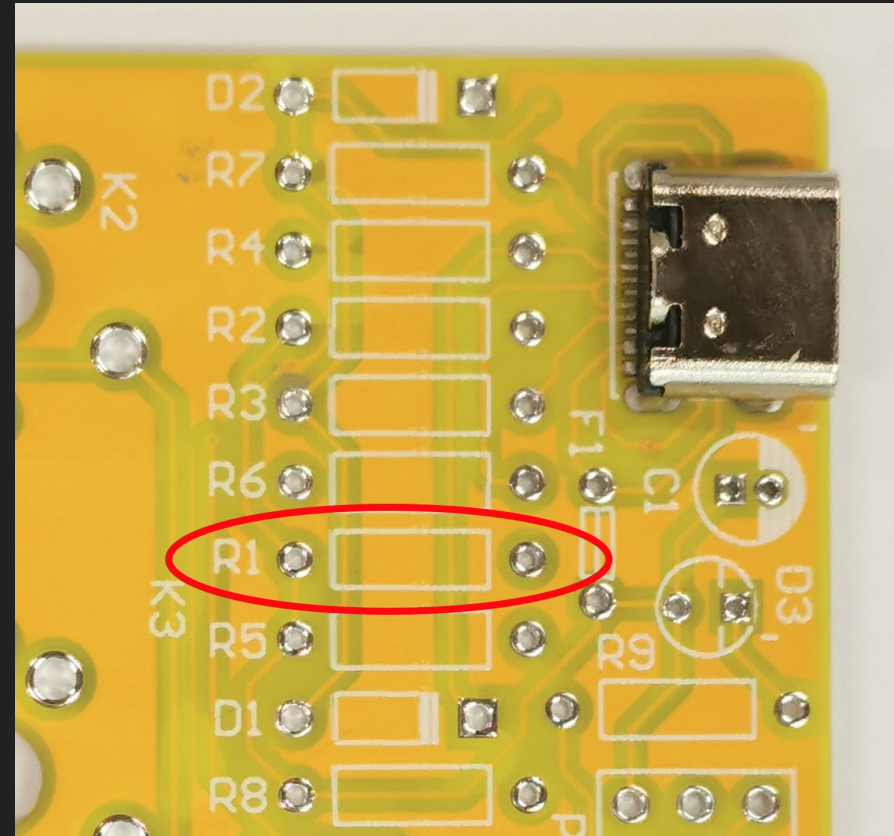
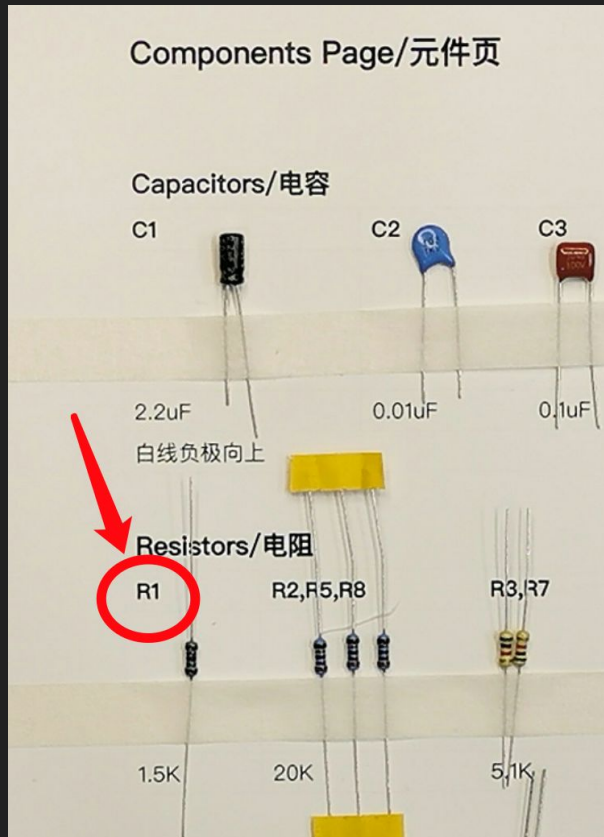# 2.1 Break off the PCB

Break off the PCB into 3 parts: (from left to right) the base, the main PCB, and the switch plate
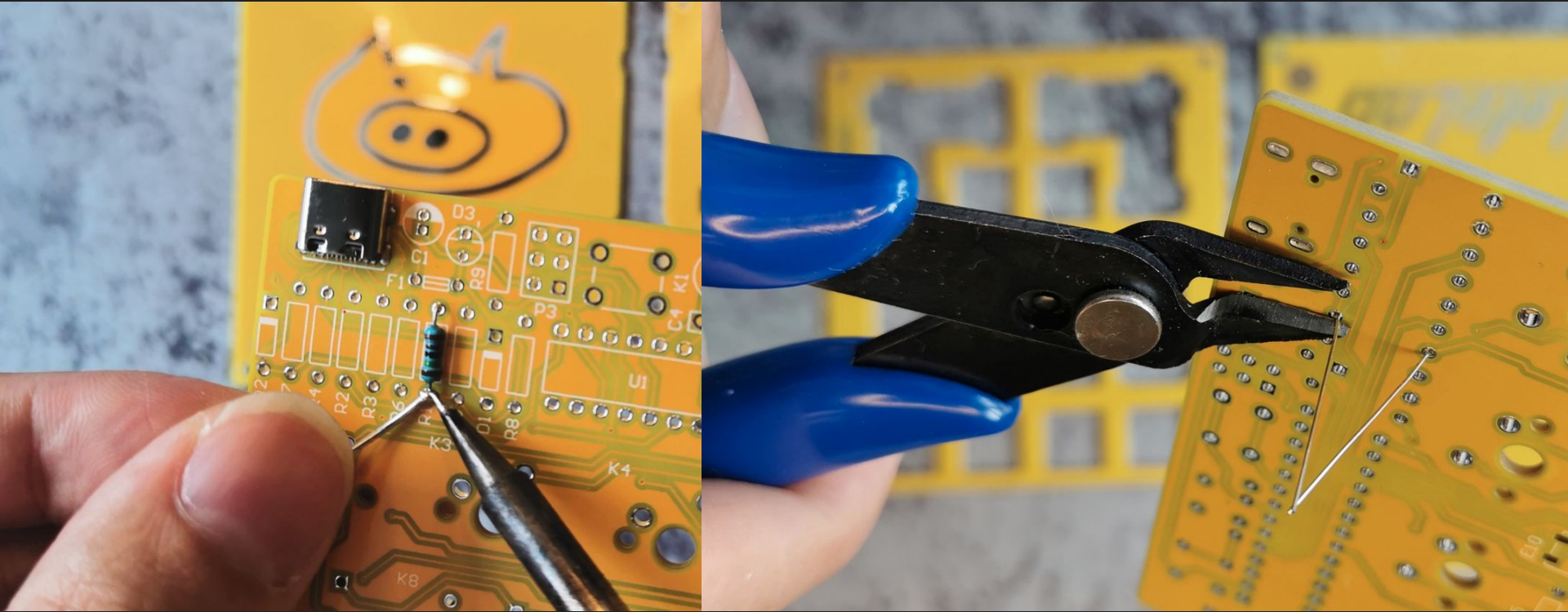

Use a vice/pincer to remove the excessive connections

2.2 Get to know PCB designators

Every designator on components pages corresponds to designators on PCB. For example, the R1 components should be soldered onto the PCB where R1 is also marked.
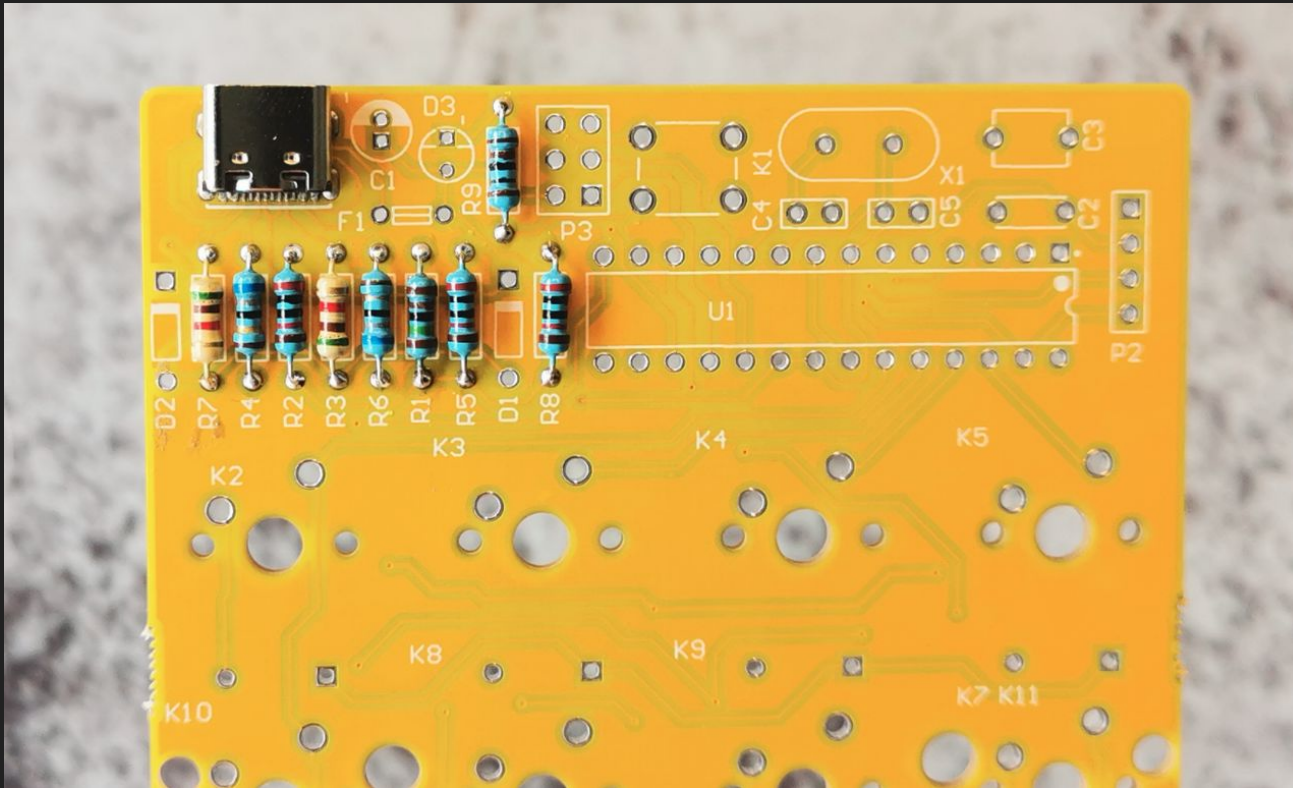
2.3 Solder Resistor（R1）

Place the component as close to the PCB as possible. We suggest solder the components from the TOP side (where the USB Port is) and remove the protruding pins from the back side.
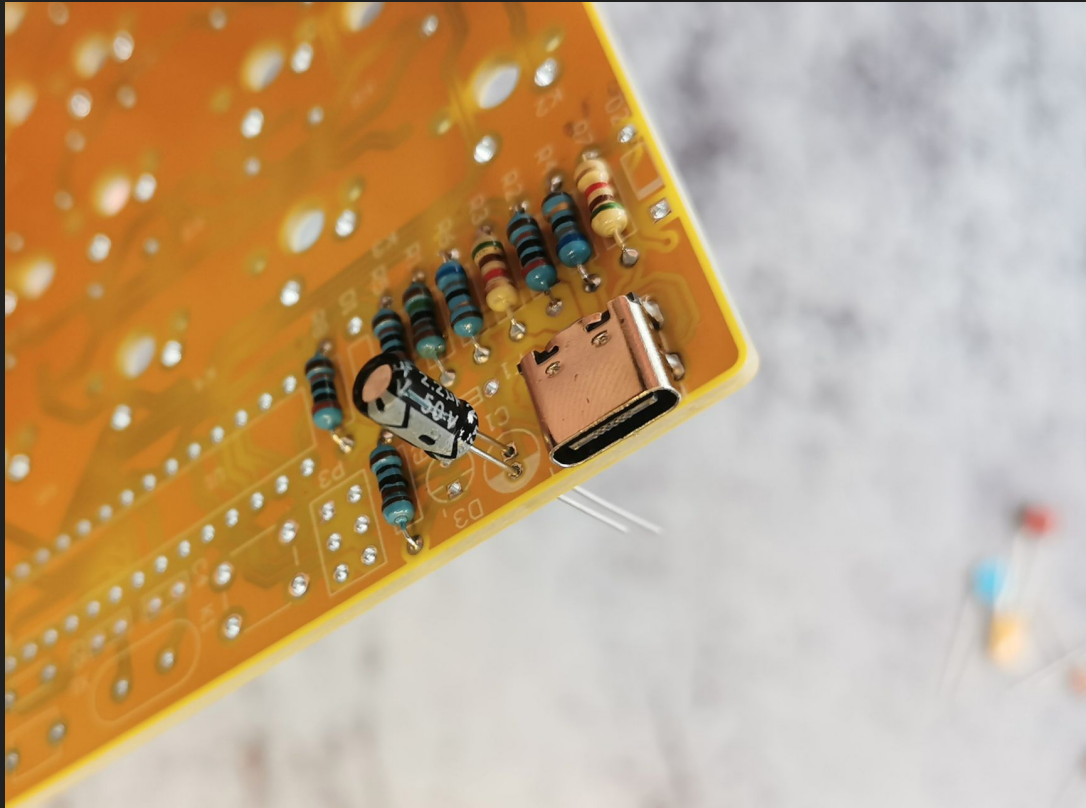Resistors have no polarity. So you don't have to worry about installing them backwards.
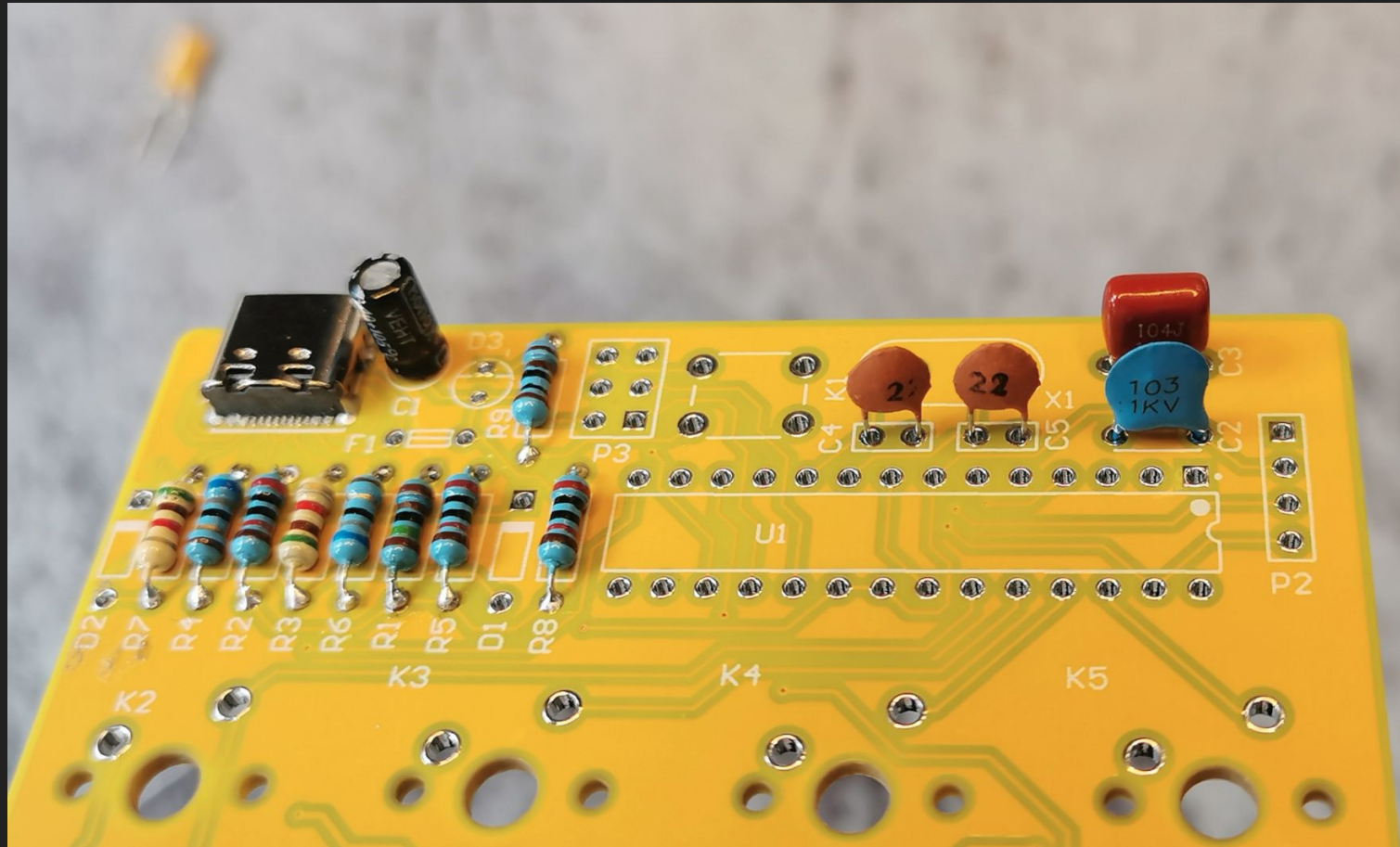
2.3 Soldering Resistors (R2 ~ R9)

All resistors soldered.

2.4 Soldering Capacitors (C1)

The white stripe and minus sign (-) on the Capacitor indicates the negative side. The negative side on the PCB is also marked. Make sure the capacitor is properly installed, then apply solder from the BACK side.

2.4 Soldering Capacitors（C2 ~ C5）

Install and solder the remaining capacitors（C2,C3,C4,C5）. They have no polarity. So no need to care about the directions.

# 2.5.1 Soldering Zener Diodes (D1,D2)
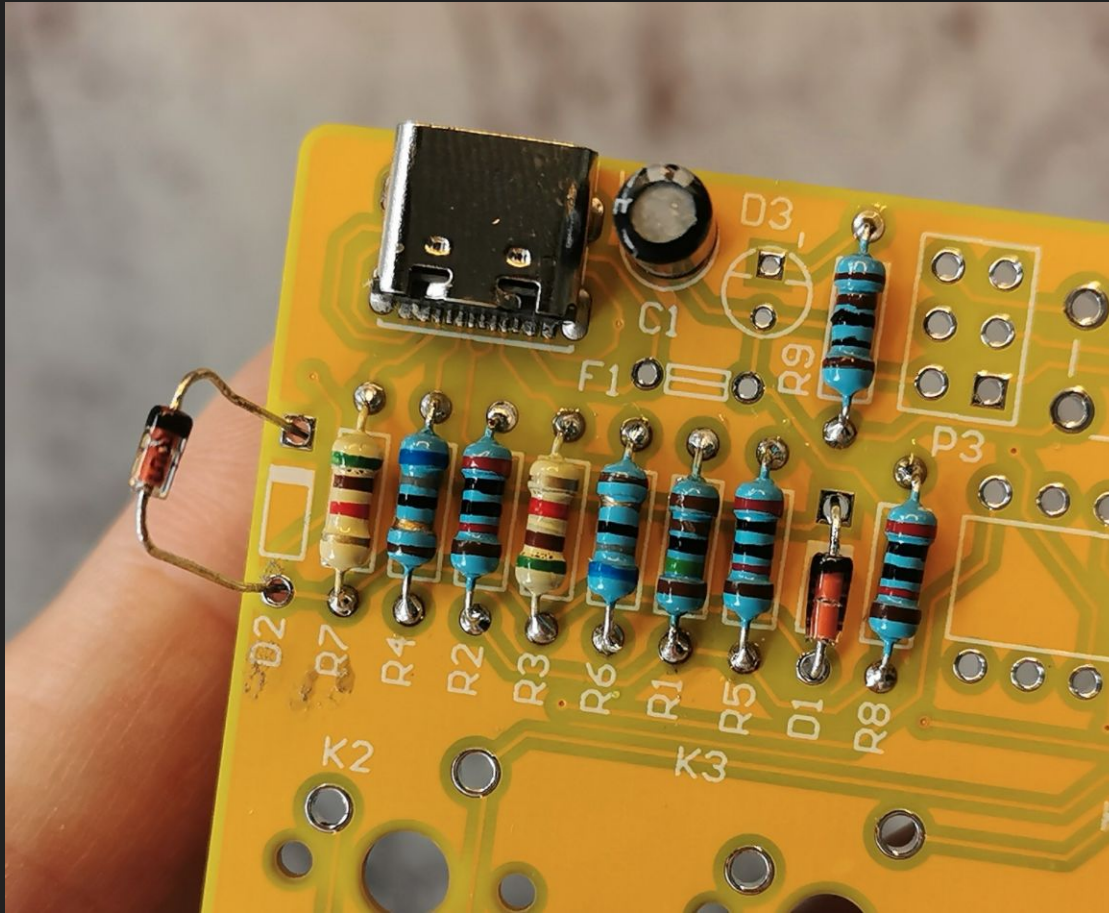
The black line on the zener diode should be in the same direction of the dash mark printed on PCB. Solder them the same way you do with the resistors.

# 2.5.2 Solder LED (light emitting diode) D3

Shorter pin
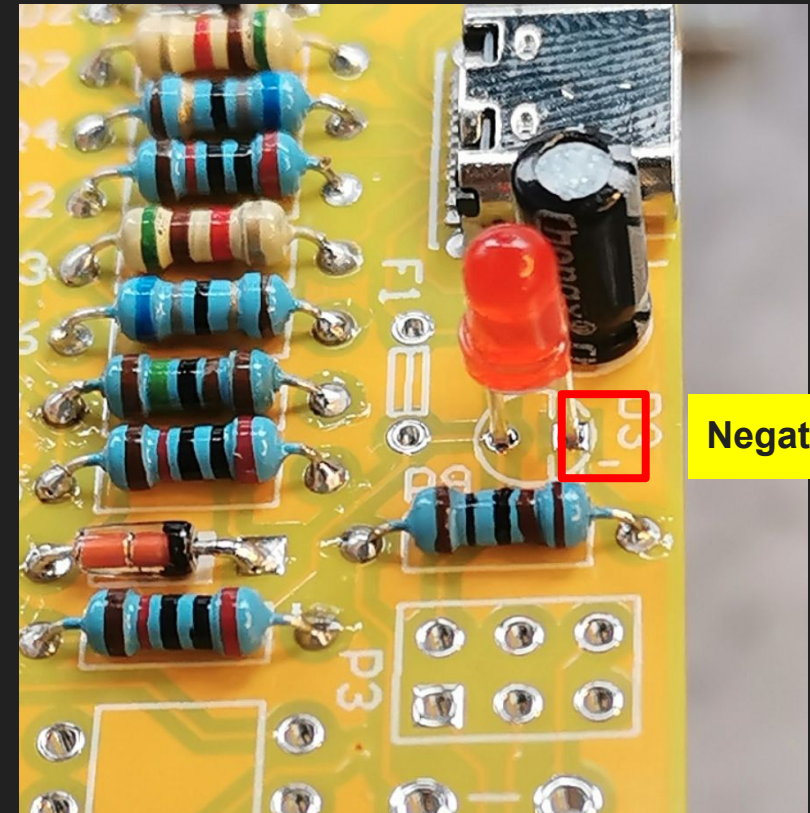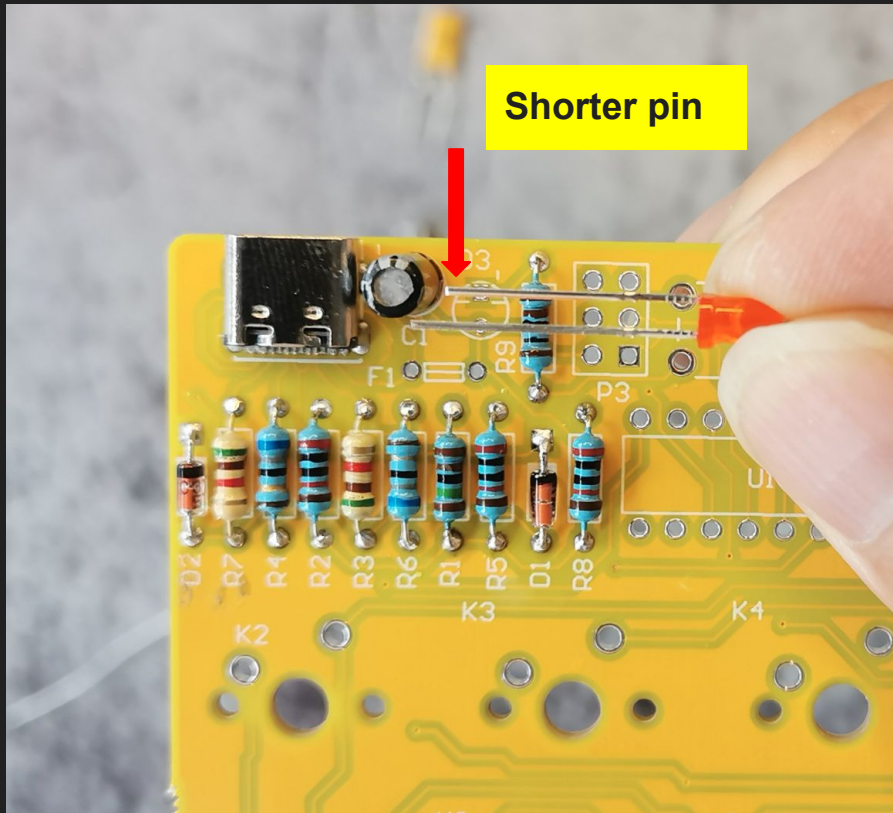
Negative

Multiple LEDs are provided on the components page, pick one color to your liking. The shorter ping indicates the negative pin of the LED and should go through the negative hole marked by dash. Solder LED in the same way you do with the capacitors.
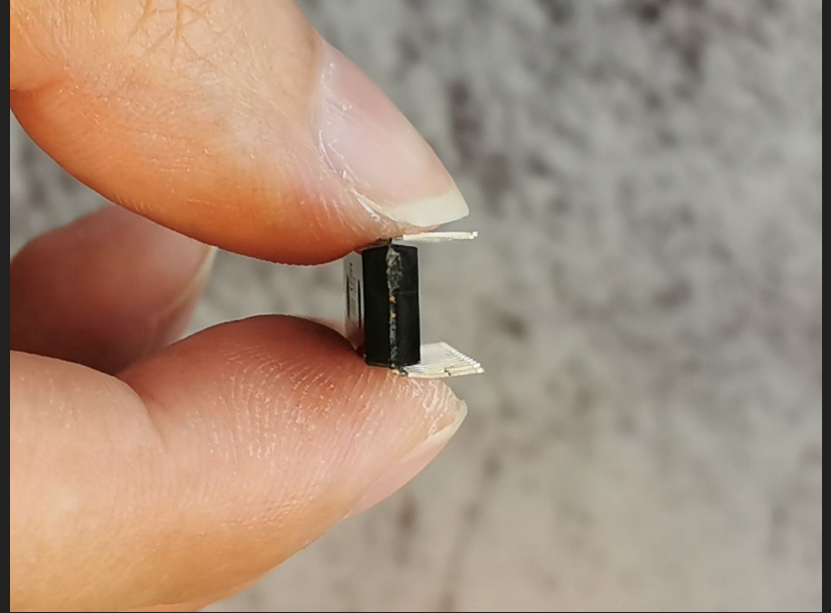
2.5.3 Soldering Diodes (D4 ~ D23)
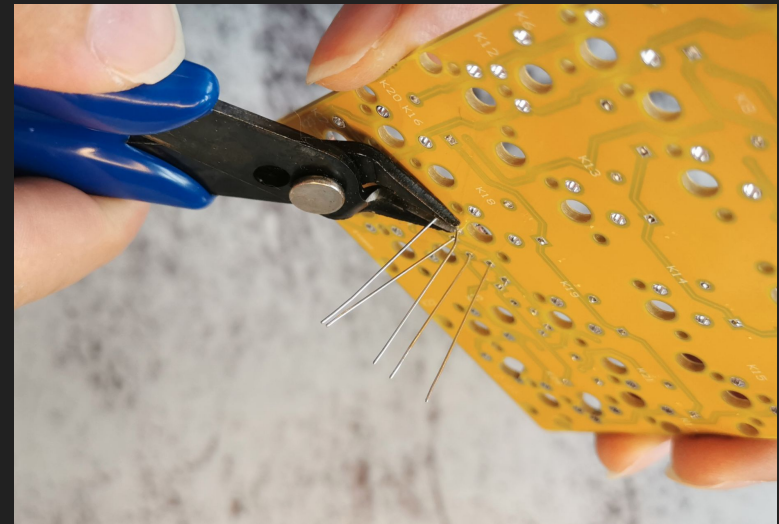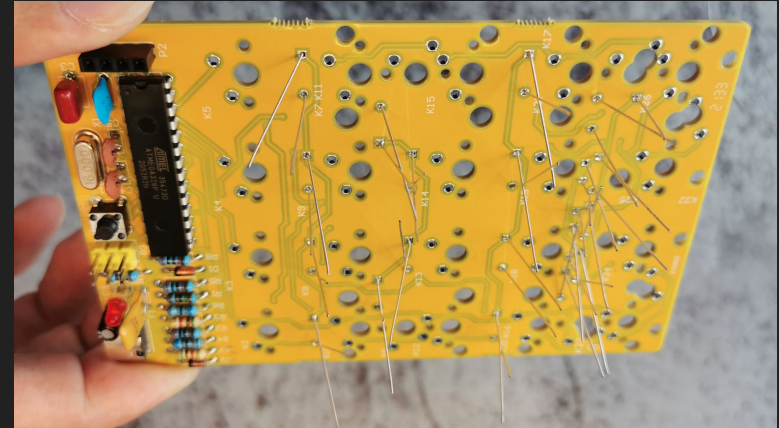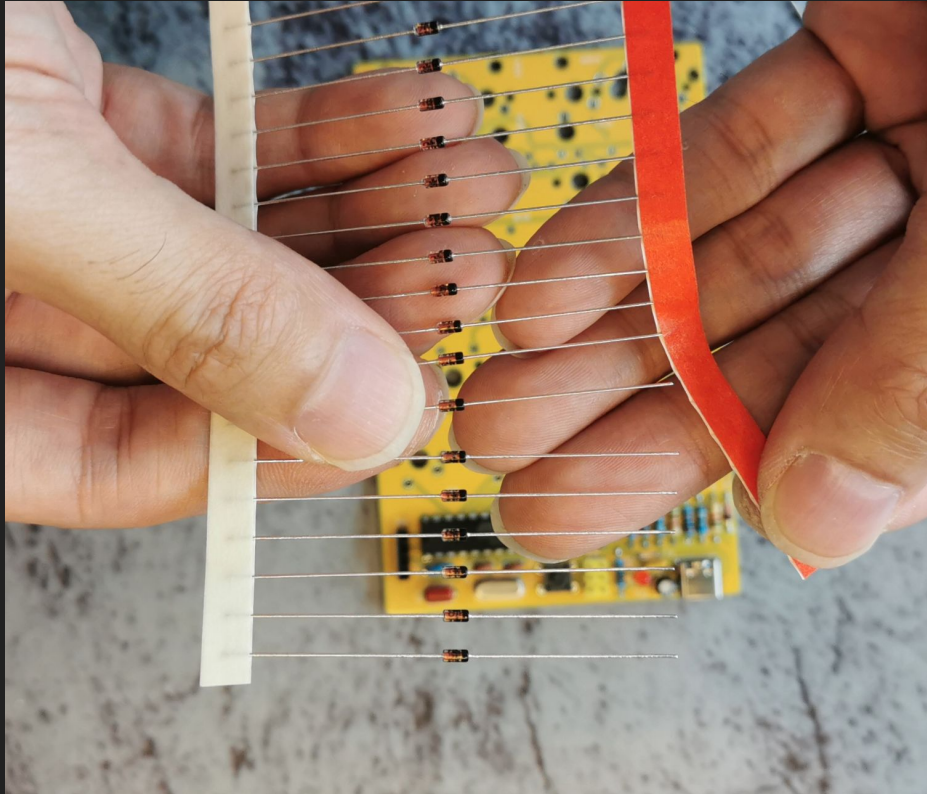
The diodes (D4~D23) should be installed and soldered from the BACK side of the PCB. Cut off the protruding pins to make sure the TOP side is flat and clean. DO NOT install and solder these diodes on the TOP side as they will create interference with the switches.

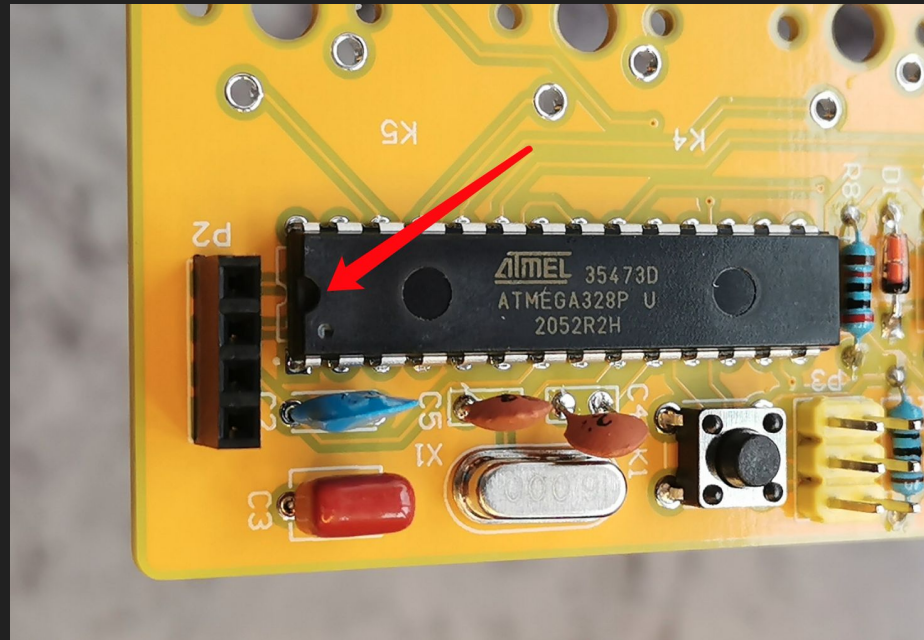# 2.5.3 Finish soldering diodes (D4 ~ D23)
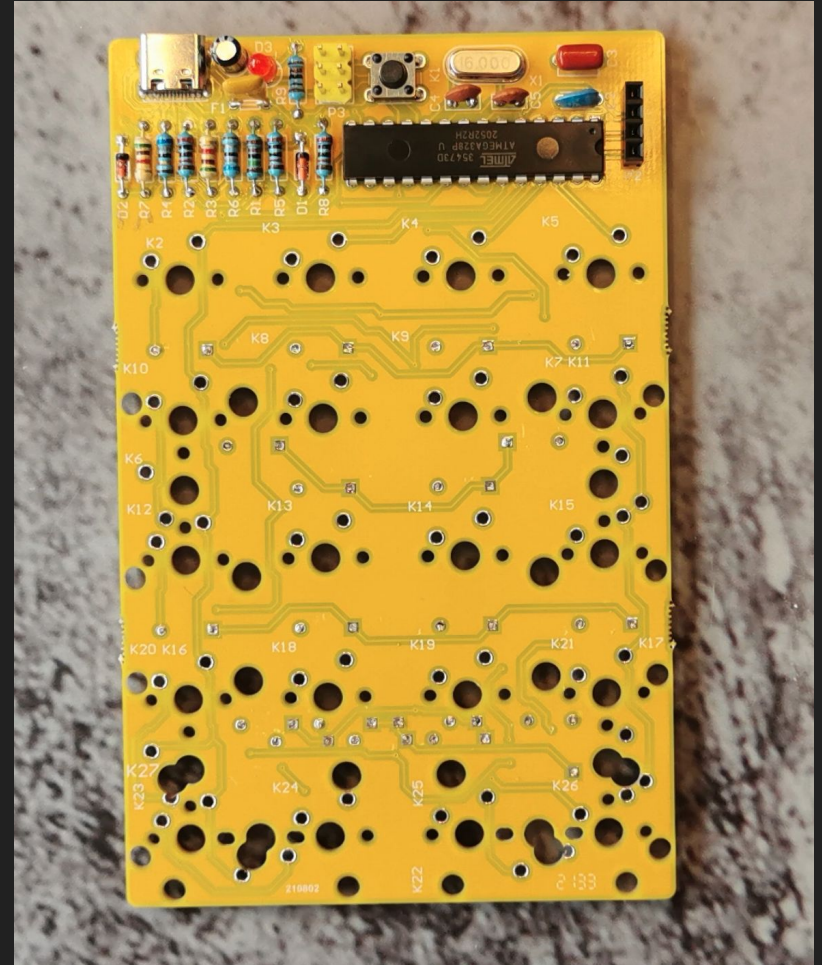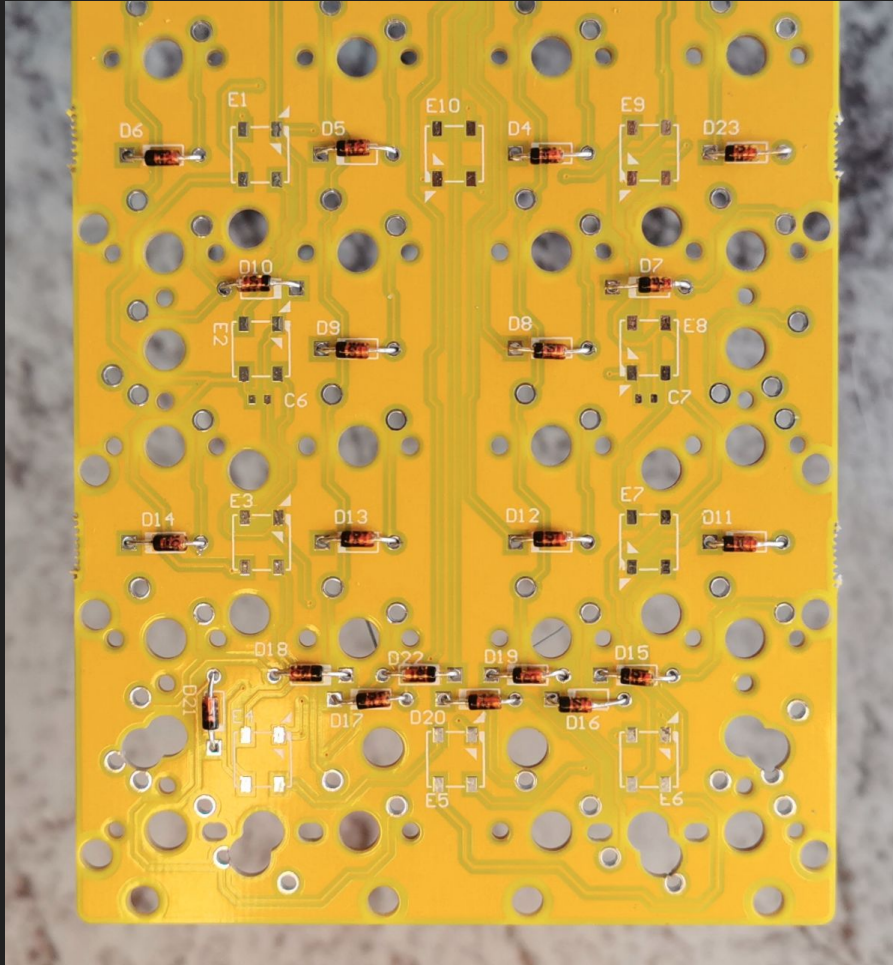
# 2.6.1 Solder Microcontroller(MCU) U1

Make sure pins on both side of the MCU are leveled and parallel. You could level the pins by pressing the pins lightly against a flat surface.

2.6.2 Install MCU onto the PCB

Install the MCU onto the TOP side of the PCB, make sure that the notch on the MCU is as shown in this image. Make sure to press down the MCU as much as possible onto the PCB.
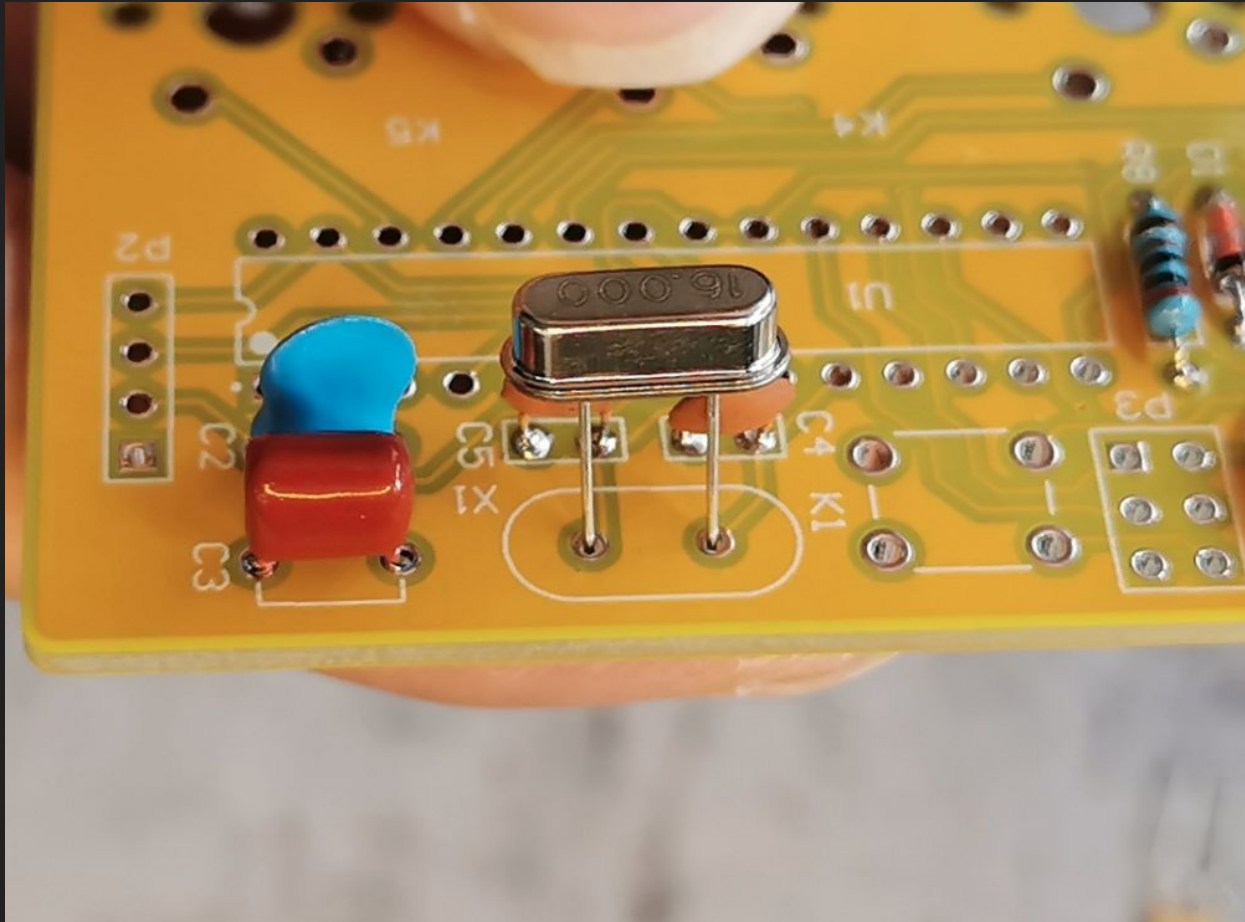
2.6.3 Soldering the MCU
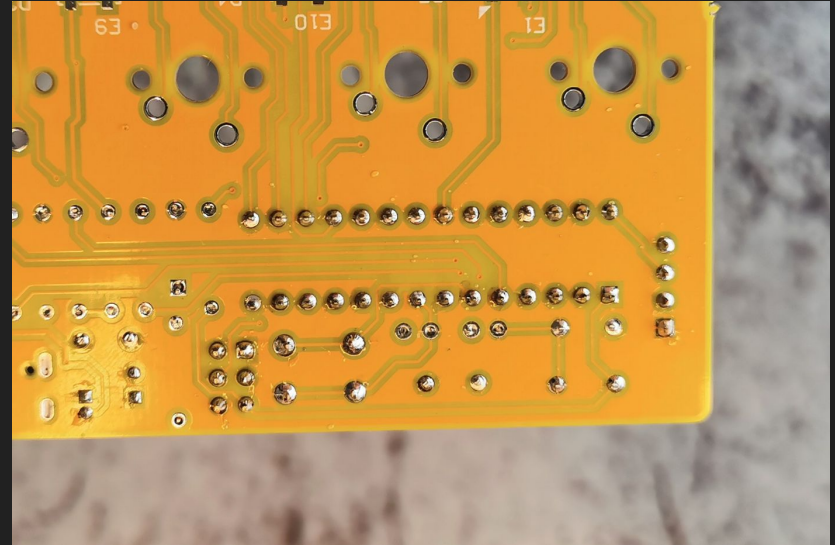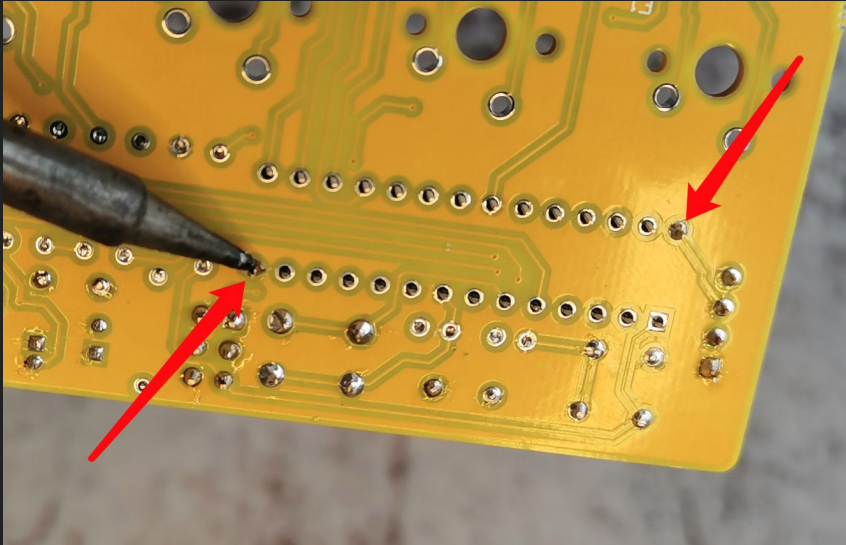
Solder the MCU pins from the BACK of the PCB. It's better to solder two diagonal pins first to fix the MCU in place then continue soldering the remaining pins.
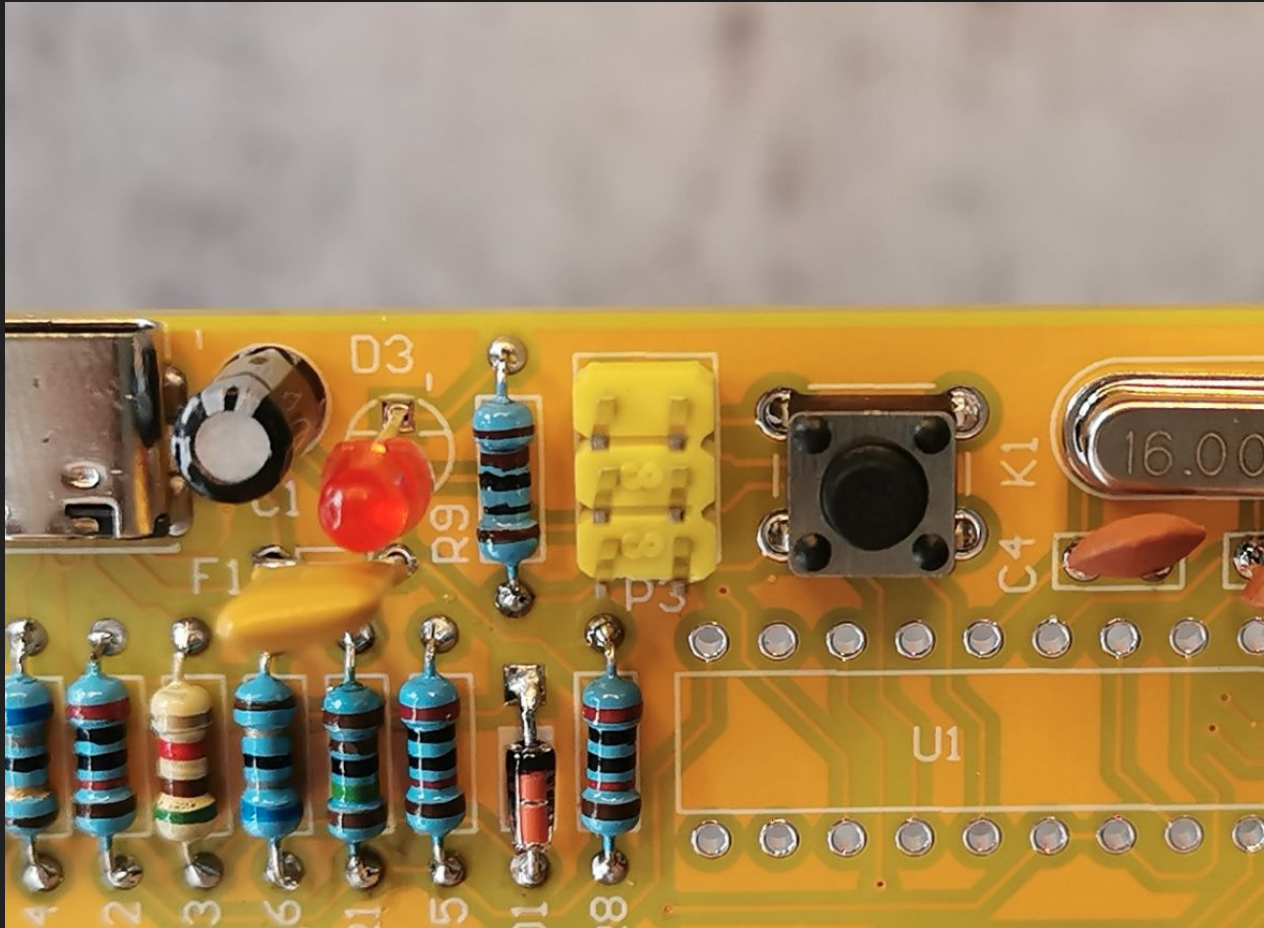
2.7.1 Solder screen socket (P2)
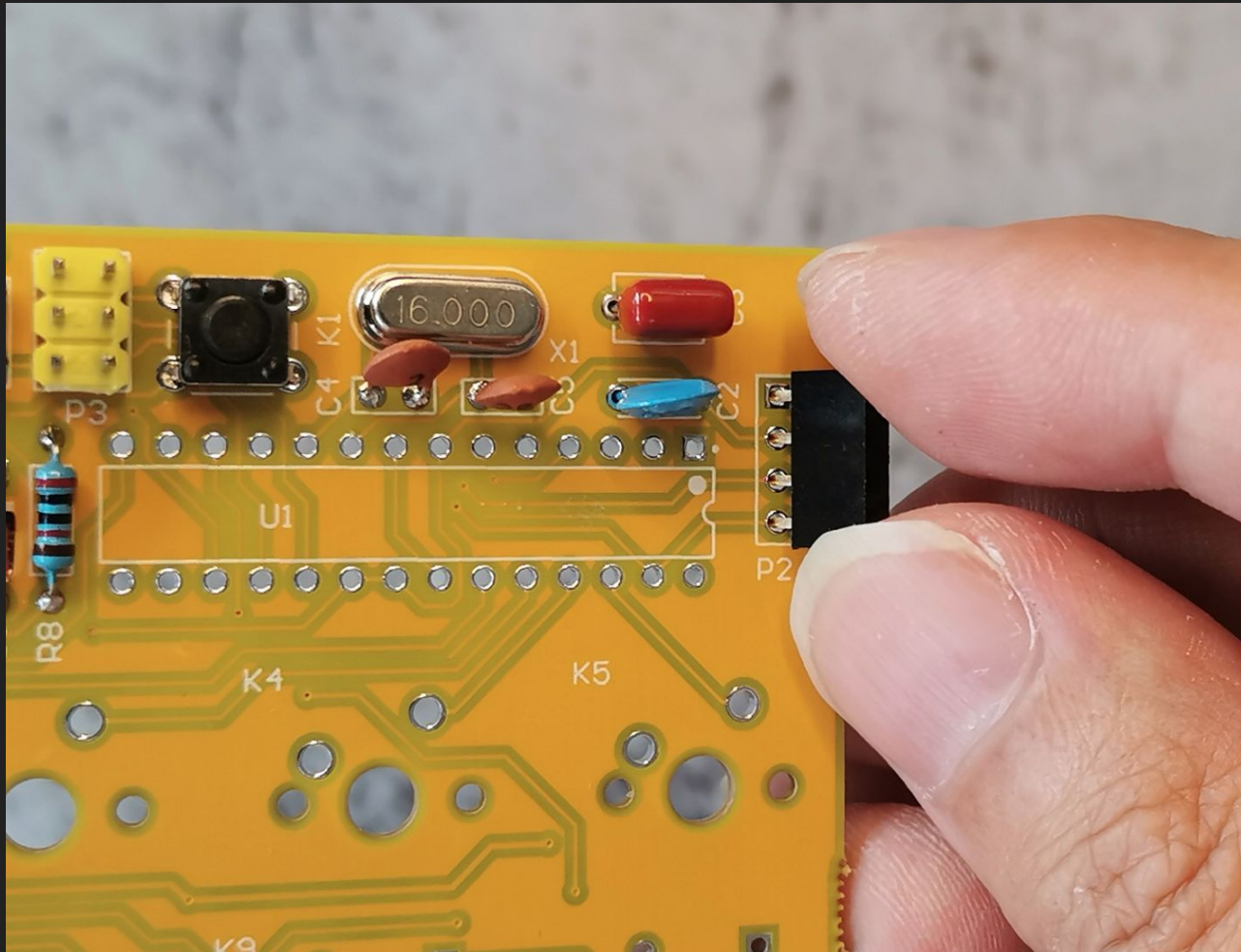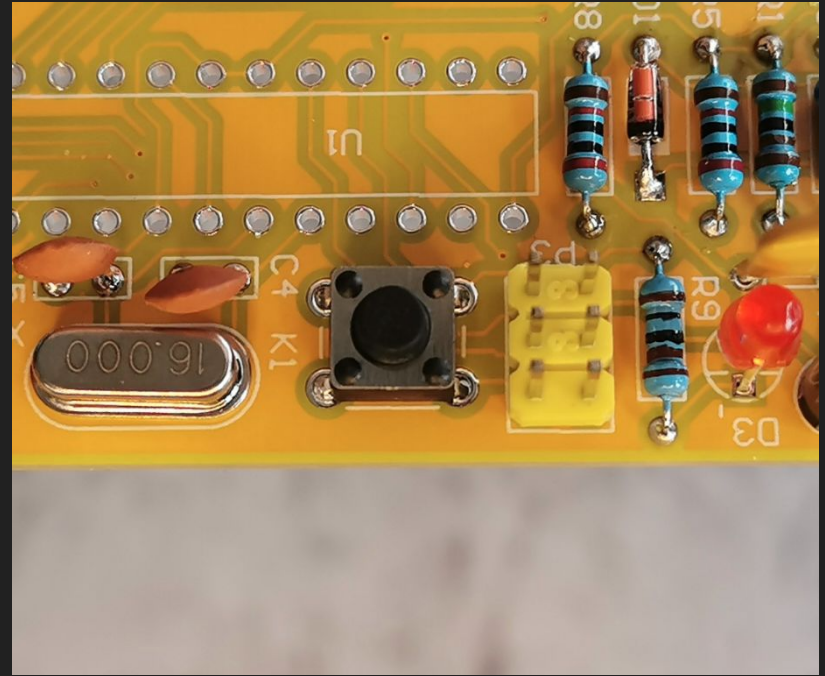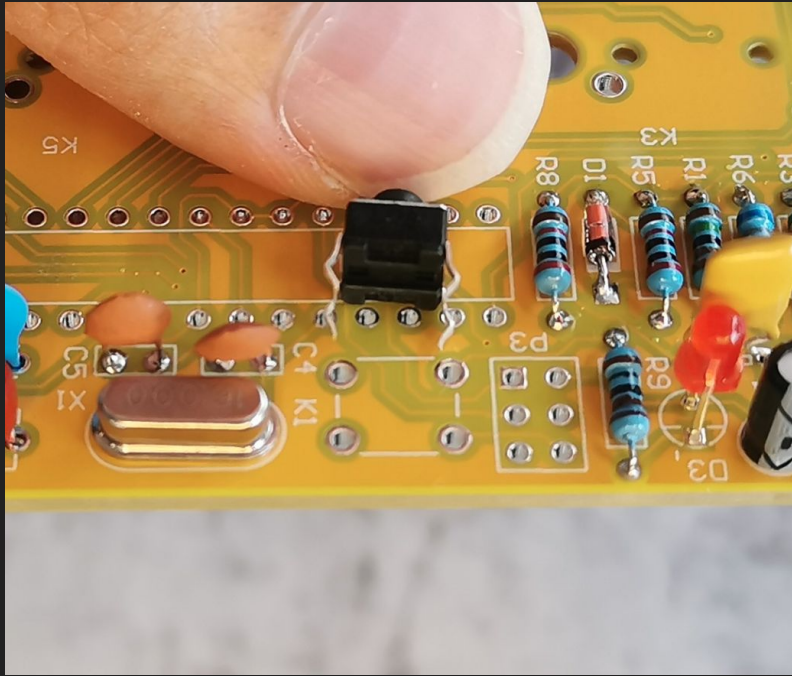
2.7.2 Solder Crystal (X1)

Crystal has no polarity. Put it close to PCB when solder.
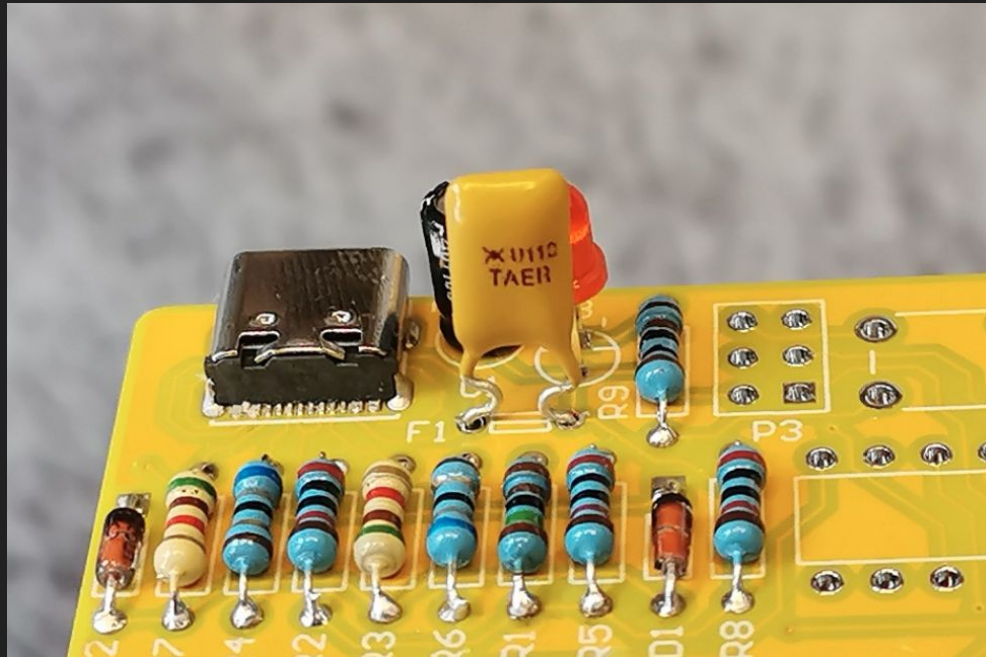
2.7.3 Solder expansion port (P3)

2.7.3 Solder button (K1)

2.7.3 Solder Resettable Fuse (F1)

3. Install Stabilizers, Plate and Switches

1. Choosing a layout
2. Installing Stabilizers
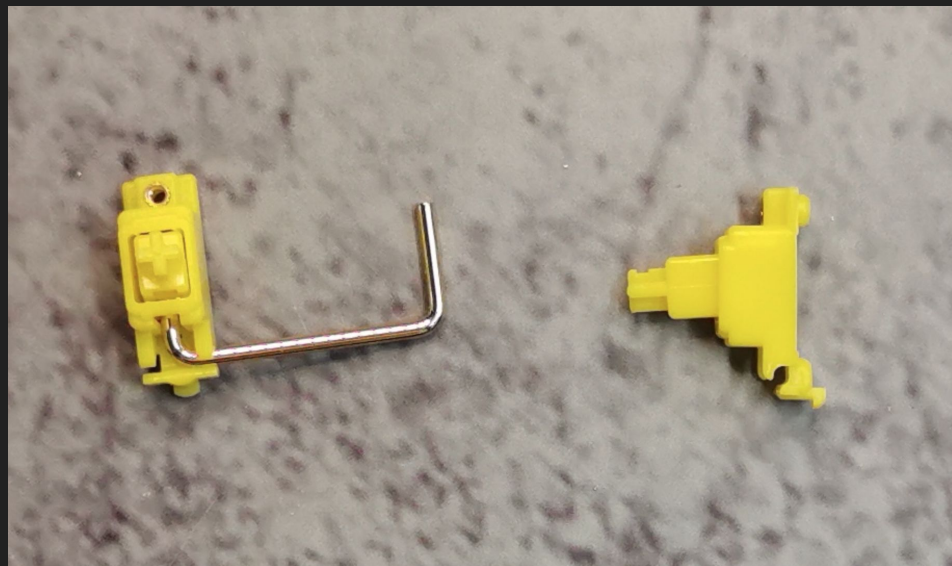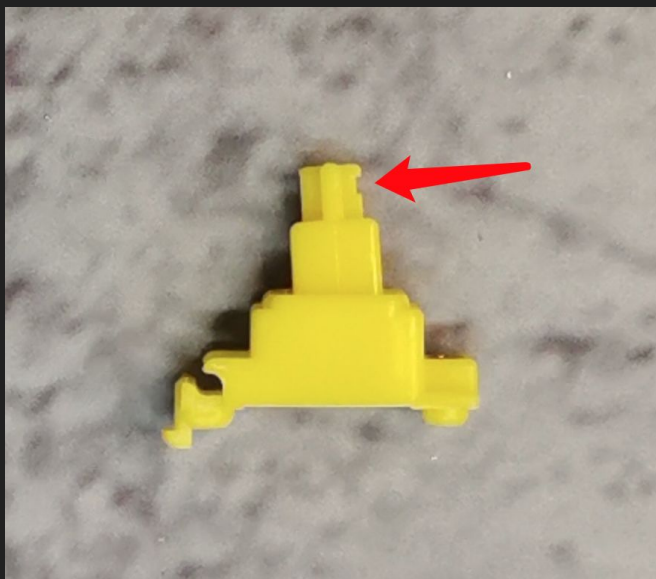3. Installing the Switch Plate and Switches

3.1 Choosing a Layout

Common layouts: Left-handed numpad, full 1u, and right-handed numpad.

The PCB supports other layouts, choose your own layout to your preference.
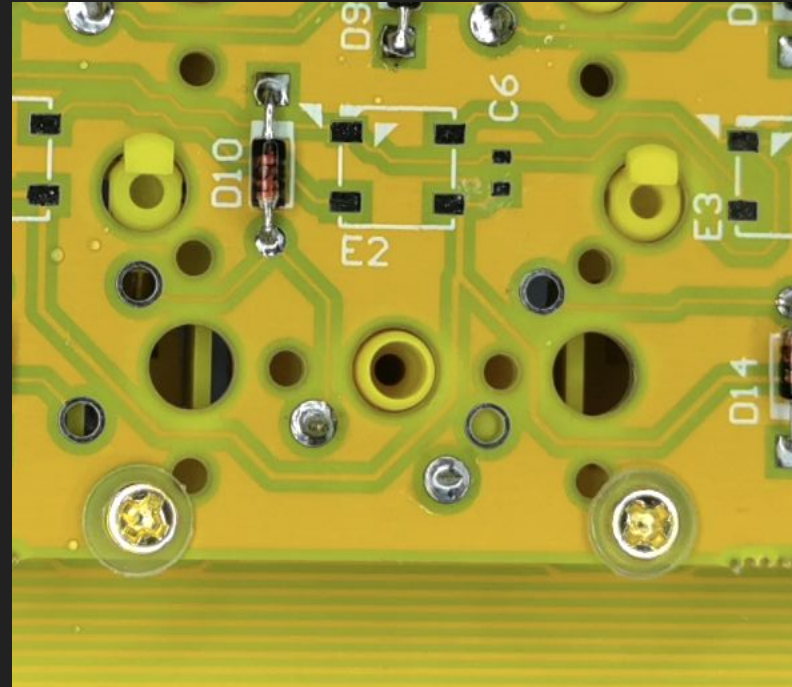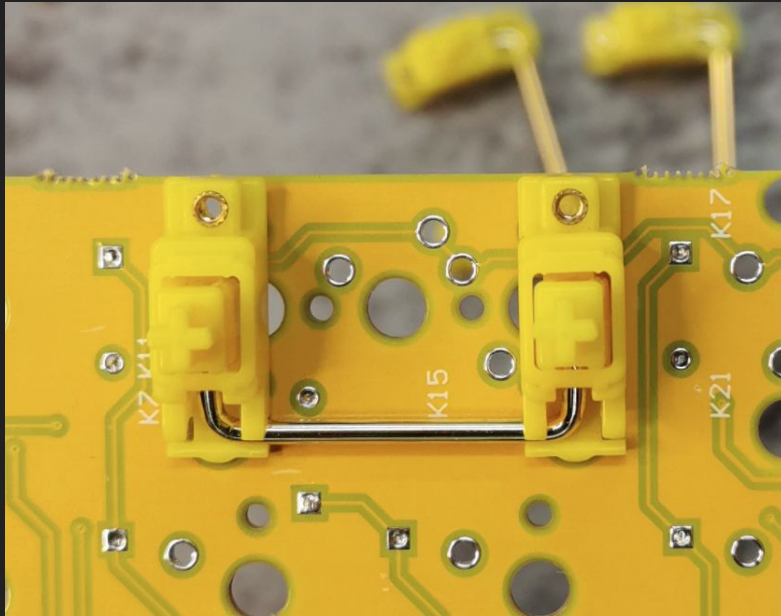
3.2.1 Assembling the Stabilizers

Clip in the stabilizers.

Make sure the sliders are properly installed and their up and down movement is not blocked.

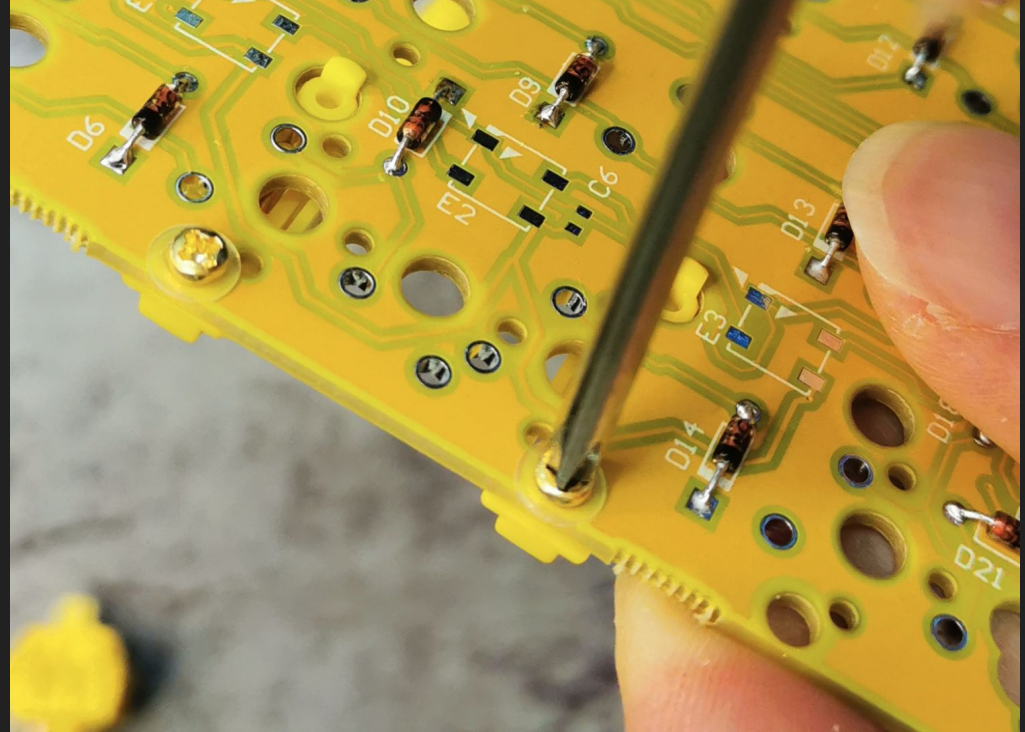# 3.2.2 Installing the Stabilizers

Install the stabilizers onto the PCB. It is optional to add padding on the PCB before installation.
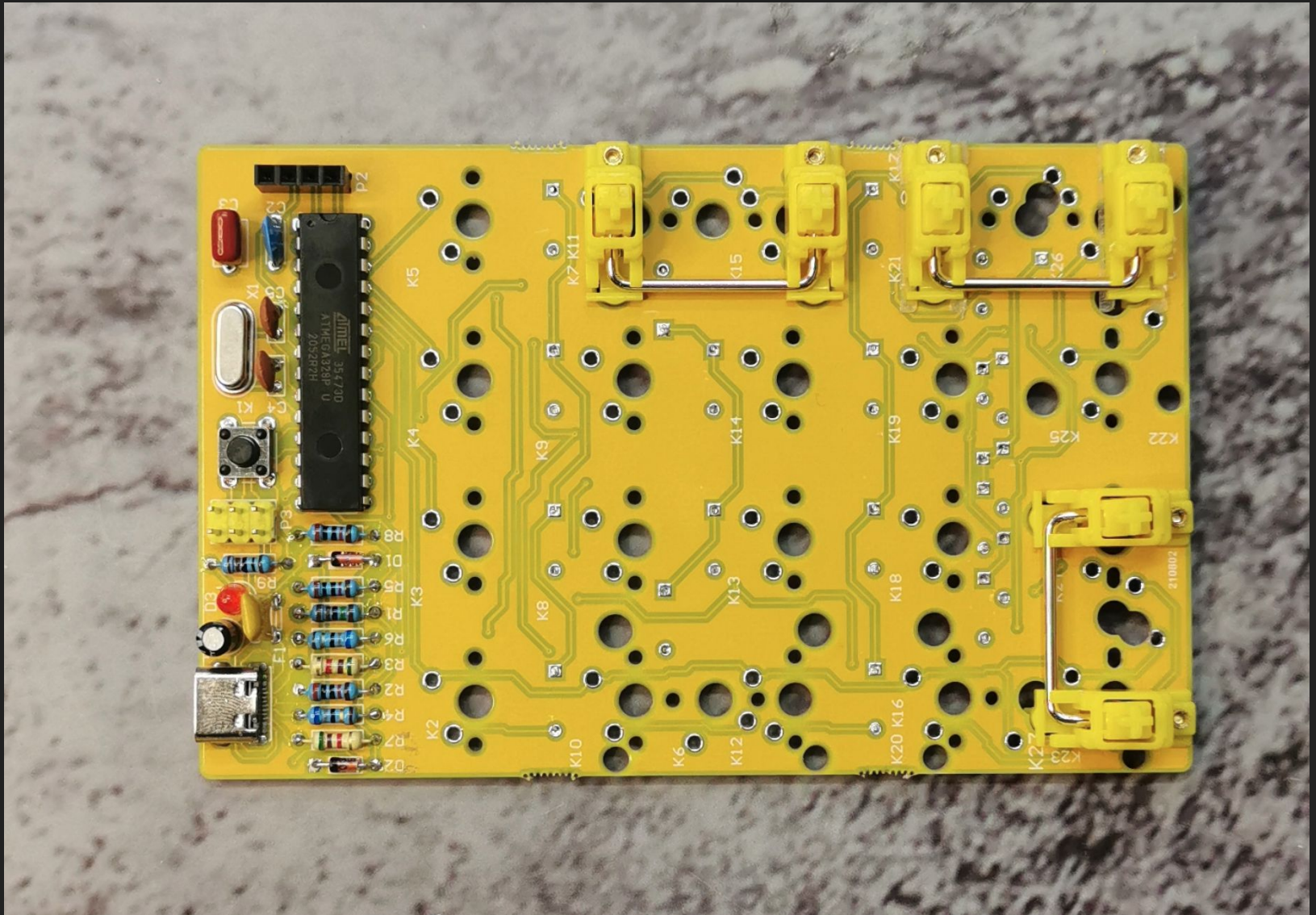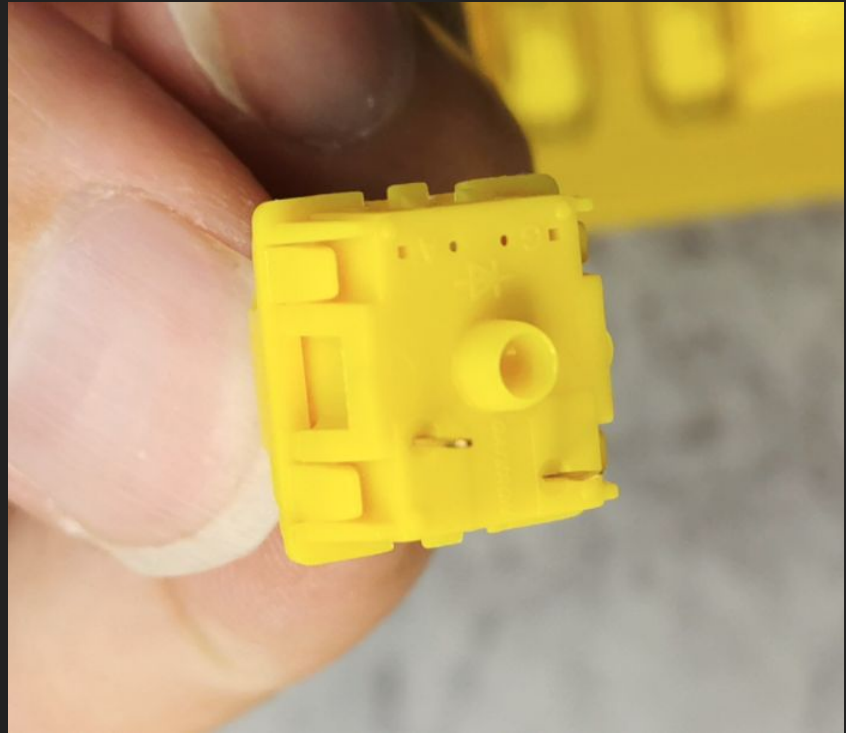
3.2.3 Screw Up the Stabilizers

Screw in the stabilizers to fix them in place.

3.2.4 Finish installing the stabilizers

3.3.1 Installing switches
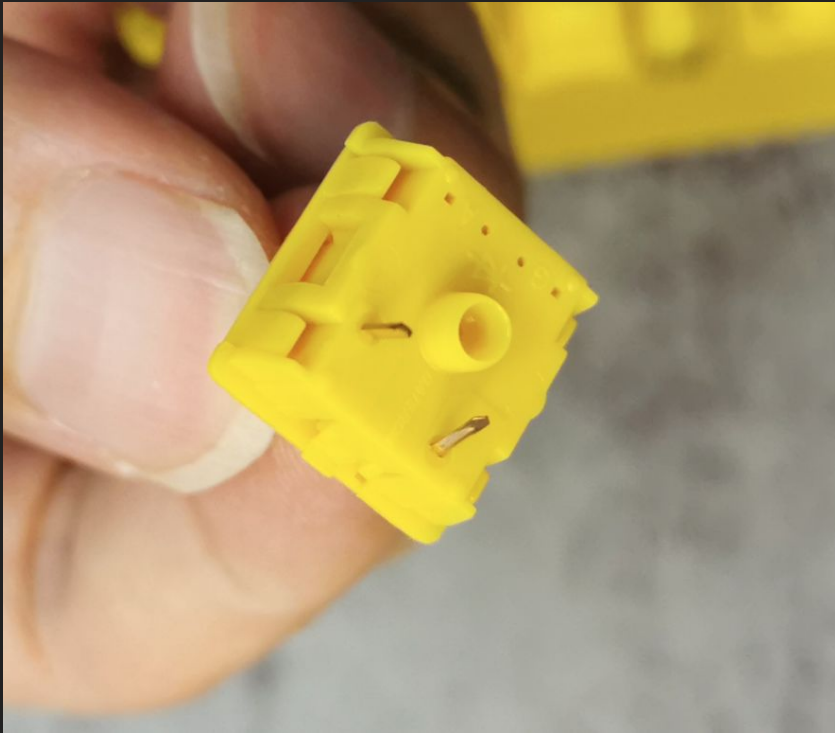
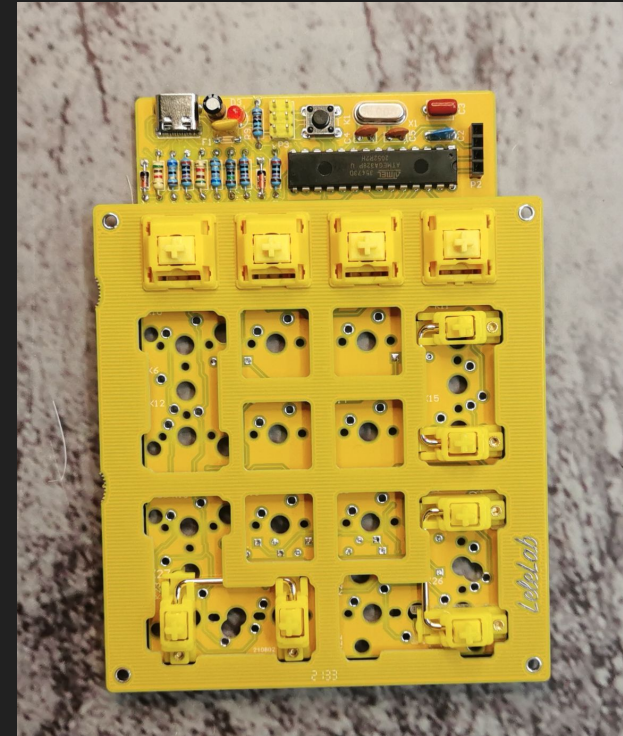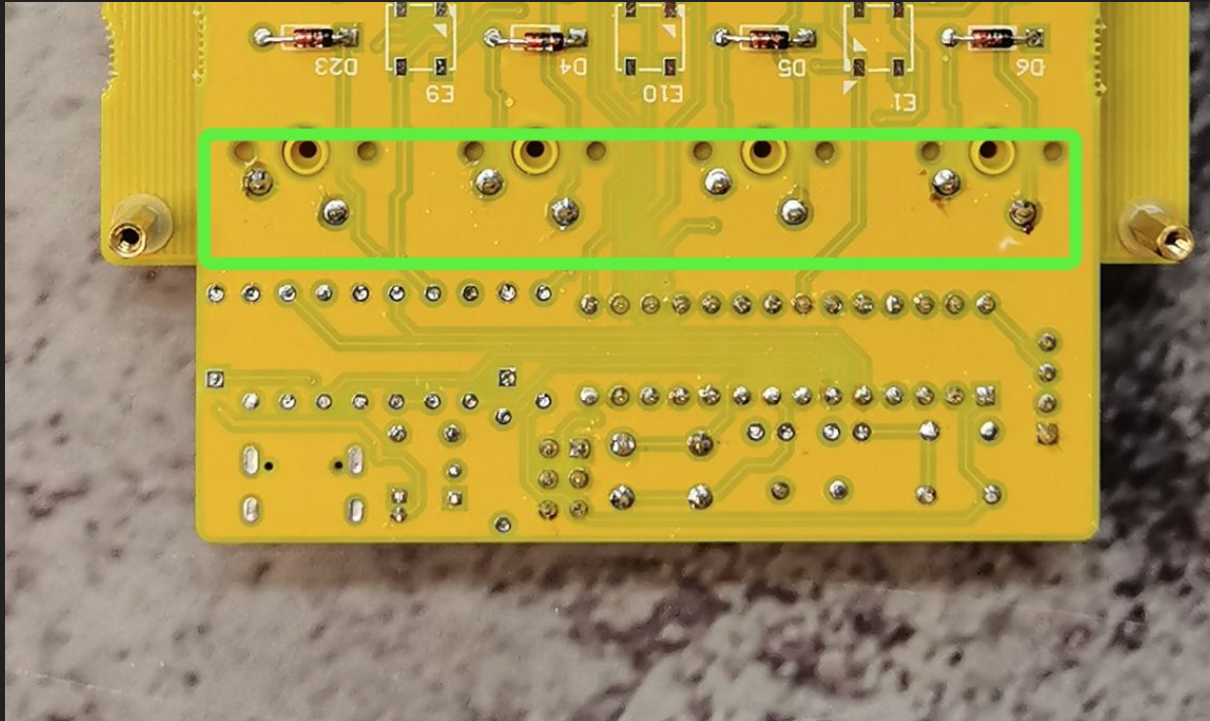Some pins might be bent out of box, you could straighten them with you fingers.

3.3.2 Installing switches

Clip the switches onto the switch plate. You should hear a click when they are clipped into place properly.

Do not clip in all switches in one go, doing so will make aligning the pins to the holes difficult.

3.3.3 Soldering the switches

Solder the first few switches onto the PCB.

3.3.4 Soldering the switches

PRESS

PRESS onto the switches
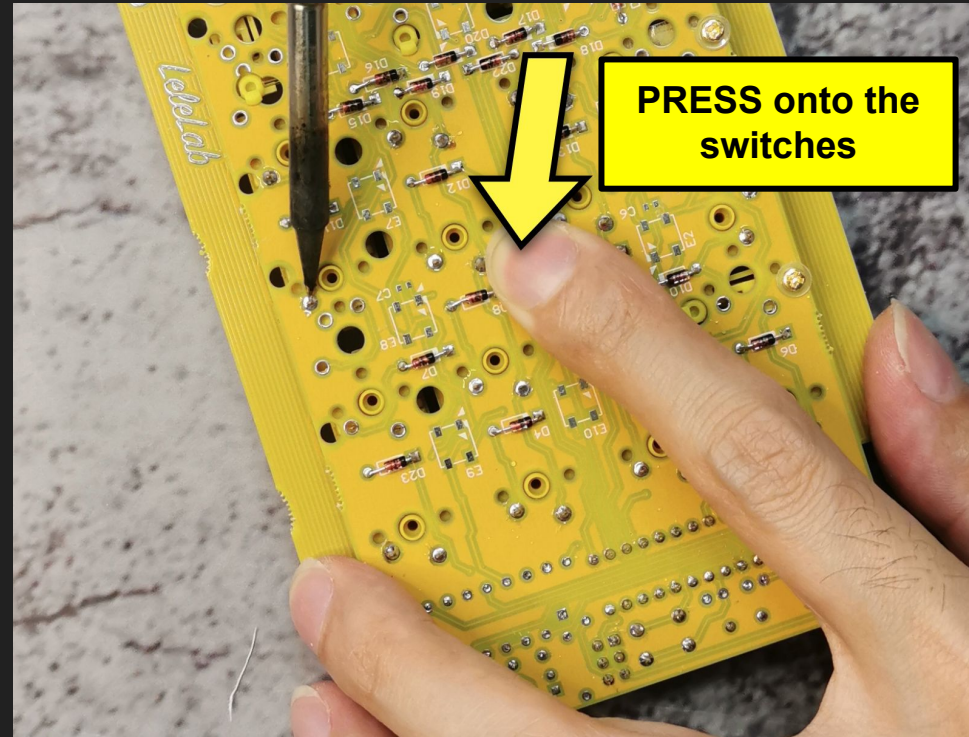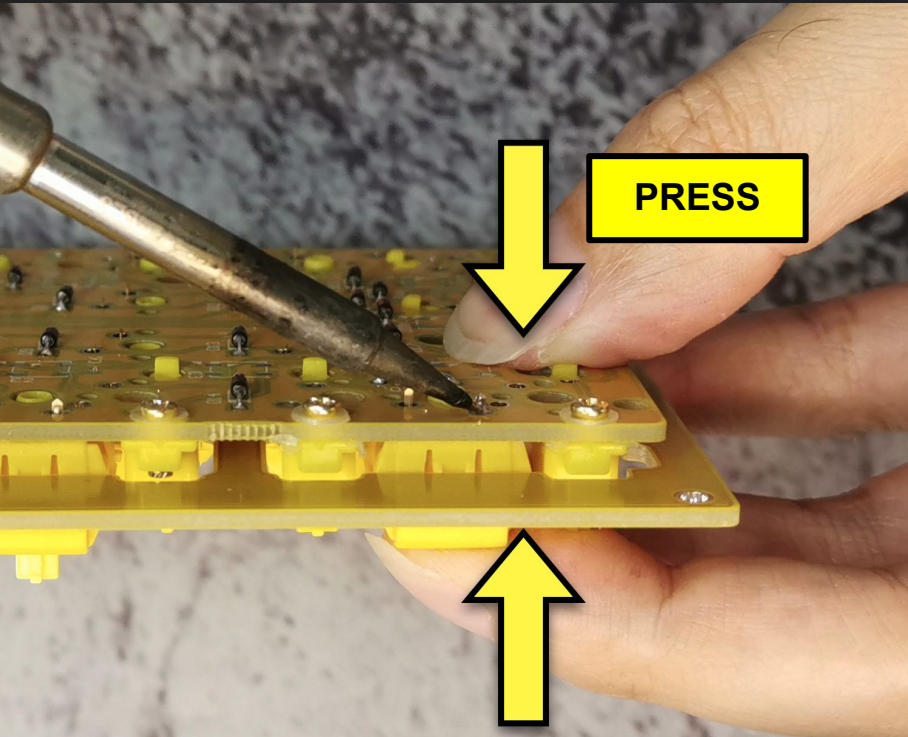
Make sure the switches are sitting flush to the pcb by pressing the switch onto the PCB when soldering. You could also put the pad upside down on a flat surface and press the PCB onto the switch.

3.3.5 Finishing soldering switches
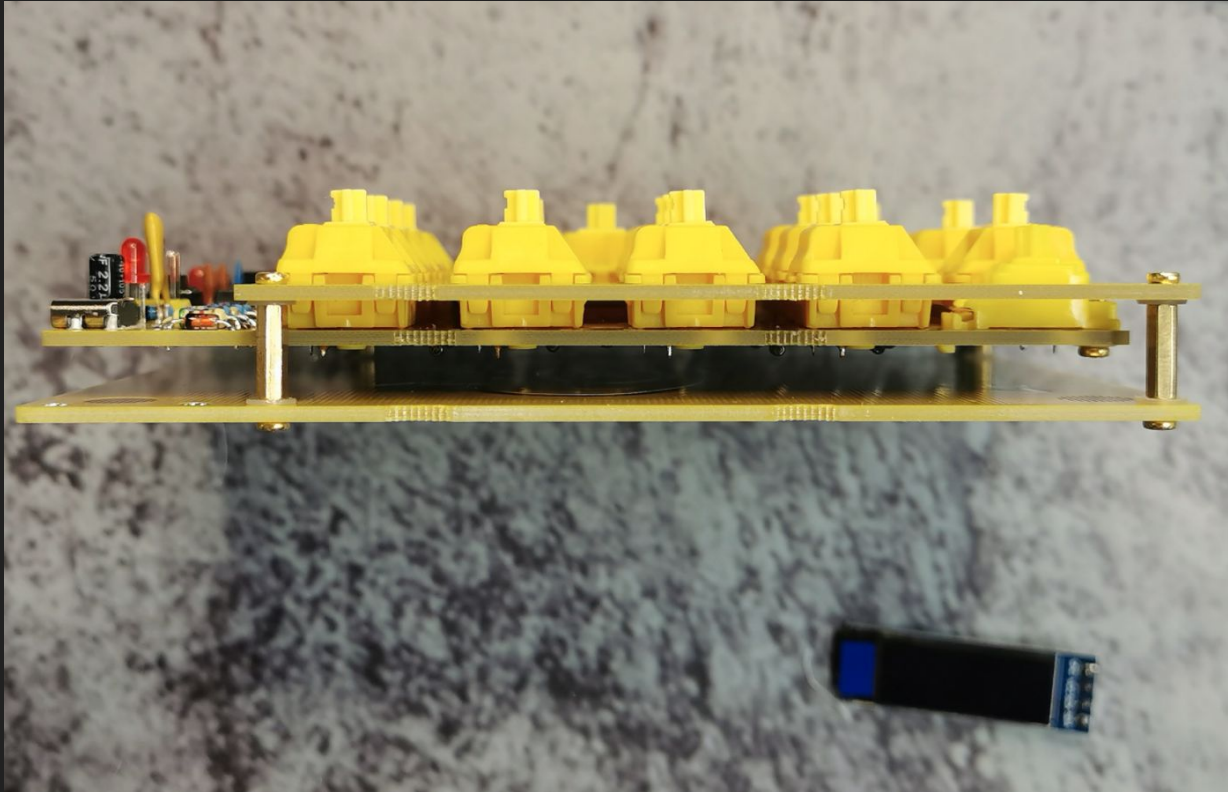
Check from the side, the switches should be sitting tight on the PCB.

4. Finishing

1. Setup Bottom Plate
2. Insert Screen
3. Stick Foot-Stand
4. Test LelePad

4.1 Install the base Plate
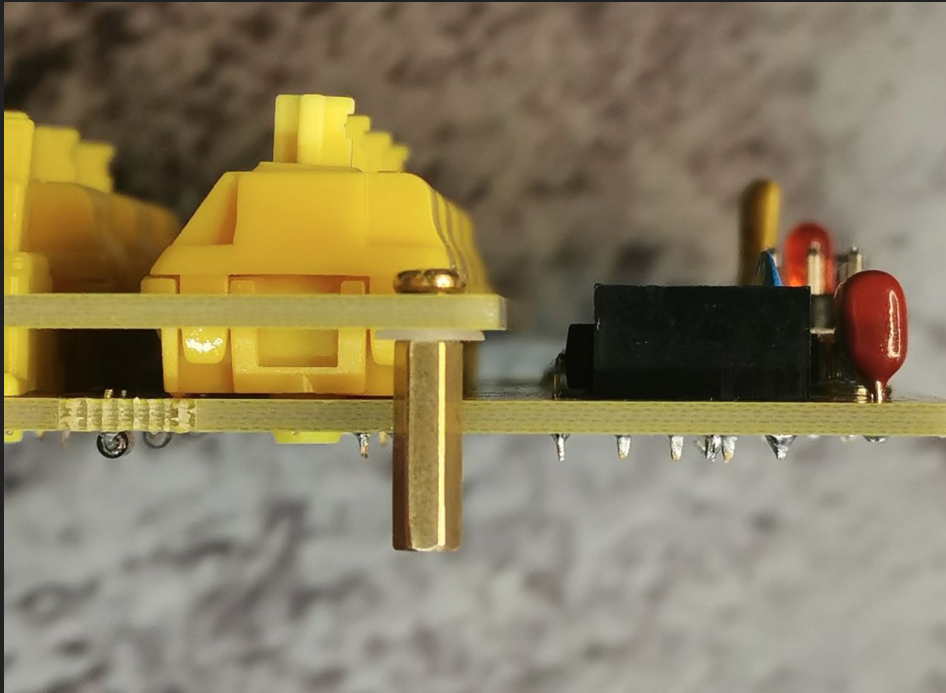
Secure the brass studs on the 4 corners of the switch plate with screws. It is optional to add gasket rings between the stud and switch plate.

4.1 Installing the base plate
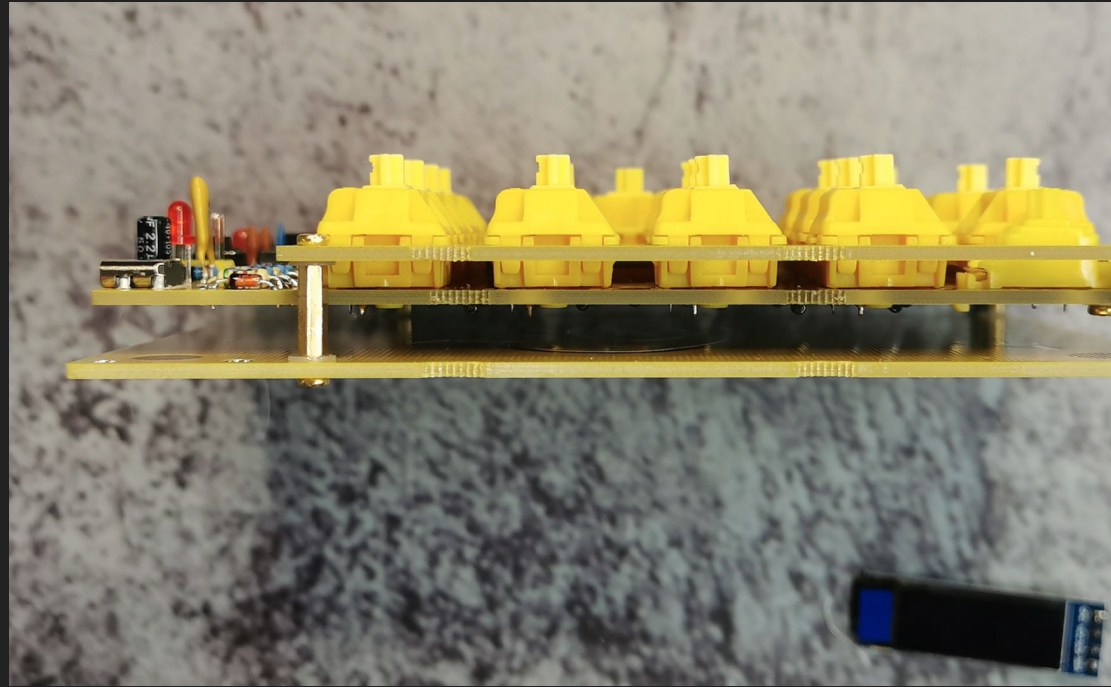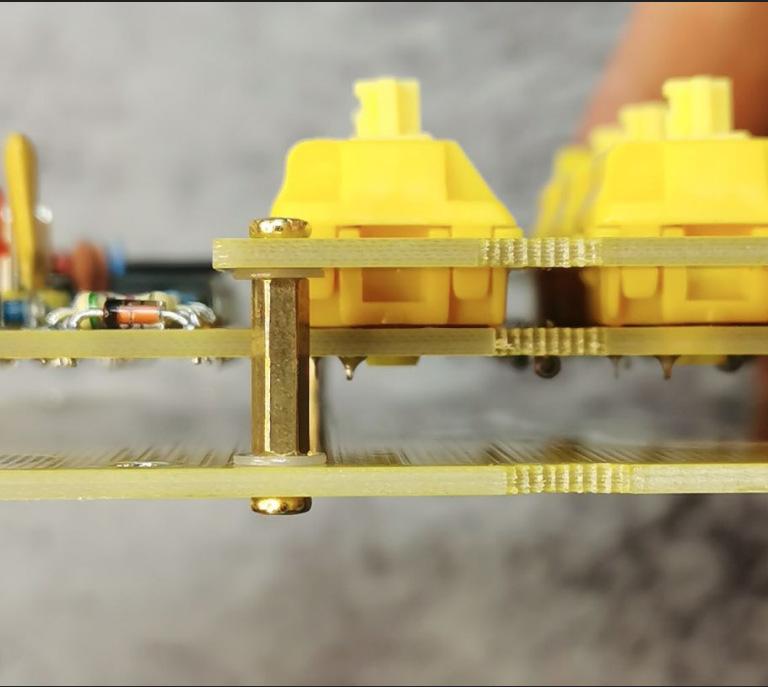
Secure the 4 studs onto the base plate with screws. It is optional to add gasket rings between the studs and the base plate.

4.2 Insert Screen（Pro Kit Only）
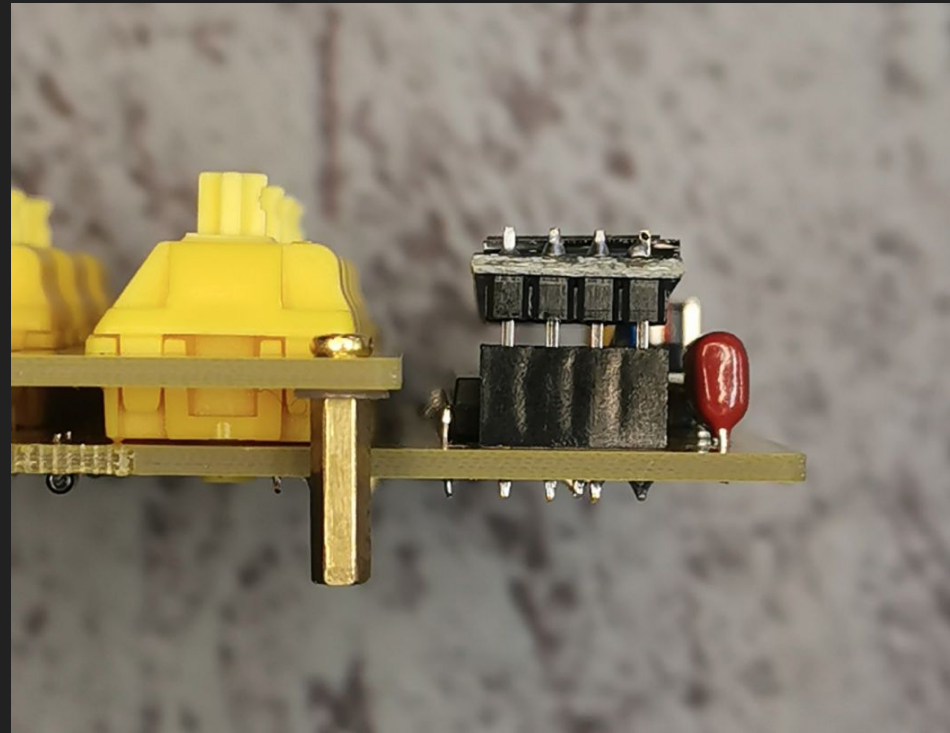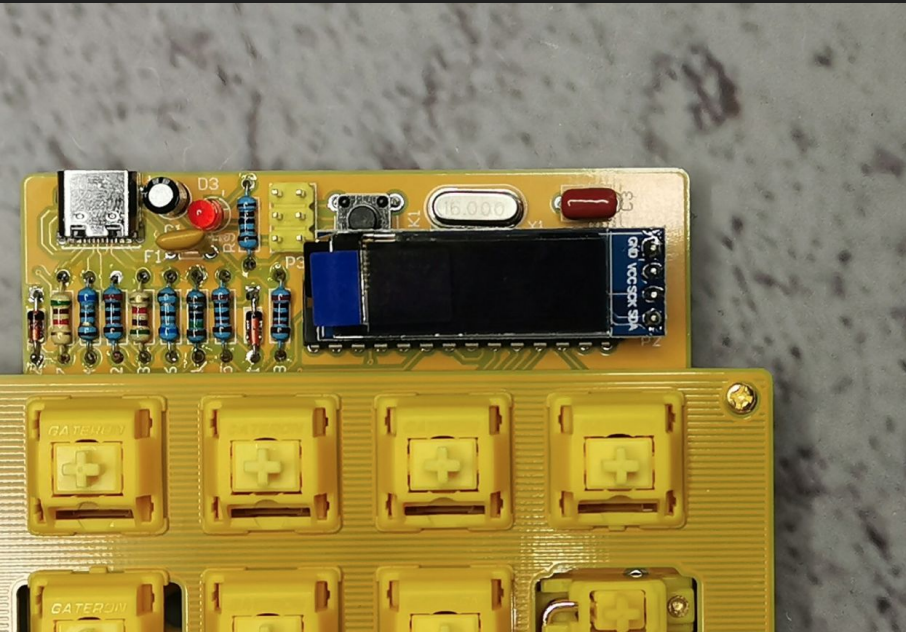
4.3 Putting on bumpons

Put the anti-slip bumpons on the four corners of the base plate.

4.4 Testing

Connect the LelePad with a PC/Laptop via USB-C and check if the keys register.

Also check if the OLED screen (showing animation) is working if you have the Pro kit.

4.5 Installing the Keycaps

Find a set of keycaps and install them onto the pad and you are good to go!

(keycaps are not included in this product)

FAQ

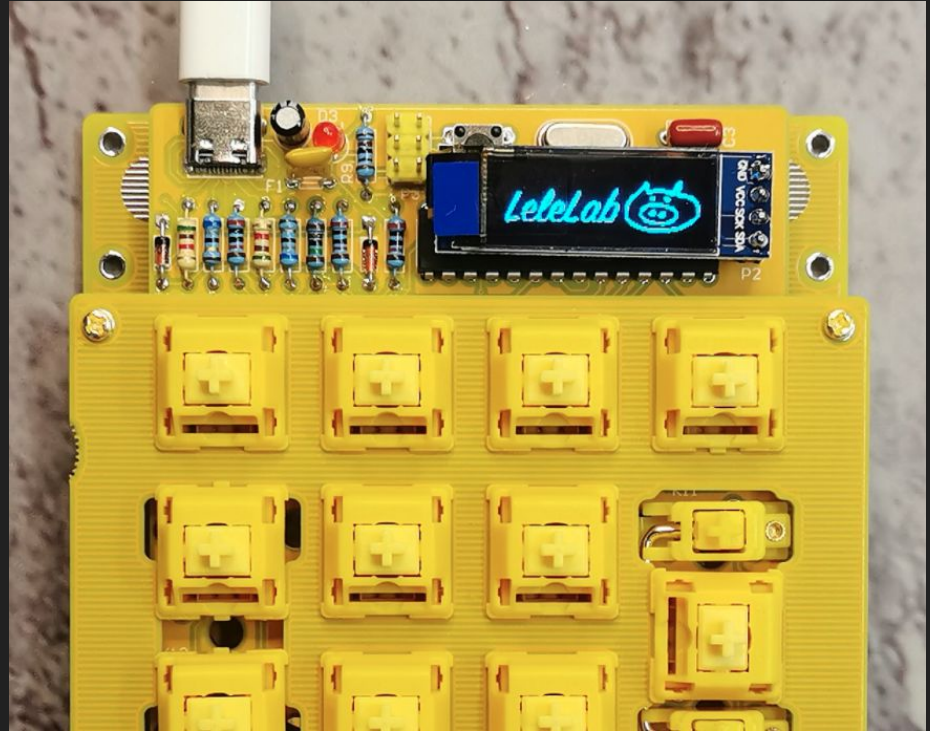Q : What should I do If one component is soldered incorrectly?

A : You need the remove wrong component by desoldering. It's relatively easy with through hole components. You can refer the follow video guide for desolder.

Q : The MCU is soldered in the wrong direction, what should I do?

A : You could remove the MCU by desoldering as well. But it would be much harder than desoldering other through hole components for beginners without the assist of some desoldering tools.

Q : The screen is a bit loose and wobbly

A : This is normal. You could alleviate this by securing the screen onto the MCU with double sided foam tape.

Q : My LelePad isn't working when connected to a computer.

A : You should first check if all the components are installed and soldered correctly. Check for the direction of the components and faulty soldering joints. If they are properly installed and soldered, but the pad is still not working, please contact support.

Q : How can I configure the keys?

A : The pad is compatible with VIA. Check caniusevia.com for all the info you need to customize the keyboard.