

AZ-Touch Feather

Rev A

construction manual for pcb Version 01-00

Rev.	Date	Description
A	2021-05-15	First Release

Tools:

*agregulated soldering iron
(25..40W) with small tip*



*a wet sponge to clean the
tip*



thin solder wire



Side cutting pliers




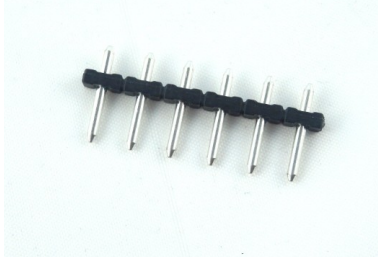
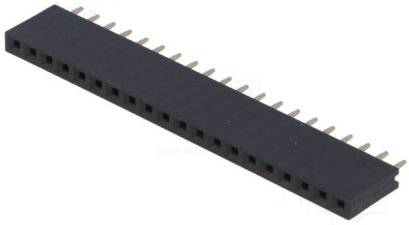



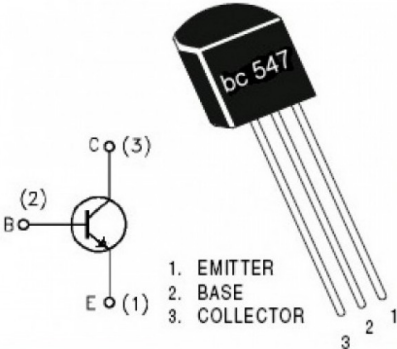
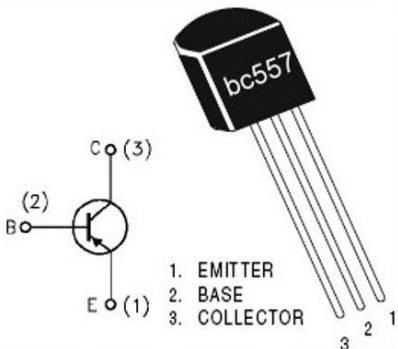
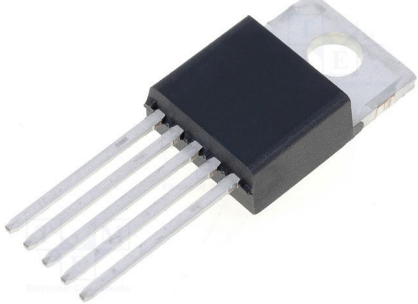
Needle nose pliers


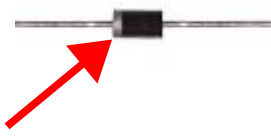



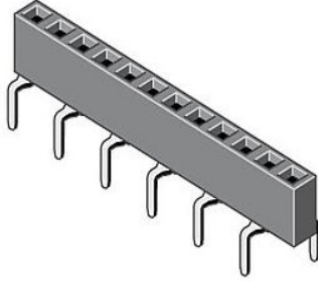
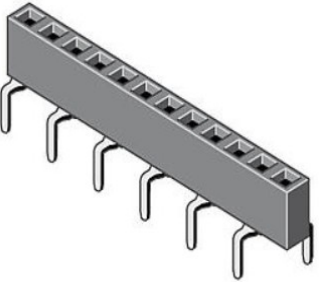




Medium cross slot screwdriver

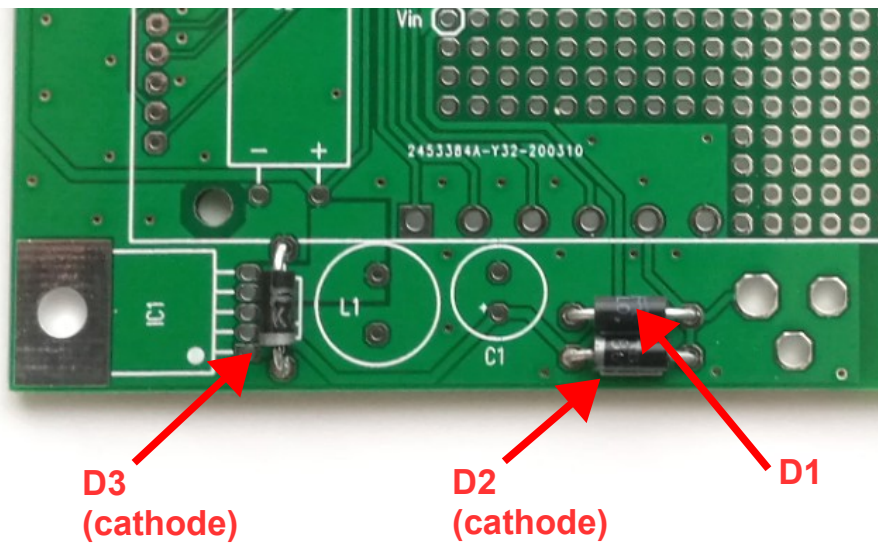


Part list:

 <p>1x 6pole terminal block (K4)</p>	 <p>1x 6pole terminal header (K4)</p>	 <p>1x 14pole female header (K2)</p>
 <p>1x Piezo Beeper (LS1)</p>	 <p>(brown, black, red)</p> <p>2x Resistor 1k (R2, R3)</p>	 <p>(brown, black, orange)</p> <p>1x Resistor 10k (R1)</p>
 <p>1x NPN Transistor BC547B (T2)</p>	 <p>1x PNP Transistor BC557B (T1)</p>	 <p>1x voltage regulator TL2576-5 (IC1)</p>

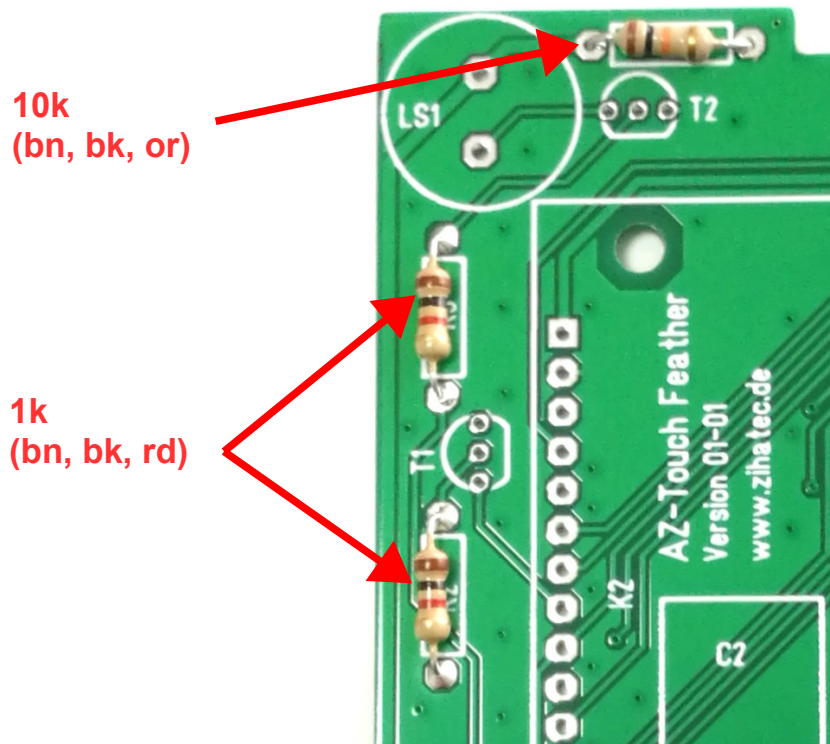
 <p>1x inductor 100uH/1.7A (L1)</p>	 <p>2x Schottky diode SB260 (D2, D3)</p>	 <p>1x overvoltage limiting diode P6KE36CA (D1)</p>
 <p>1x electrolytic capacitor 1000uF/16V (C2)</p>	 <p>1x electrolytic capacitor 100uF/63V (C1)</p>	 <p>1x 12pole centipede header (IC2)</p>
 <p>1x 16pole centipede header (IC2)</p>	 <p>8x Screw M3 6mm</p>	 <p>4x Spacer M3 11mm</p>

1.) *Place and solder diodes D1, D2 and D3*



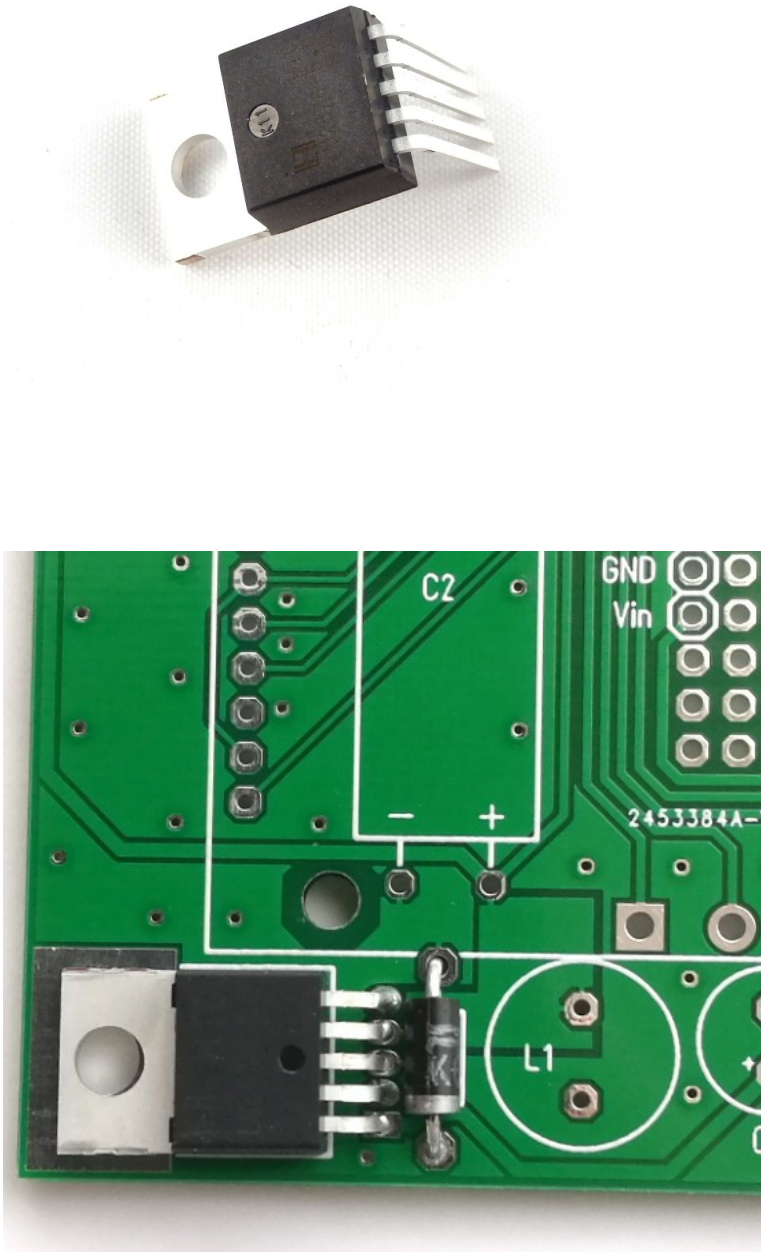
Please Note: D1 has no polarity!

2.) *Place and solder the resistors R1, R2 and R3*

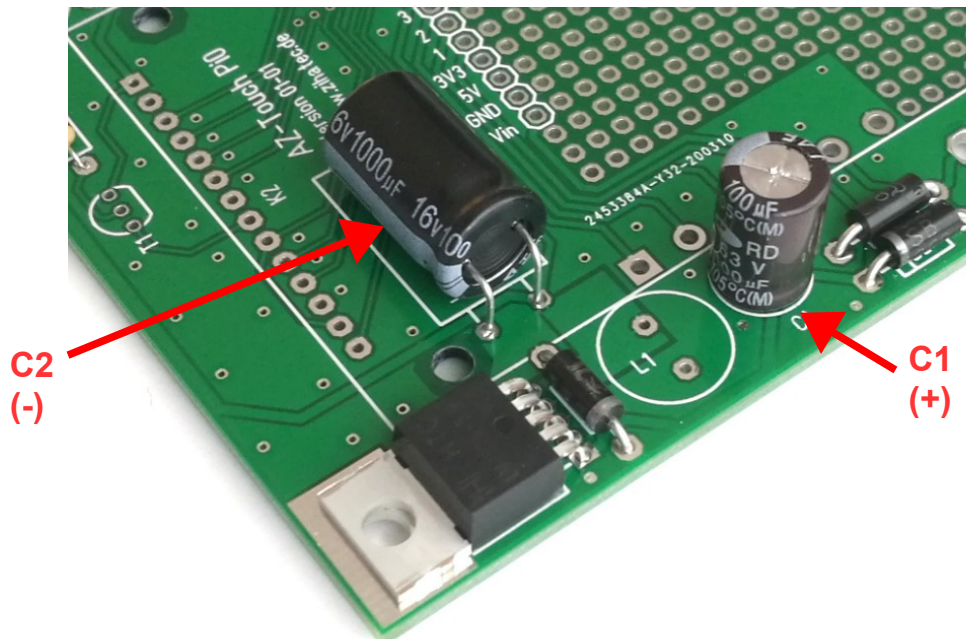


3.) Preparation and assembly of the voltage regulator IC1

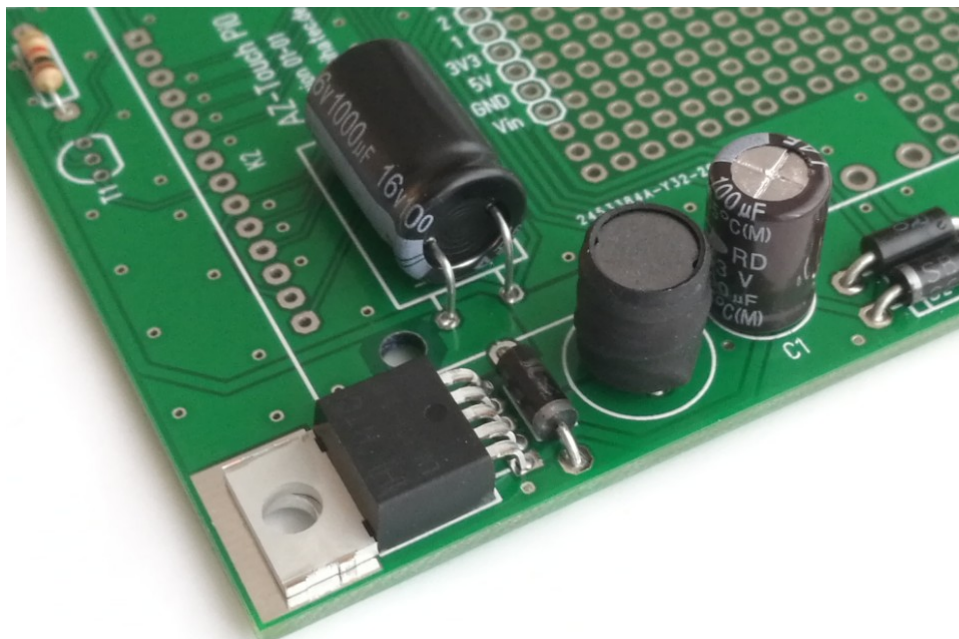
Bend the straight pins of the voltage regulator IC1 2mm beside the regulator in a 90 degree angle first:



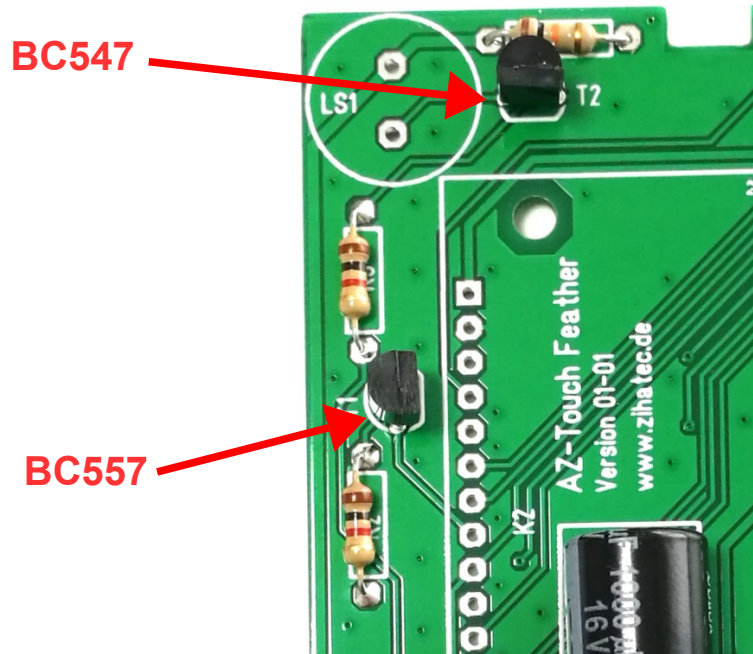
4.) Place and solder the capacitors C1 and C2



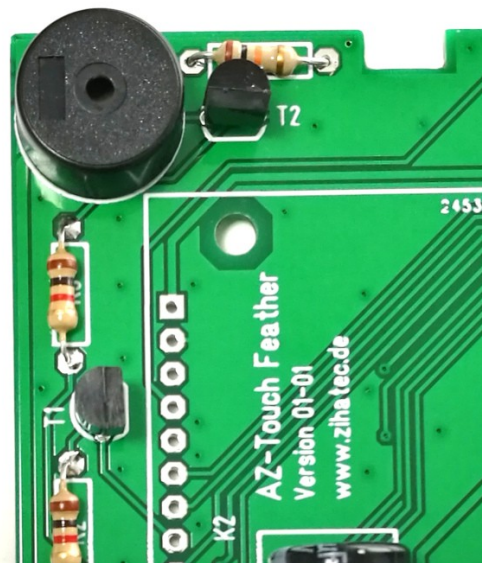
5.) Place and solder the inductor L1



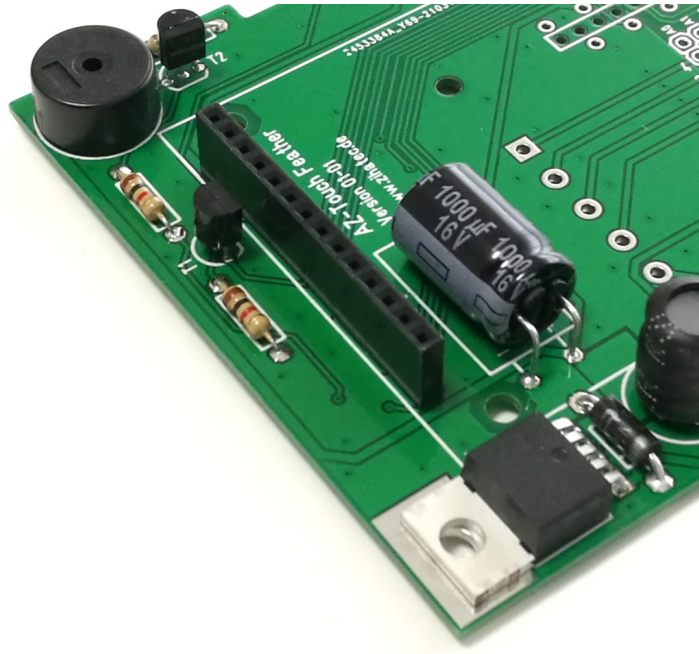
6.) Place and solder the transistors T1 and T2



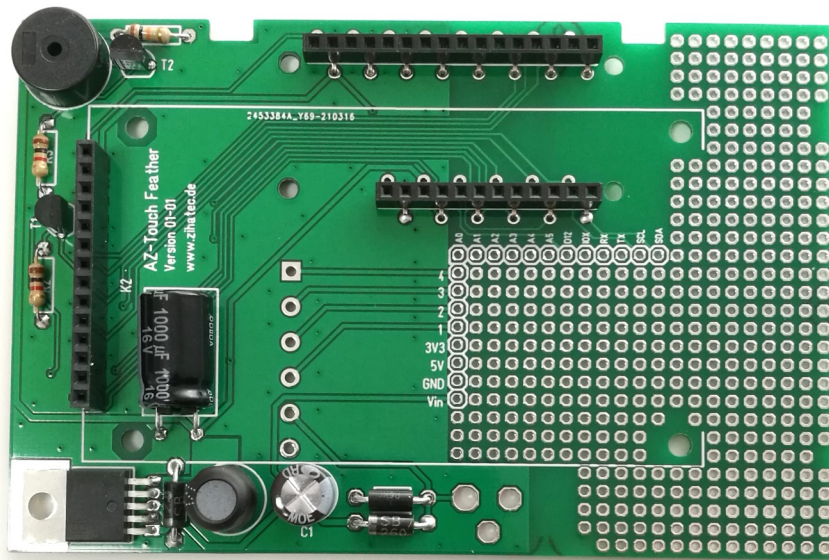
7.) Place and solder the piezo beeper LS1



8.) Place and solder the female header K2



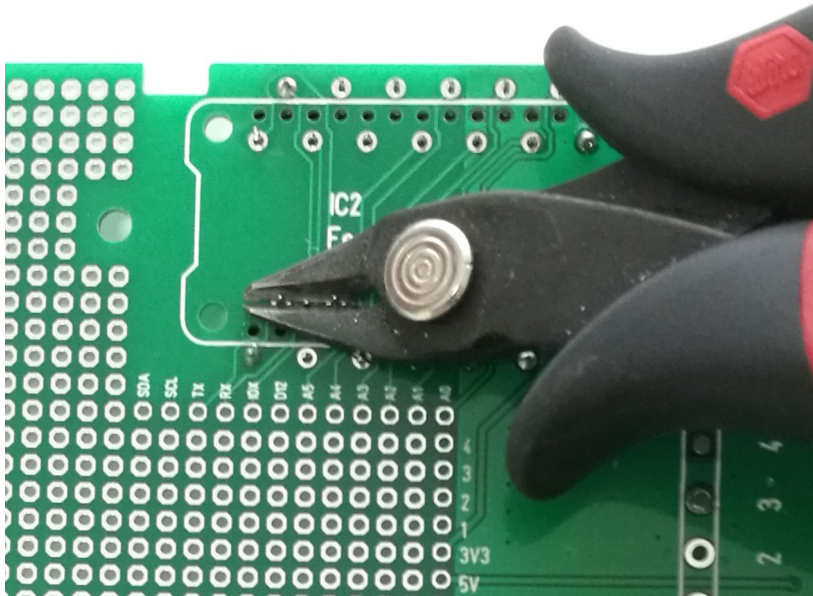
9.) Place and solder the dual entry headers for IC2



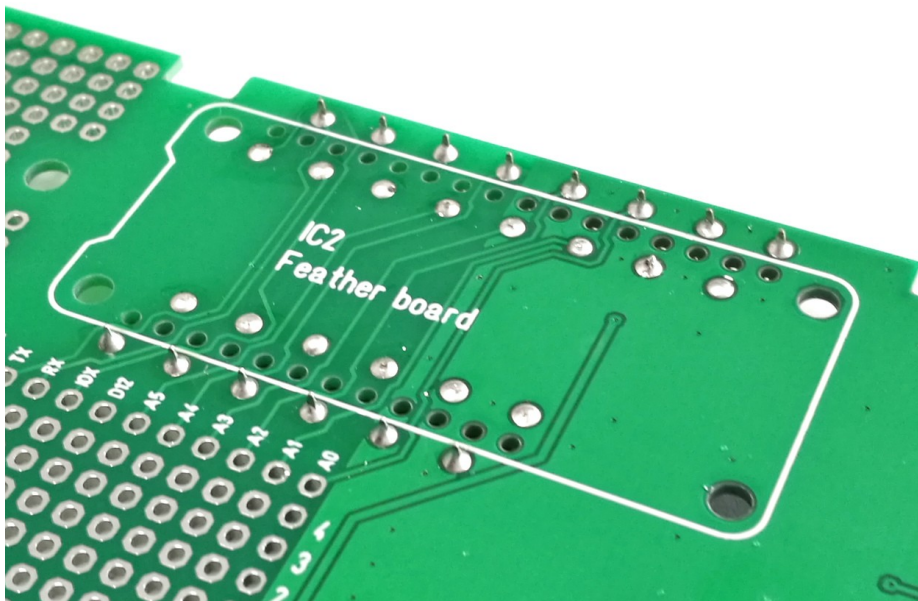
Attention – place these parts on the top side of pcb!

Don't solder the headers - see next step first!

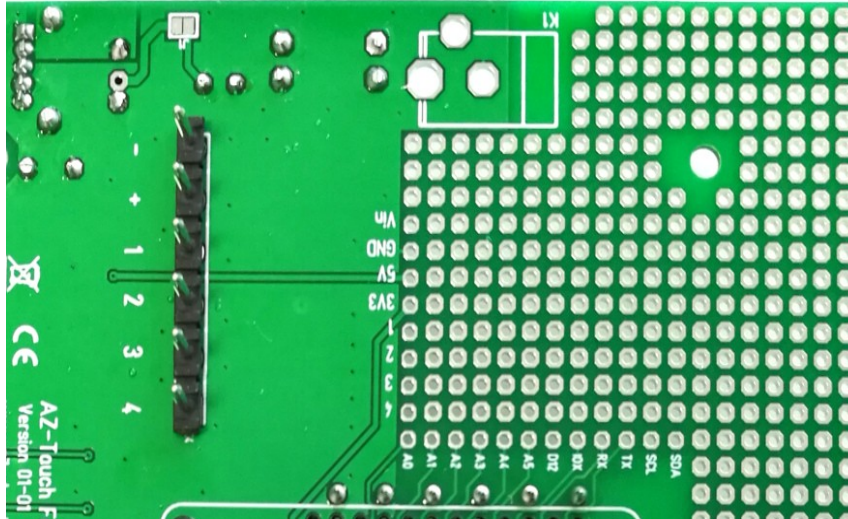
10.) *Cut the inner pins of both connectors plain as possible*



11.) *Solder the pins*

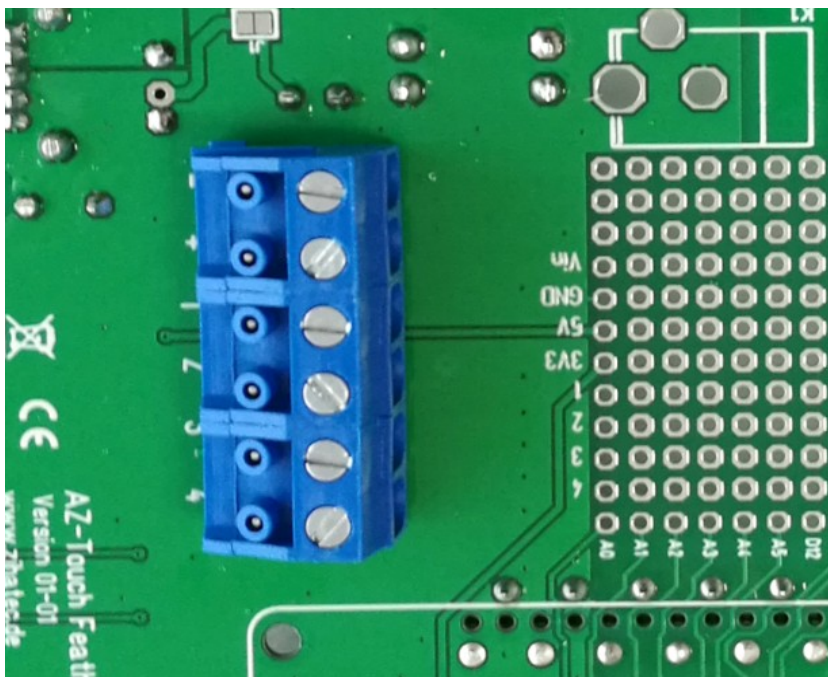


12.) *Place and solder the terminal header K4*



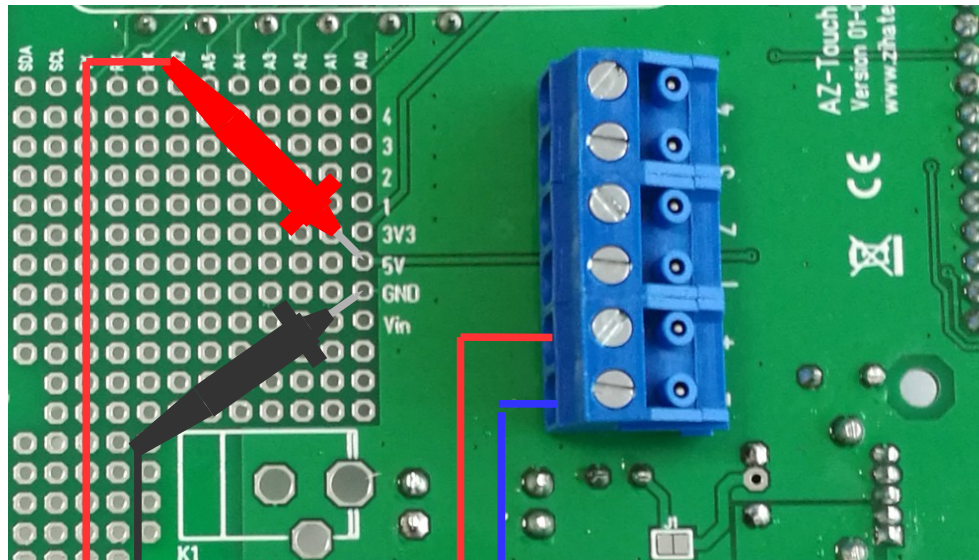
Attention – place this part on the bottom side of pcb!

13.) *Assemble the terminal K4*



14.) Check the power supply

It's time to check the function of the power supply before the final assembly of the unit.



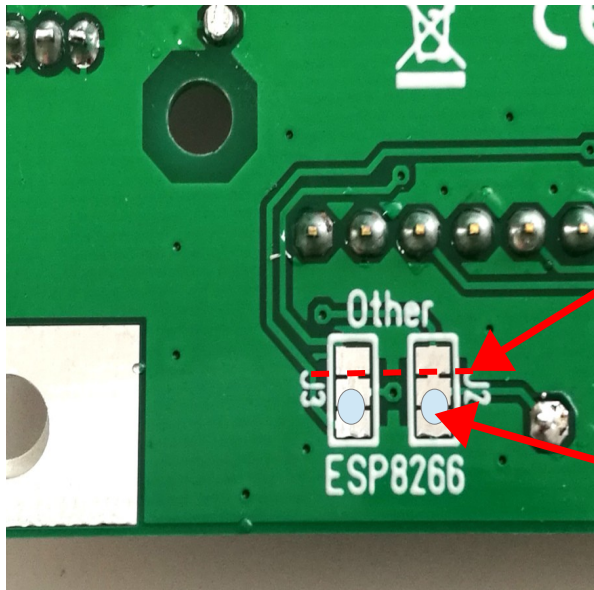
+ -
Vin 9 – 35V DC



**You have to
measure a voltage
between 4.9 – 5.1V!**

15.) HUZAZH ESP8266 only!

The Adafruit HUZAZH ESP8266 has a very limited pin count. Some pins are doubled on both headers. It is necessary needed to set the 2 Jumpers for ESP8266 on the main board:



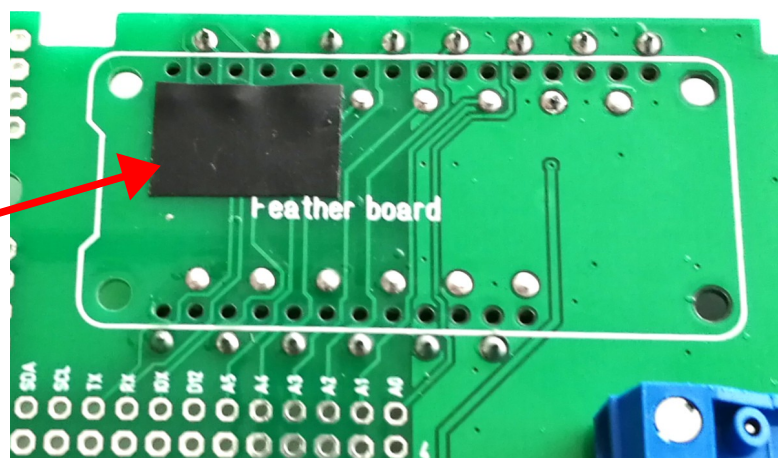
Cut the existing connection with a sharp tool

Create a new connection with solder

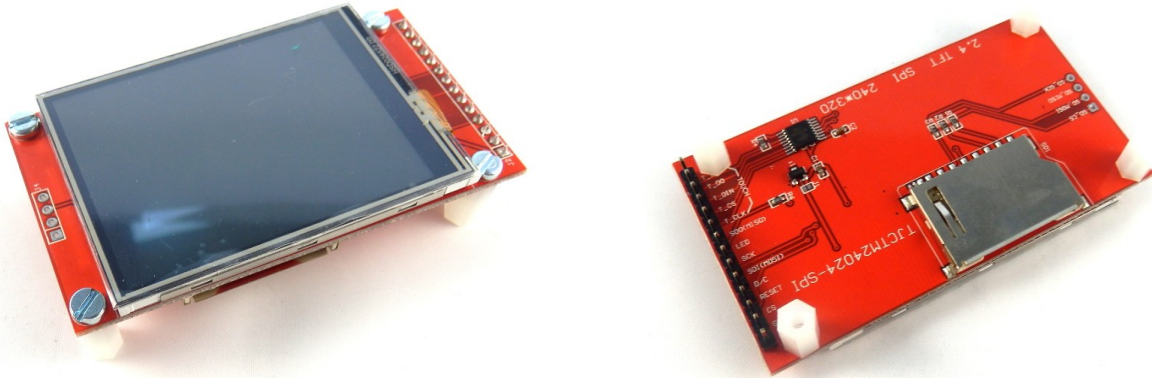
I2C is not available in this case. Backlight is always on!

16.) Sparkfun Thing Plus RP2040 only!

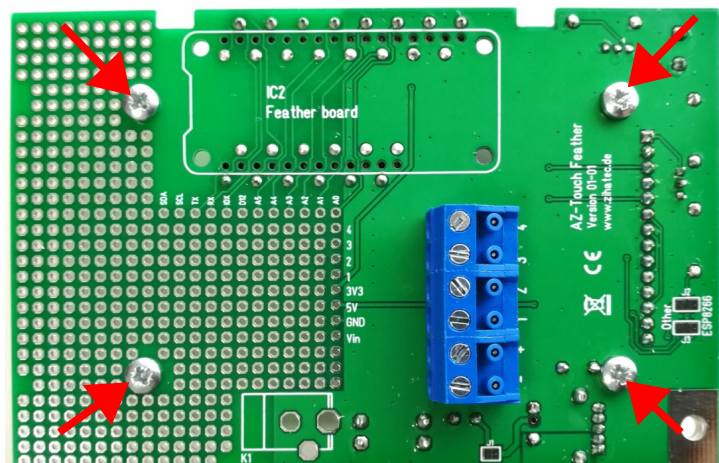
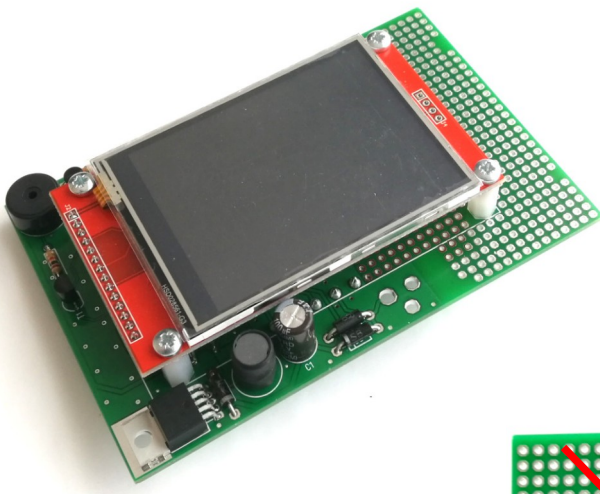
Cover these 3 connections with electrical tape to avoid short circuits



17.) Mounting of Spacers

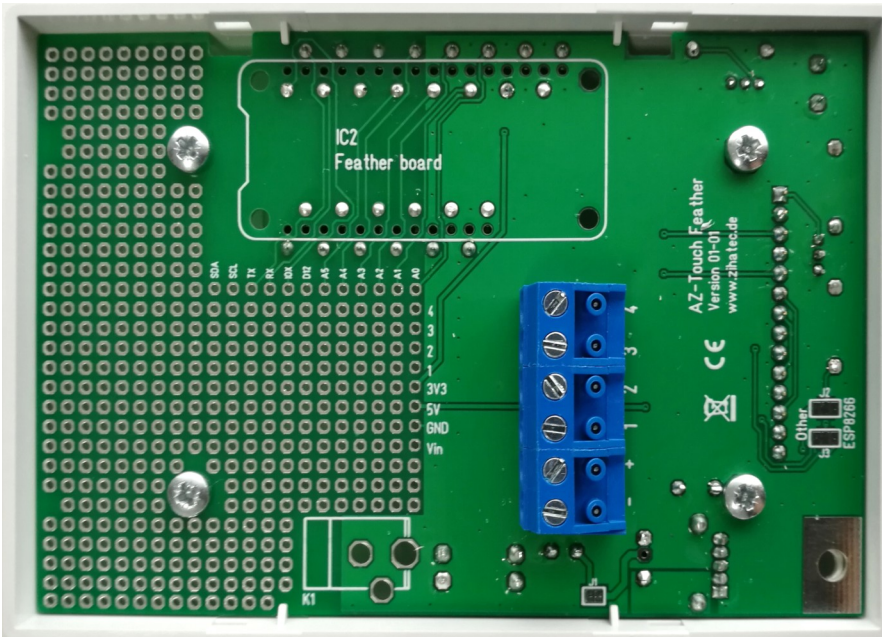


18.) Mounting of Touchscreen



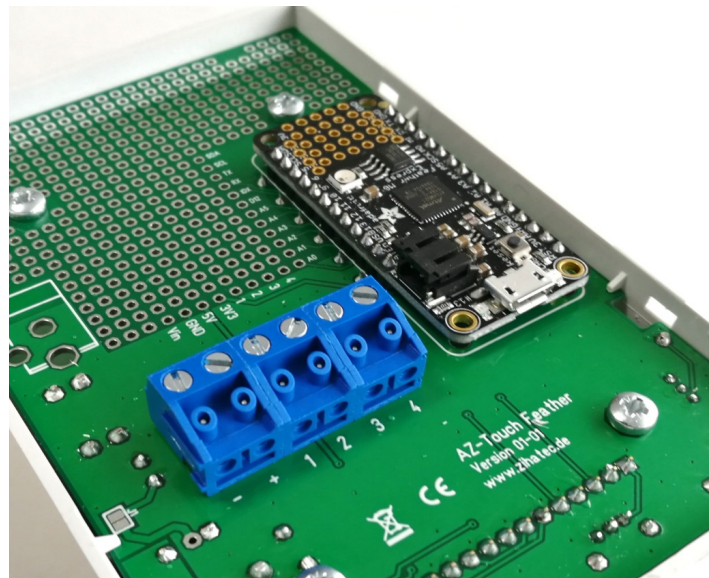
Plug the touchscreen into K2 and fix it with 4 M3 screws on the pcb backside.

19.) Mounting of pcb in the top shell



Position of ventilation slots on this side!

20.) Mounting of Feather Board



Finish!