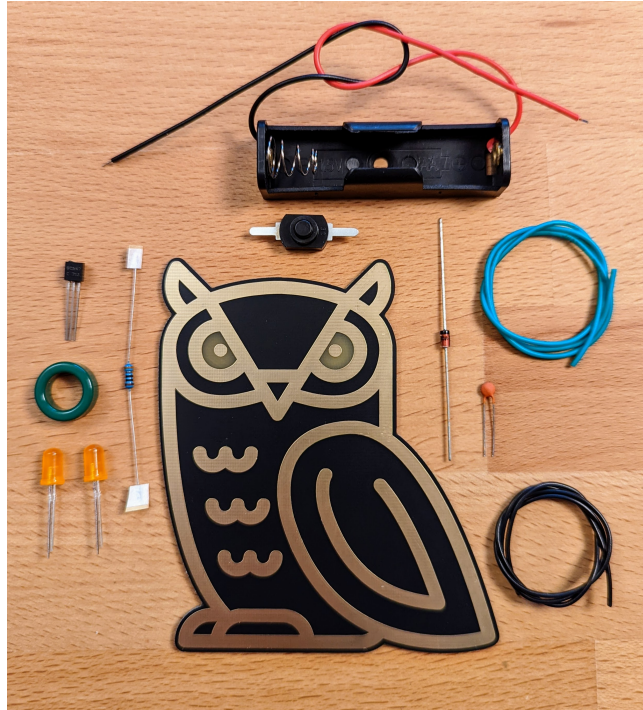


# Owl Thief THT



Quantity	Name	Description	Signing/Colorcode
1	C1	10 nF capacitor	103
1	R1	330 $\Omega$ resistor	OR OR BK BK BR
1	Q1	BC547C NPN transistor	
1	D3	z-diode	
2	D1, D2	5 mm THT LED orange	
1	BT1	1xAA battery holder	
1	SW1	push button	
1	AA batterie (not included)		
1	T1	coil (will be made)	
1	ferrite core (needed for coil)		
2	cable 300 mm (needed for coil)		
1	PCB		
1	C_b1	not included and needed	
1	R_b1	not included and needed	
1	Q_b1	not included and needed	
1	D_b3	not included and needed	

Difficulty: ●●○○○ Build-Time: 1-2 Hours

Manual v1.0 CC BY-SA 4.0 Binary Kitchen e.V.

Board v1.0 CC BY-SA 4.0 Timo Schindler

Farblegende: SI = silber; GO = gold; BK = schwarz; BR = braun; RE = rot; OR = orange; YE = gelb; GR = grün; BL = blau; VI = violett; GR = grau; WH = weiß

# Safety Information

- ATTENTION: Not suitable for children under 3 years, choking hazard due to small parts that may be swallowed.
- We recommend: Supervision of the assembly and soldering process by an adult.
- Keep these operating instructions in a safe place for later use! It contains important information.
- If the battery is empty, replace it only with a new battery with the same values.
- When soldering, the soldering iron, the solder and also the components being soldered become very hot.
- Always wear safety glasses when soldering and assembling the kit.
- Always use a fire proof soldering pad when soldering! This prevents the components from slipping away.
- To keep the soldering iron safe during assembly, always use a suitable soldering stand.
- The kit is designed for battery operation only.
- CAUTION: Never connect the kit to 230 V mains voltage! There is an absolute danger to life!
- Please take the device to appropriately certified disposal companies at the end of its service life. This is good for the environment and ensures correct disposal.
- Subject to changes and errors.

# Disposal

This appliance is labelled in accordance with the European Directive 2012/19/EU on waste electrical and electronic equipment (WEEE). The directive provides the legal framework for the take-back and recycling of waste equipment throughout the EU.

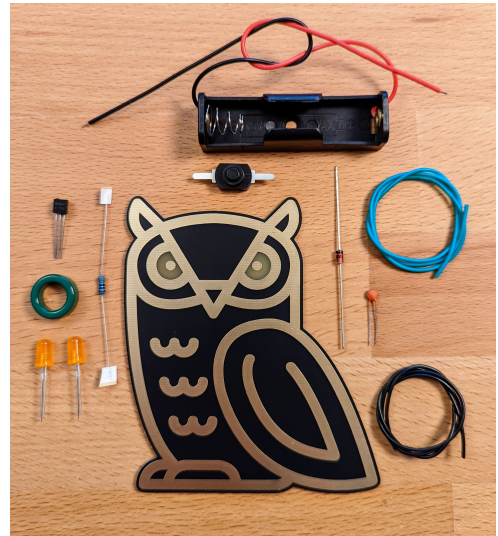
- **packaging:** The packaging is made of environmentally friendly materials and is therefore recyclable. Dispose of packaging materials that are no longer needed accordingly.
- **waste equipment:** Old appliances often still contain valuable materials. Therefore, hand in your old appliance to your retailer or a recycling centre for reuse. Please ask your retailer or your local authority for the current disposal routes.

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93057 Regensburg  
GERMANY



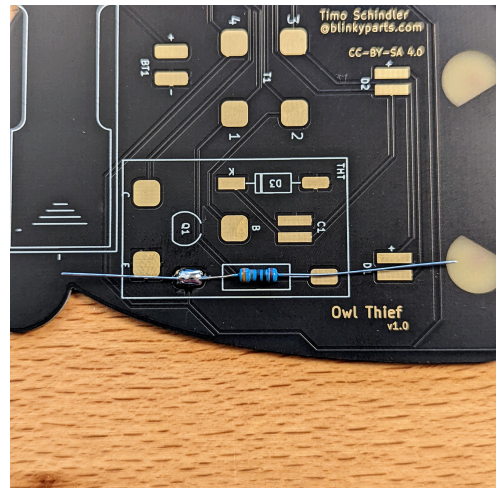
### Step 1

- Tips: The resistor value can be determined via the printed colour coding
- The orientation for resistors and capacitors is not important
- Attention the orientation of diodes, LEDs, transistors and the coil is important and is described in detail in the respective step.



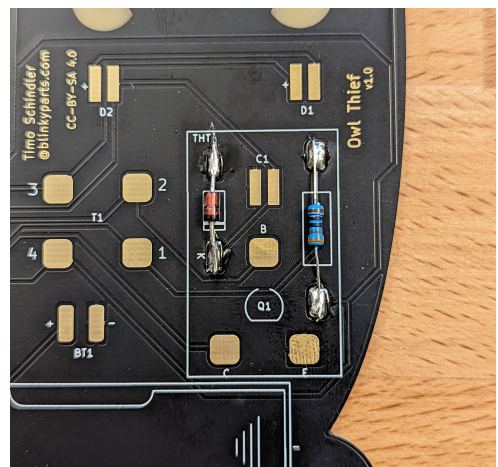
### Step 2

- The THT components are not plugged in but soldered on. First solder the resistor R1; Apply solder to one side; Then take the resistor and push it from the side into the reheated solder; Then solder the second side; Now remove the excess wires.



### Step 3

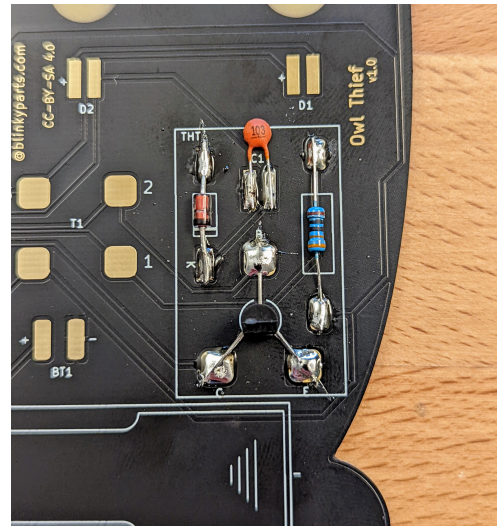
- Solder on the Z-diode D3. Attention: The direction of the diode is important and is printed on the diode and the PCB. The black line on the diode must face in the direction of the white line on the PCB
- solder the diode in place using the method as described
- cut off the excess bits of wire.





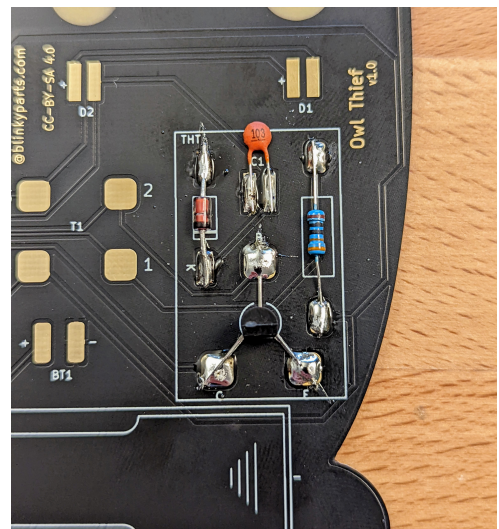
#### Step 4

- Solder the capacitor C1 with the shown method. The direction is not important
- cut off the excess wire.



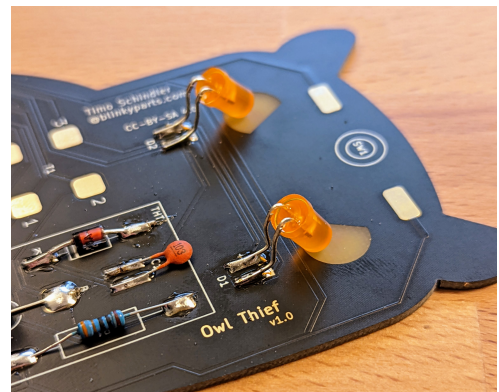
#### Step 5

- Solder the transistor Q1
- Attention the direction is important. The flat side must point downwards (also printed on the board)
- bend the middle leg upwards. Bend the outer legs at an angle of  $120^\circ$  (see picture)
- Solder the transistor according to the method shown
- Cut off the excess wire.



#### Step 6

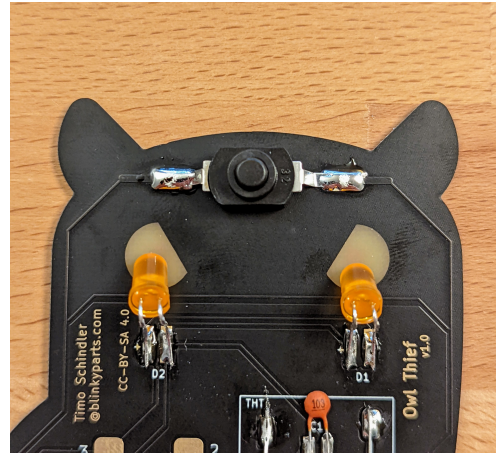
- Now solder on the LEDs D1 and D2. Attention: The orientation of the LED is important. The long leg indicates the positive side. A + is printed on the board (left pad).
- Now bend the LEDs so that the tip of the LED points to the yellow area on the board (see picture).
- Solder the LEDs in place using the method shown.
- Cut off the excess bits of wire.





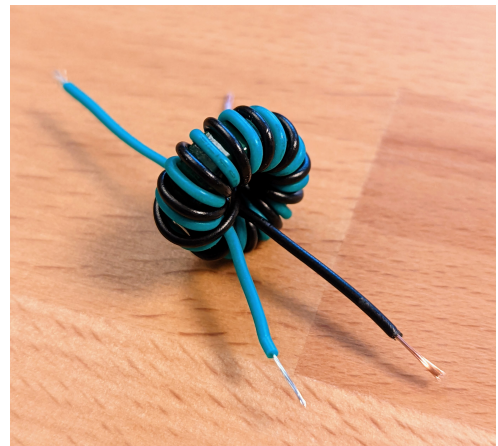
### Step 7

- a) Bend the solder tags of the switch SW1 so that they can touch the PCB surface.
- b) Solder the switch with the method as shown.



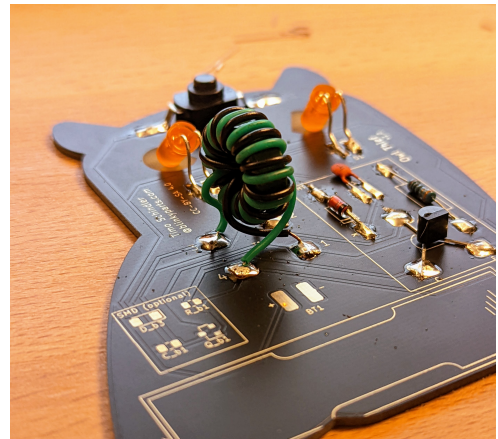
### Step 8

- a) Remove about 5 mm of insulation from each side of the two wires
- b) Join the wires to form a pair and wind the wire 10-12x through the ferrite core
- c) Tin all open wire ends.



### Step 9

- a) Now solder the coil T1. As you can see in the previous picture, there should be two wires in two colours coming out of each hole of the ferrite core (we call the colours of the wires colour F1 and colour F2). To tell the two sides of the coil apart, mark the wires of one side with a marker pen. On the board you will find four pads marked 1-4
- b) solder the coil to the board as follows: F1 of the marked side to pad 1
- c) F2 of the marked side to pad 3
- d) F1 of the unmarked side to pad 2
- e) F2 of the unmarked side to pad 4.



### Step 10

- a) Solder the battery holder on
- b) First shorten the wires to about 60 mm length
- c) Remove about 5 mm of insulation from both wires
- d) Tin the open ends
- e) Solder the red wire to + of BT1
- f) Solder the black wire to - of BT1
- g) Glue the battery holder on the board with hot glue as shown. Make sure, that the battery holder is aligned with the bottom edge of the PCB.



### Step 11

- a) You are done! Turn on the owl and let its eyes shine
- b) (optional) You can put some hot glue on the back of the eyes, this will spread the light a bit better.

