BleepBot

Quantity	Description	Labeling/color code
2	LEDs blue	
1	Resistor $10\,\mathrm{k\Omega}$	BK BR BK RE BR
1	Ceramic capacitor $100\,\mathrm{nF}$	104
1	Transistor 2N3904	
1	ATtiny25	
1	Loudspeaker	
1	Slide switch	
1	CR2032 battery holder	
1	CR2032 battery (not included)	
1	BleepBot circuit board (PCB)	

Difficulty: ●●○○○ Build-Time: 30 – 60 Minutes

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.

blinkyparts.com
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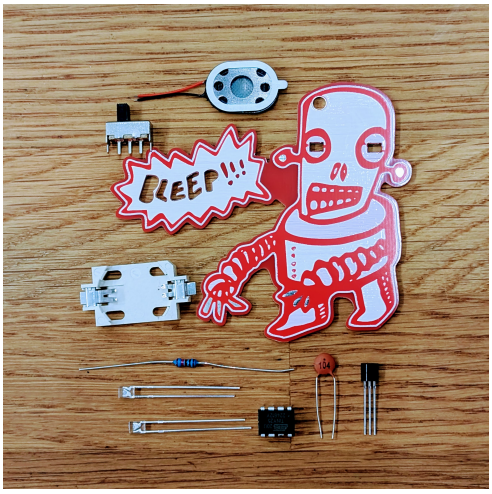
93057 Regensburg
GERMANY

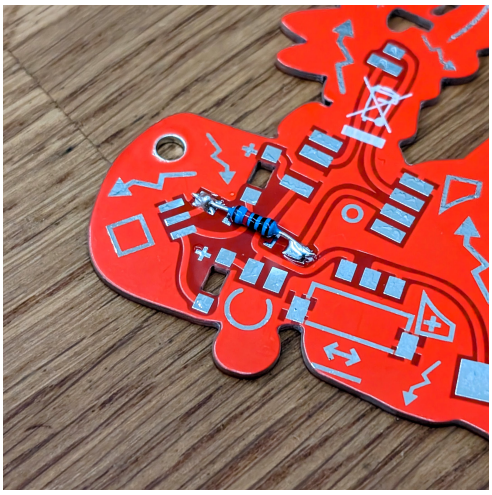
Step 1

a) Check your components
b) A CR2032 battery is not included. You can buy them online or at larger electronics stores.
c) If something is missing, check the bag again. Sometimes something gets stuck there.



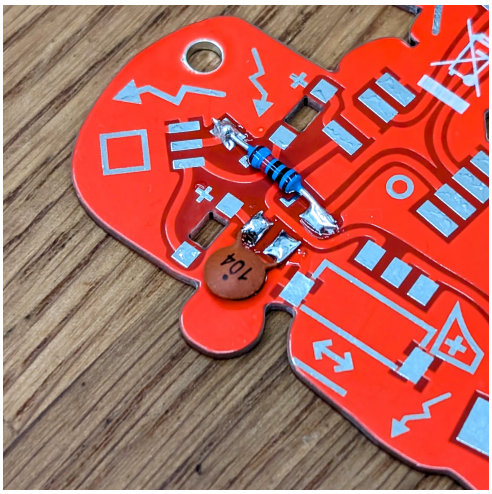
Step 2

a) First solder on the resistors R1.
b) Resistors have no direction.
c) R1 has the color code: BK BR BK RE BR and goes where you see two square brackets.
d) Cut off the protruding wires.



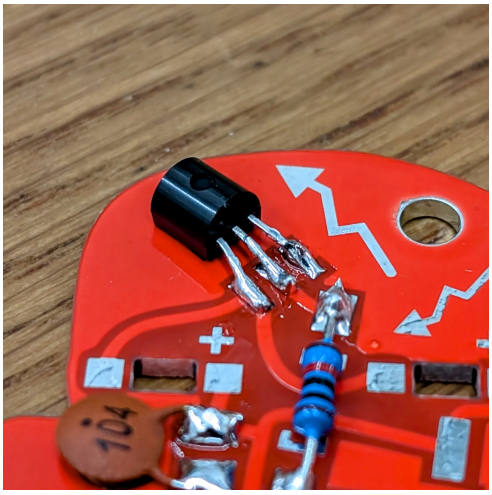
Step 3

a) Solder on the capacitor (labeled 104). This goes in the place with an open circle.
b) The ceramic capacitor also has no direction.
c) Cut off the protruding wires.



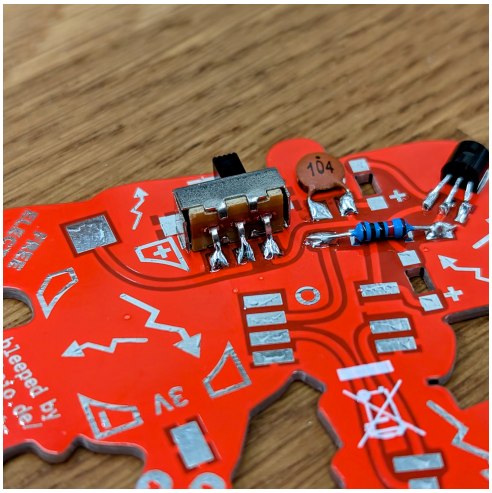
Step 4

a) Solder on the black transistor.
b) Note that a transistor has a flat side. The flat side must face the board.
c) Solder the transistor on where you see a rectangle and three lines.
d) You have to bend the legs apart a little to be able to solder everything on properly.
e) Cut off the excess legs.



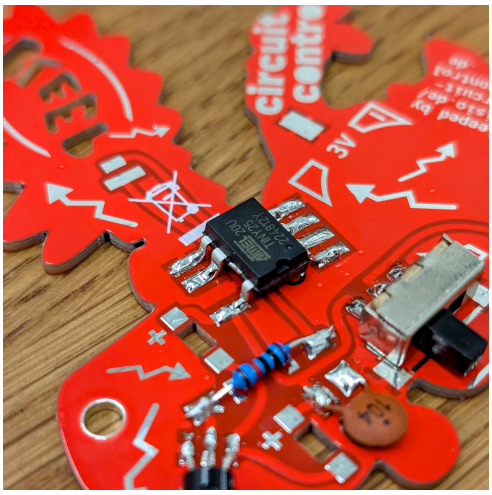
Step 5

a) Now take the slide switch. First cut off the two pins on the outside (left and right) with a strong pair of side cutters.
b) Then bend the three remaining pins so that they touch the board later when you place the switch on its side. The direction in which you bend them does not matter. Solder the three middle pins to the board. The switch goes where you see two arrows and three pads.



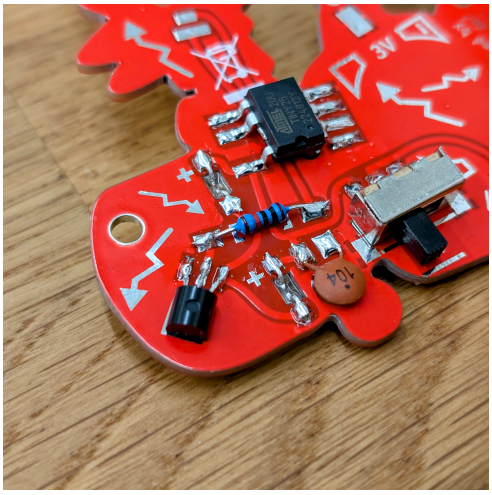
Step 6

a) Now take the ATtiny. Bend all the legs outwards, so that the chip lies flat on the underside
b) The ATtiny has a notch on one side. On the circuit board you will see 7 pads (silver areas) with a small silver circle. The notch is also on the side, where the circle is.
c) Place the chip on the spot (initially without soldering). You will see that a pad is missing at one point. Cut off the corresponding pin
d) Solder all remaining pins to the corresponding pads.



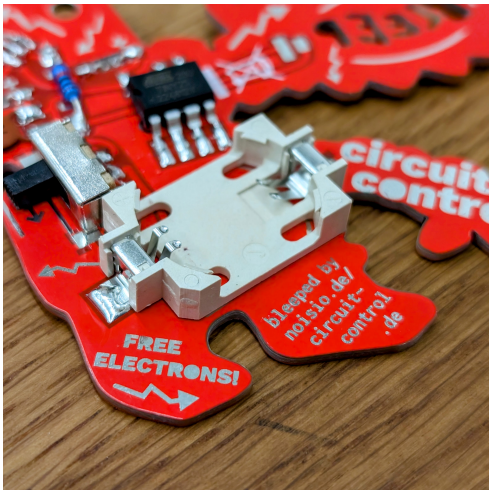
Step 7

a) Solder in the two LEDs
b) Attention: LEDs also have a direction. The longer leg of the LEDs marks the positive side.
c) The positive side is marked with a plus symbol on the circuit board.
d) Bend the legs of the LEDs sideways. Insert the LEDs through the rectangular holes. Make sure that the long leg is on the plus side.
e) Solder all the legs in place.
f) Tip: Place the battery holder under the circuit board. This makes it easier to insert the LEDs into the hole. If you are sure about the side, you can also cut the legs to the right length.



Step 8

a) Solder on the battery holder
b) Note that this also has a direction. A piece is cut off at an angle at one corner. This marks the positive side
c) The positive side is marked with a large rectangle on the circuit board
d) Solder the battery holder in exactly the same way.



Step 9

a) Now solder on the loudspeaker. The speaker has a red and a black cable. The ends of the cables should already be without insulation
b) The speaker goes into the robots' speech bubble. There you will find two pads. Place the black cable on the pad that is closer to the chip. Remove the protective film from the adhesive surface of the speaker and stick the speaker onto the circuit board.

Step 10

a) You’re done!

b) Insert a battery (the + must point upwards). Attention! Insert the battery at an angle, so that the grippers on the positive side can grip the top of the battery.