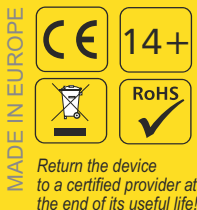


Firmenanschrift aufbewahren - Nicht geeignet für Kinder unter 3 Jahren! - Verschluckbare Kleinteile! Keep the address of the company - Not suitable for children under 3 years! - Contains small parts! Veuillez conserver l'adresse - Ne convient pas pour les enfants de moins de trois ans! - Contient de petites pièces pouvant être absorbées! Adres bewaren - Niet geschikt voor kinderen beneden 3 jaar! - Kleine onderdelen Kunnen worden ingeslikt!

**SOL-EXPERT group**, C.Repy - Mehlißstrasse 19 - D-88255 Baindt  
Tel.: +49 (0)7502 - 94115-0 - Fax: +49 (0)7502 - 94115-99  
info@sol-expert-group.de - [www.sol-expert-group.de](http://www.sol-expert-group.de)



No. 76335



## QR Codes

Hier geht es zur Anleitung:



<https://www.sol-expert-group.de/Rund-ums-Loeten/Pfiffige-Loetbausatz/Weihnachtsbaum-mit-Kerzen-LEDs-Loetbausatz::1265.html?language=de>

Click here for the instructions:



<https://www.sol-expert-group.de/All-about-soldering/Smart-kits-for-soldering/Christmas-tree-with-candle-LEDs-solder-kit::1265.html?language=en>

Cliquez ici pour les instructions:



<https://www.sol-expert-group.de/Autour-de-la-soudure/Kits-astucieux-pour-la-soudure/Arbre-de-Noel-avec-des-bougies-LED-kit-de-soudure::1265.html?language=fr>

Klik hier voor de instructies:



<https://www.sol-expert-group.de/Rond-solderen/Clever-kits-voor-het-solderen/Kerstboom-met-kaarsleds-soldeerkit::1265.html?language=nl>

### Parts list Check and sort out parts

Qty.	Part	Value/Description
1	Circuit board	96610
12	LED 5 mm (LED1 - LED12)	Orange colour, flickering
2	Resistor (R1/R2)	47 Ohm
2	Resistor (R8/R9)	56K Ohm
1	Resistor (R10)	620 Ohm
2	Capacitor (C3/C4)	47 uF/10V
2	Transistor (T3/T4)	BC547B
1	Switch (SW1)	SS12D01
1	USB connector	assembled
1	Front panel	2-pc.

### You will also need:

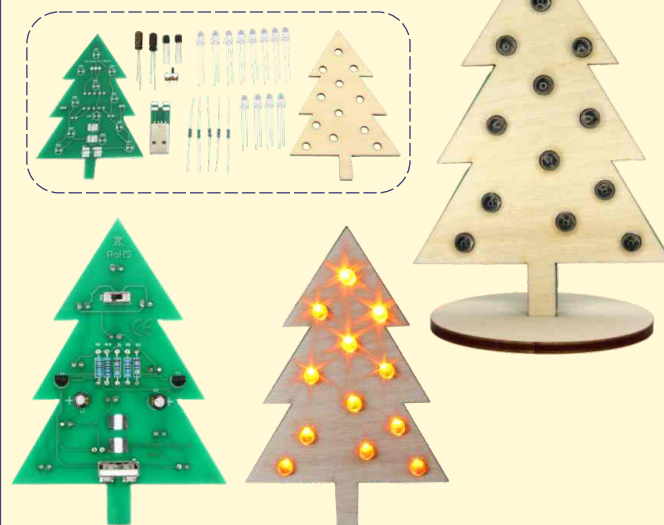
Soldering iron, solder, wire cutters, tweezers, power bank or USB port

### The Christmas tree with flickering candle LEDs soldering kit

The Christmas tree soldering kit uses real flickering LEDs. These flickering orange LEDs simulating candlelight add a great touch to this kit and add a Christmas ambiance. The lights can be set to steady or blinking. A great electronics building kit to use for decoration or anybody wishing to learn how to solder. The included plywood front panel can be decorated for Christmas before attaching it. Dimensions: 100 x 70 mm. The 'Christmas Tree' electronics building kit is powered via power bank or via USB port. This eliminates costly batteries. The kit with over 25 parts is an excellent introduction to soldering.

### Christmas tree with candle LEDs

Soldering kit, powered via power bank or USB port



**Recommendation for children and teenagers:** Assembly and soldering should be supervised by an adult.



### IMPORTANT SAFETY NOTES

- Keep this manual for future reference! It contains important information.
- This kit is intended for USB power only. **Never connect the kit to 230 V mains voltage!**  
**Acute danger to life!**
- The soldering iron, solder and the parts being soldered become very hot. Be very careful!
- Always use a mat when soldering! This prevents parts and the circuit board from slipping.
- We recommend using a soldering iron holder to set the soldering iron down safely during use.

### ENVIRONMENTAL NOTES

#### Generally:

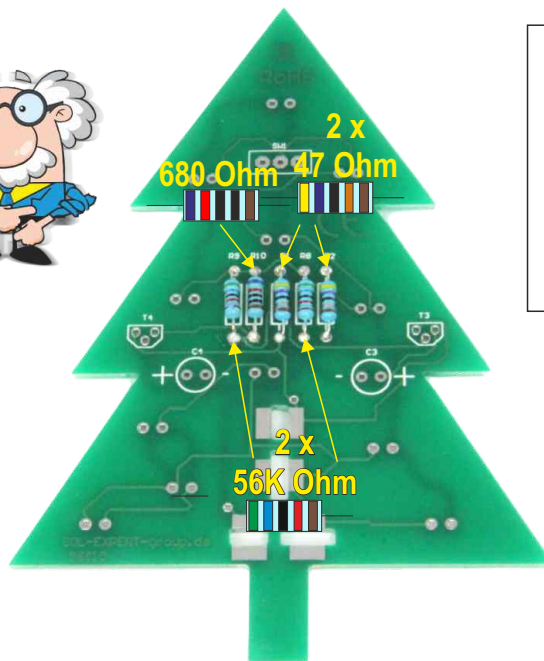
Please return the circuit board to a certified provider at the end of its useful life. These will then ensure it is disposed of in compliance with directives. This is good for the environment and an important part of actively protecting the environment.

## ASSEMBLY INSTRUCTIONS

- A** Circuit board direction for soldering: 'RoHS' must be visible, then the board is on the correct side.

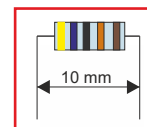
**Solder 5 resistors into place, paying attention to the resistances.**

The resistor polarity is not important! Trim excess wires.



### Parts needed

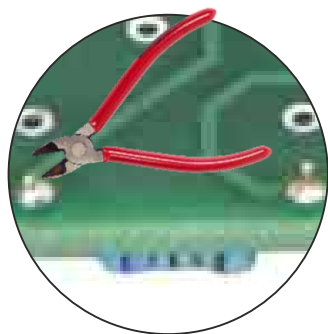
2 x 47 Ohm  
2 x 56K Ohm  
1 x 680 Ohm



**Bend the resistor wires so they slide easily between the lands**

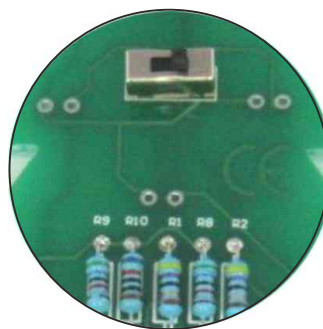


- B** Trim excess wires.



After soldering, use wire cutters to trim the excess wires at the back to approx. 2 mm.

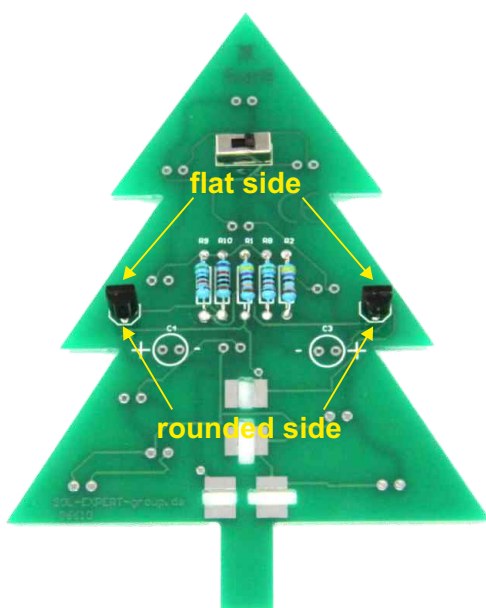
- C** Solder switch into place. Trim excess wires.



### Parts needed

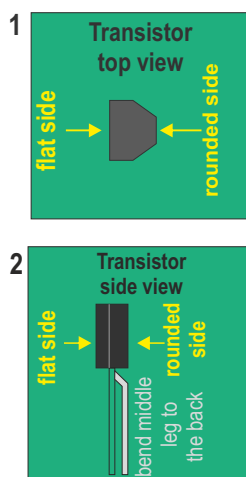


- D** Solder 2 transistors in place. Pay attention to the direction (1)! Bend the middle leg of the transistor slightly to the back (2).

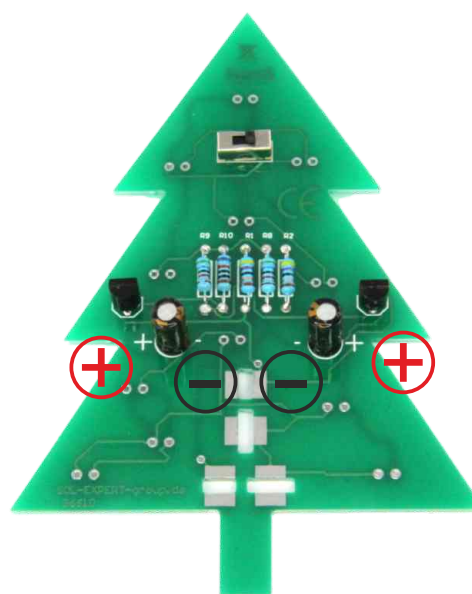


### Parts needed

2 x BC547B



- E** Solder 2 capacitors in place. Pay attention to the polarity!



### Parts needed

2 x 47 uF



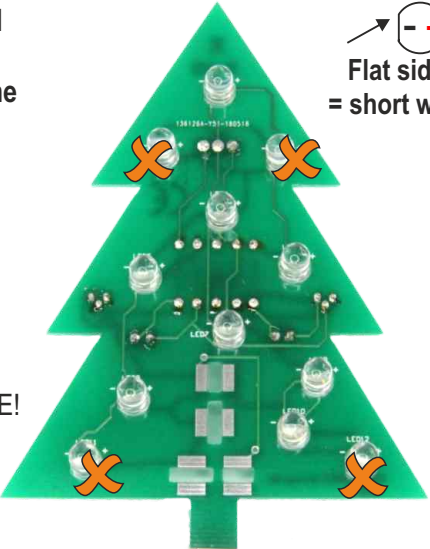
### IMPORTANT!

Imprint →  
The longer leg is '+'

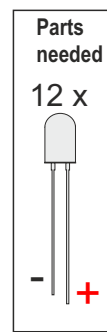
**F** Turn the circuit board over and solder the LEDs in place from the front.


Pay attention to the polarity - the polarity is shown on the circuit board!

The longer leg on the LED is always POSITIVE!  
Trim excess wires.



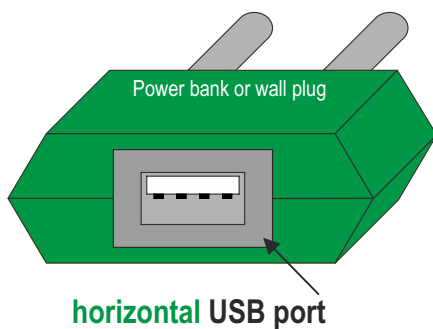
Flat side = short wire



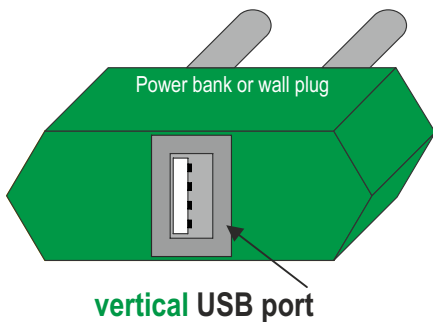
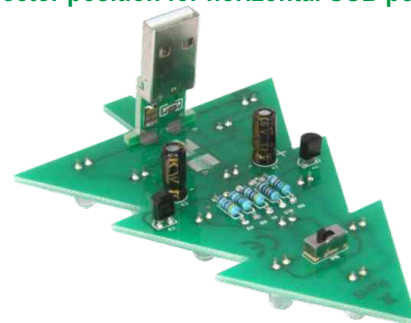
**ATTENTION:** the soldered on LEDs must be flat on the board. To do so, solder on the 4 marked LEDs  then the others. When soldering, make sure the legs do not short-circuit! A short-circuit is caused by e.g. accidentally soldering together 2 wires with solder.



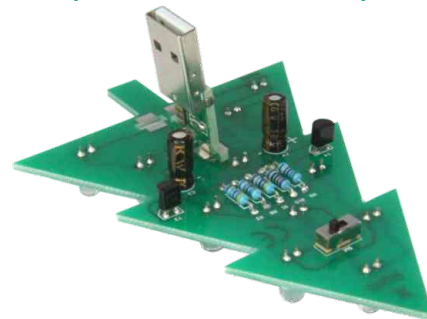
**G** Before installing the USB connector you will need to determine if the USB port on the power bank or the USB adapter you will be using to power the tree is horizontal or vertical.



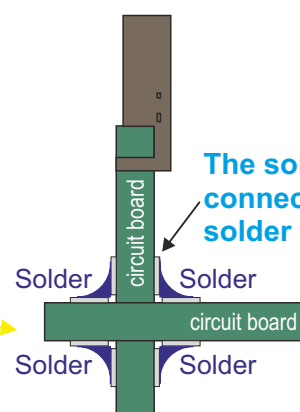
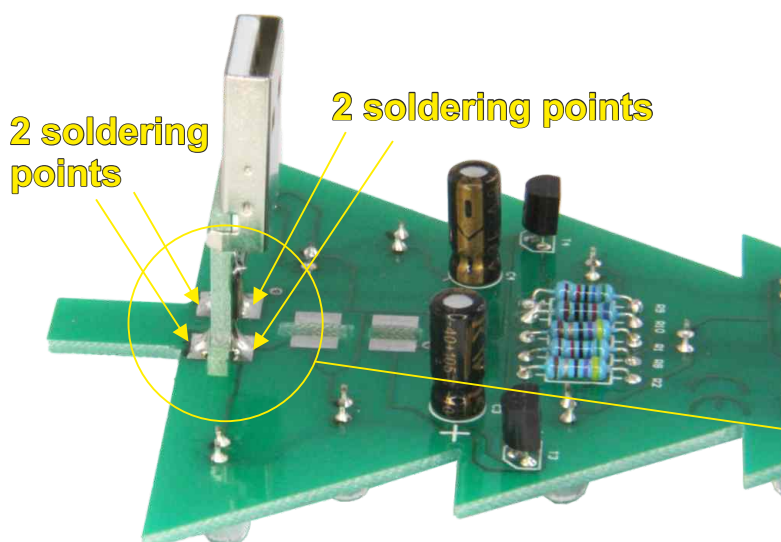
USB connector position for horizontal USB port:



USB connector position for vertical USB port:



**H** After choosing the correct position you can solder the USB connector in place. First slightly solder in one area, adjust the USB connector (if crooked), then solder on the other 3 areas. Once all 4 points have been soldered, the USB will then be firmly attached.

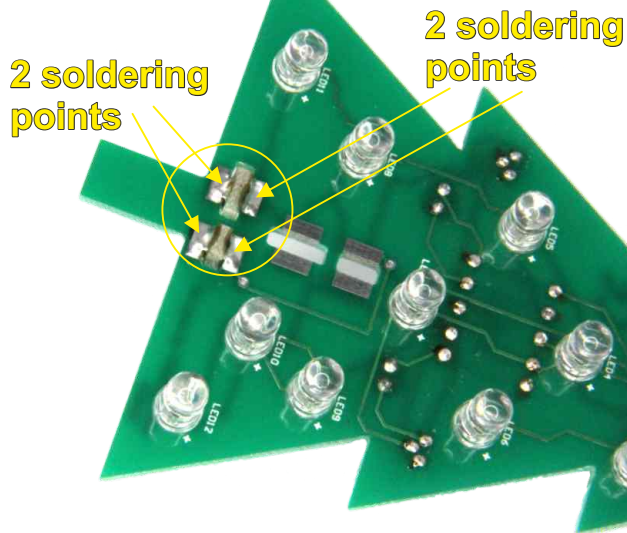


The solder connects the solder pads.





- I** Turn over the circuit board and solder the other 4 points on the front.



**J VISUAL INSPECTION:**

Lean back in your chair and take a mental break. Once you feel relaxed, read through the assembly instructions again from the start, checking if you did everything as instructed. Pay particular attention to short-circuits and the resistances, etc. Take your time and once you have checked all items, plug the USB connector into a power bank or a USB port.



Some power banks have a power button which needs to be pushed for the circuit board to work.

- K** Slide the front panel over the LEDs, using a little pressure. If necessary, adjust the LEDs!



Once plugged in, all LEDs should now flicker. Depending on the setting they will either be steady or blink.

**TROUBLESHOOTING:**

No LEDs on:

- Check all LED and transistor soldering points
- Check the transistors for short-circuits
- Did you push the power button on the power bank to switch it on?
- Is the power bank charged?

Specific LED does not light up:

- Check the soldering points for the LED
- Is the LED installed the correct way?

