

# User Guide for LED Christmas Tree Kit

7 Colors 3D LED Christmas Tree Kit for DIY Soldering practice Project

<Link: <https://www.amazon.com/dp/B08GKNYSF5>>

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## Summary

3D Christmas tree DIY soldering kit is designed to improve users' electronics knowledge and soldering skills. It is perfect for electronic fans, school student projects, ASP(After School Program) and STEM education.

## Tools

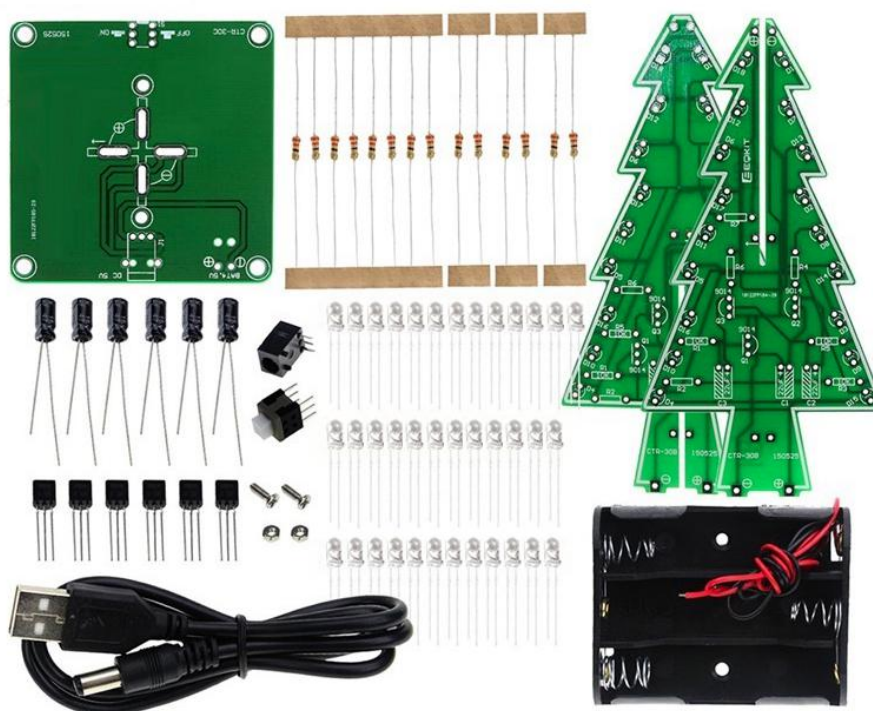
Tools may need to finish the project(excluded in the package): soldering iron, solder wire, Pliers, Screwdriver, Tweezers.

## Note:

1. The components name are well marked on the PCB board and easily to find where the component should place and solder.
2. Students /kids should solder under the guidance of teachers or parents.
3. Count all the components and compare to our component list, please contact us [Email](mailto:mike_mm@yeah.net) firstly if there is any lost.

**Parameters**

Working voltage	DC4.5-5V
Power Type	AA*3 batteries or USB Cable
LED Color	7 colors
Size	136mm*66mm*60mm/

**Components package included****Components List**

NO.	Name	Parameter	QTY
1	PCB	CTR-30A, CTR-30B, CTR-30C	3
2	Resistor	2K	2
3	Resistor	1K	2
4	Resistor	330 OHM	2
5	Resistor	10K	7
6	Capacitor	47uF/16V	6
7	RGB LED	3mm	37
8	Transistor	S9014	6
9	Self-lock Switch		1
10	DC power socket	3.5mm	1
11	Battery Box	AA*3	1
12	USB Power Cable		1
13	Screws	M2*8mm	2
14	Nut	M2	2



## Installation Steps

### Step 1.

Soldering 7 pieces of 10K Resistors(color: brown-black-orange) on PCB A&B: R1, R3, R5, R7:

1. Soldering 7 pieces of 10K resistors(color: brown-black-orange) on PCB a & b: R1, R3, R5, R7.





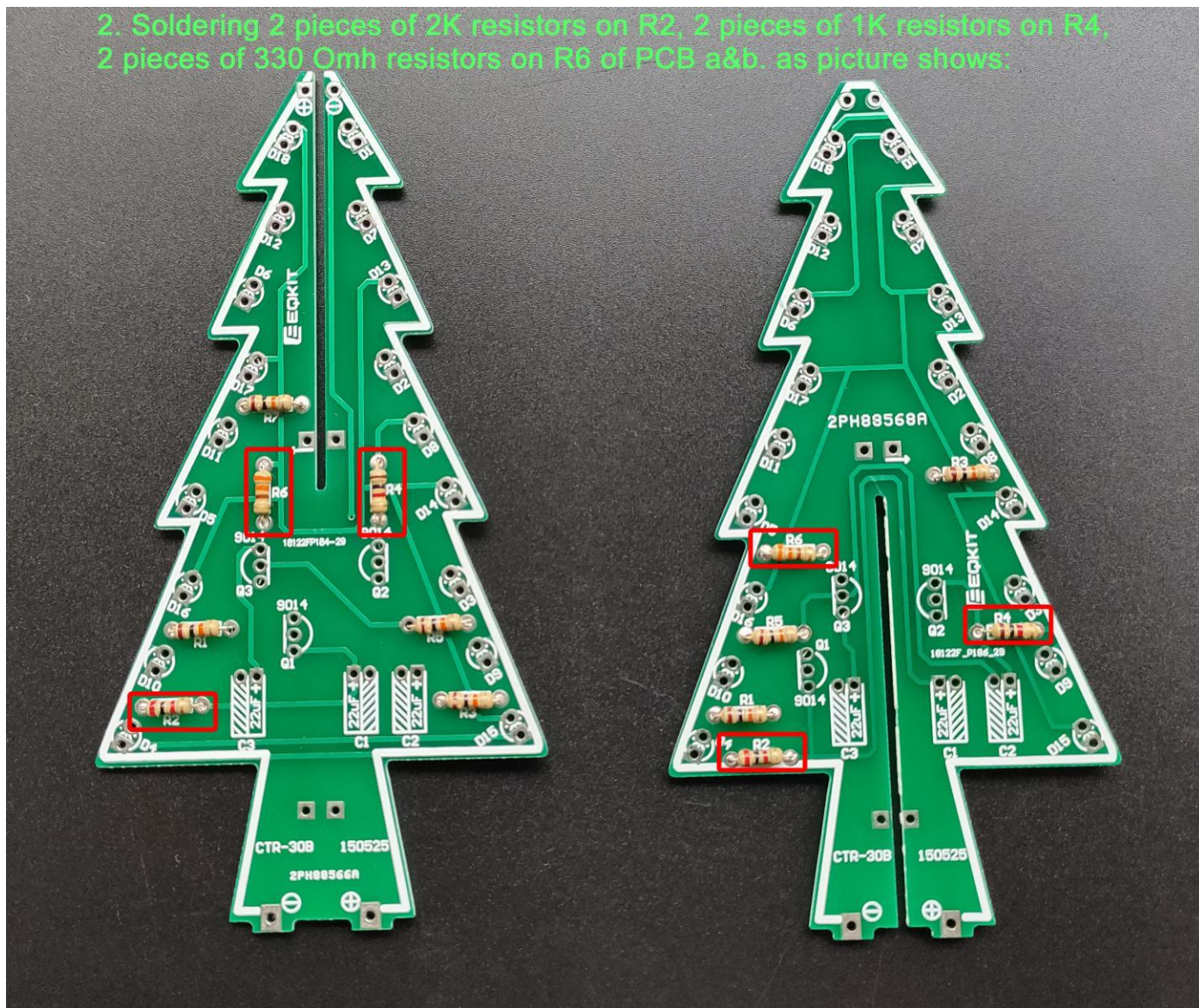
**Step 2.****Soldering**

2 pieces of 2K Resistors(color: red-black-red) on R2,

2 pieces of 1K(color: brown-black-red) on R4,

2 pieces of 330 Ohm(color: orange-orange-brown) on R6 of PCB A&B.

2. Soldering 2 pieces of 2K resistors on R2, 2 pieces of 1K resistors on R4, 2 pieces of 330 Ohm resistors on R6 of PCB a&b. as picture shows:





**Step 3.**

Soldering 6 pieces of Capacitors on C1, C2, C3 of both PCB A&B:

Note: Long pin of Capacitor is positive, match + on PCB; while short pin is negative, match - on PCB.

3. Soldering 6 pieces of Capacitors on C1, C2, C3 of both PCB A&B.



Note: long pin of Capacitor → positive → + on PCB  
short pin → negative → - on PCB

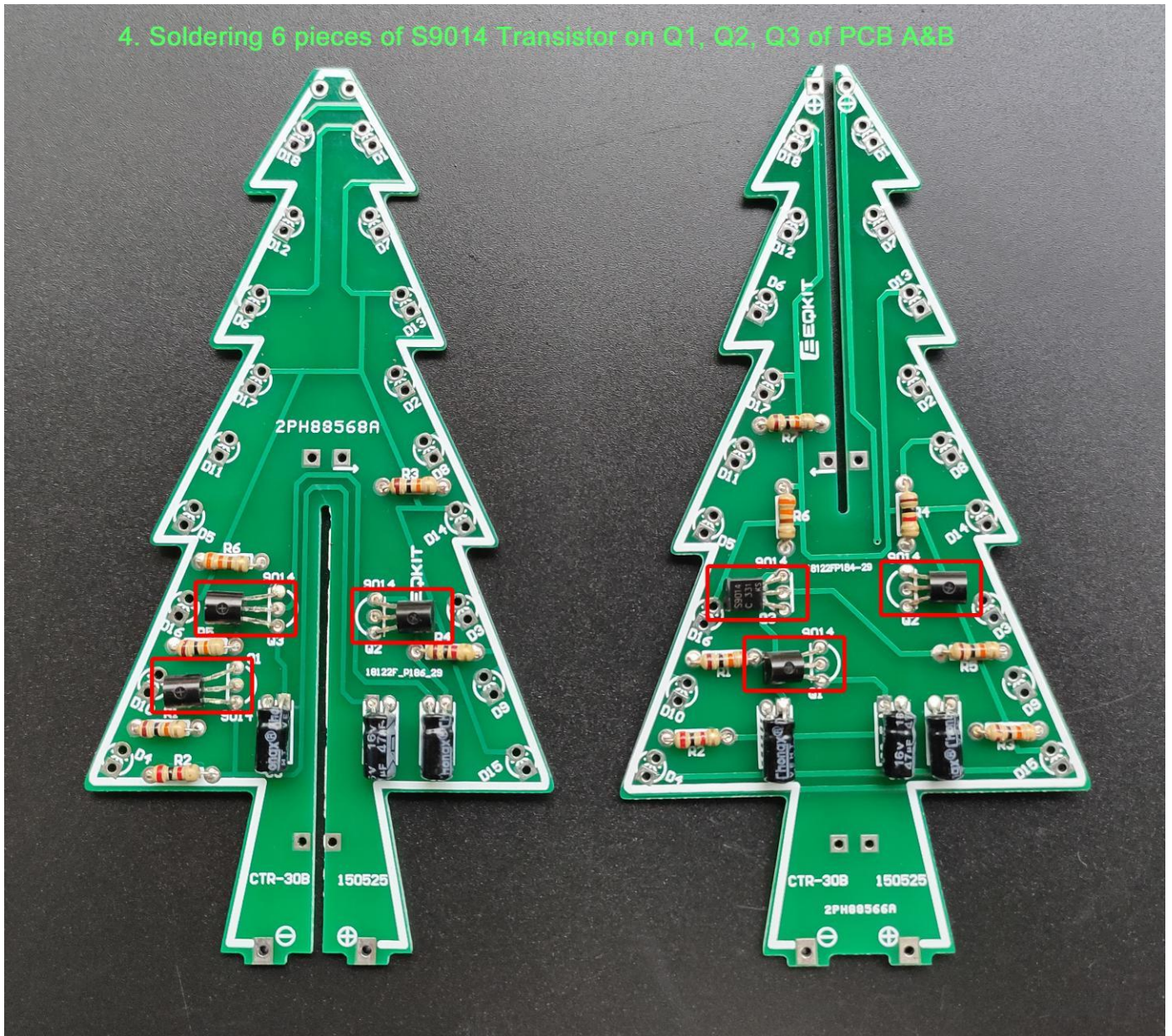


**Step 4.**

Soldering 6 pieces of S9014 Transistor on Q1, Q2, Q3 of PCB A&B.

Note: round face of Transistor point to round line on PCB, while straight face point to straight line.

4. Soldering 6 pieces of S9014 Transistor on Q1, Q2, Q3 of PCB A&B





## Step 5.

Soldering 36 pieces of LED on D1-D18 of PCB A&B

**Note:**

Long pin of LED is positive, solder to square pad on PCB, short pin is negative, solder to round pad.

### 5. Soldering 36 pieces of LED on D1-D18 of PCB A&B

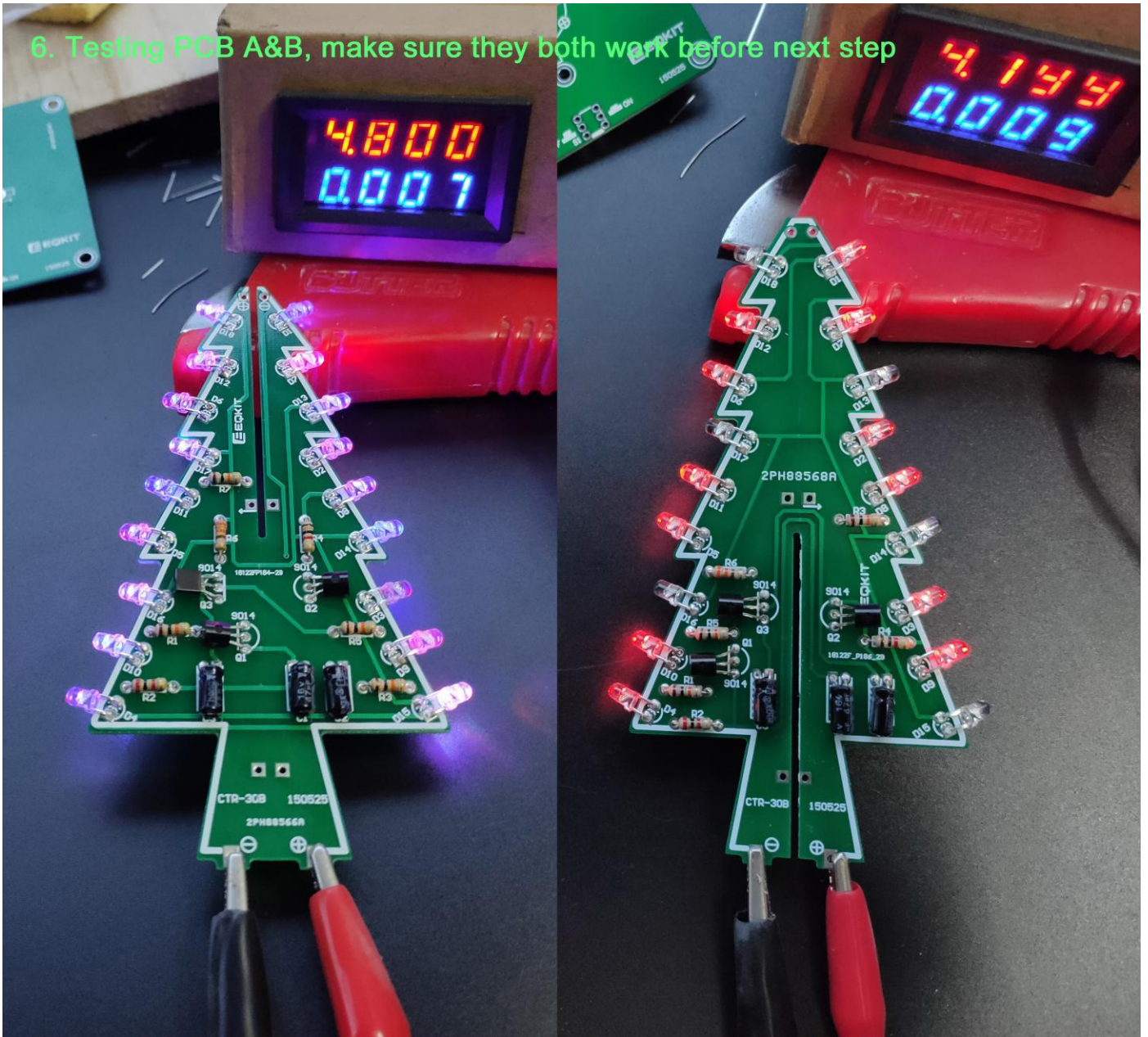




## Step 6.

Testing PCB A&B, make sure they both work before next step.

### 6. Testing PCB A&B, make sure they both work before next step

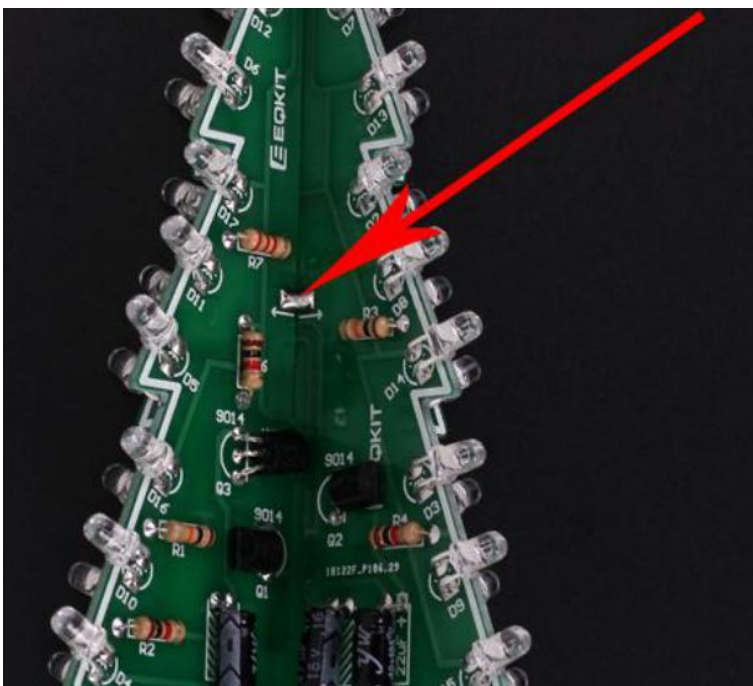
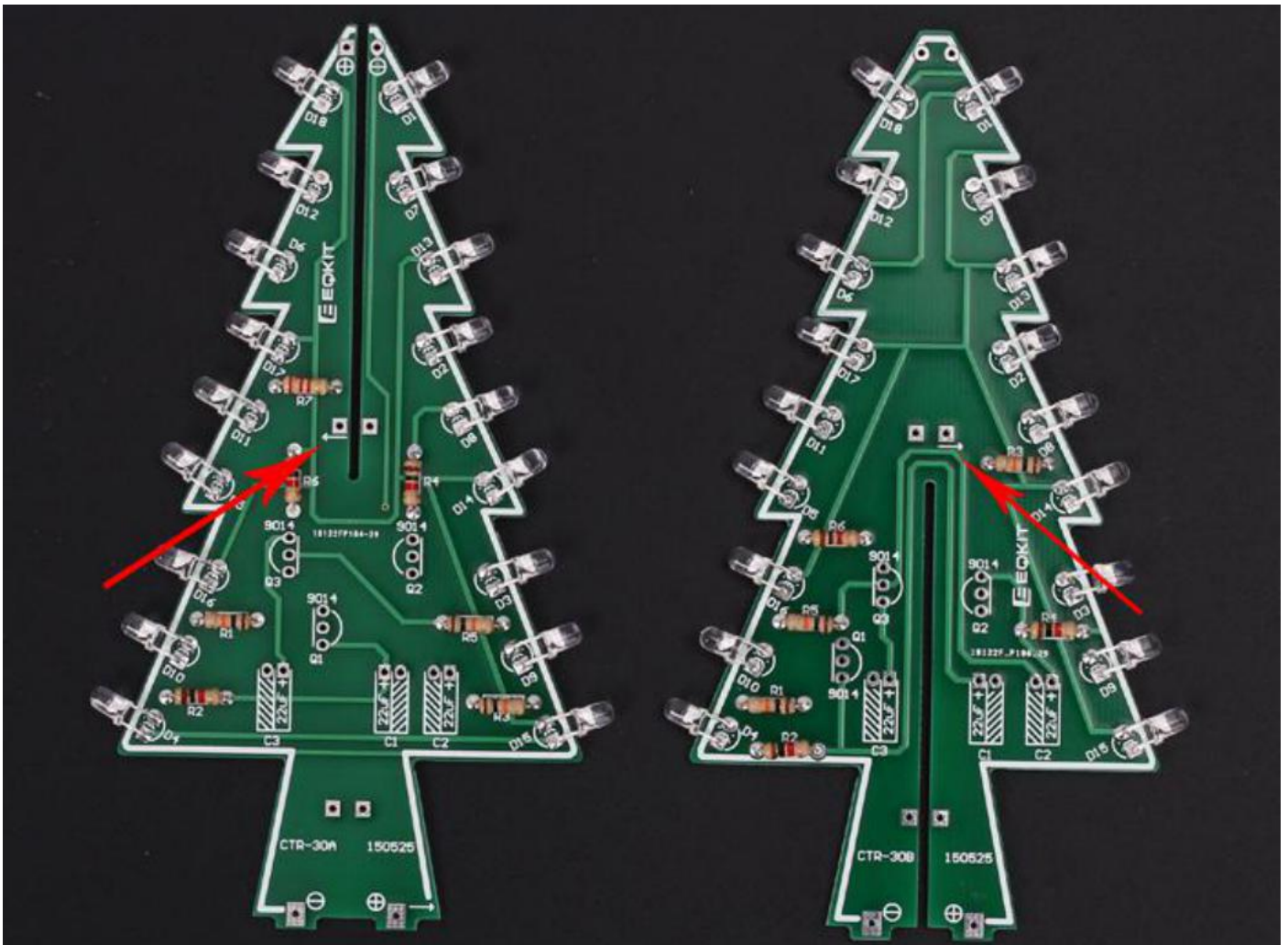




### Step 7.

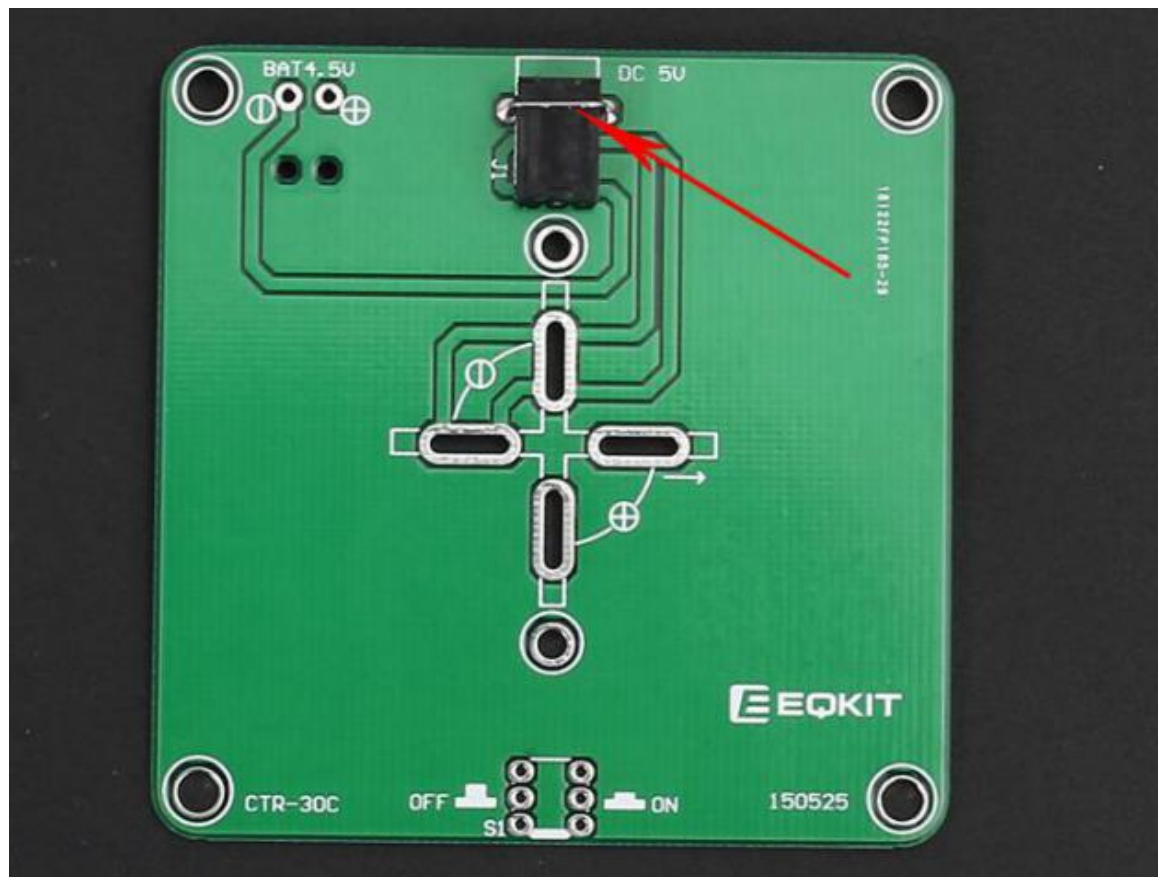
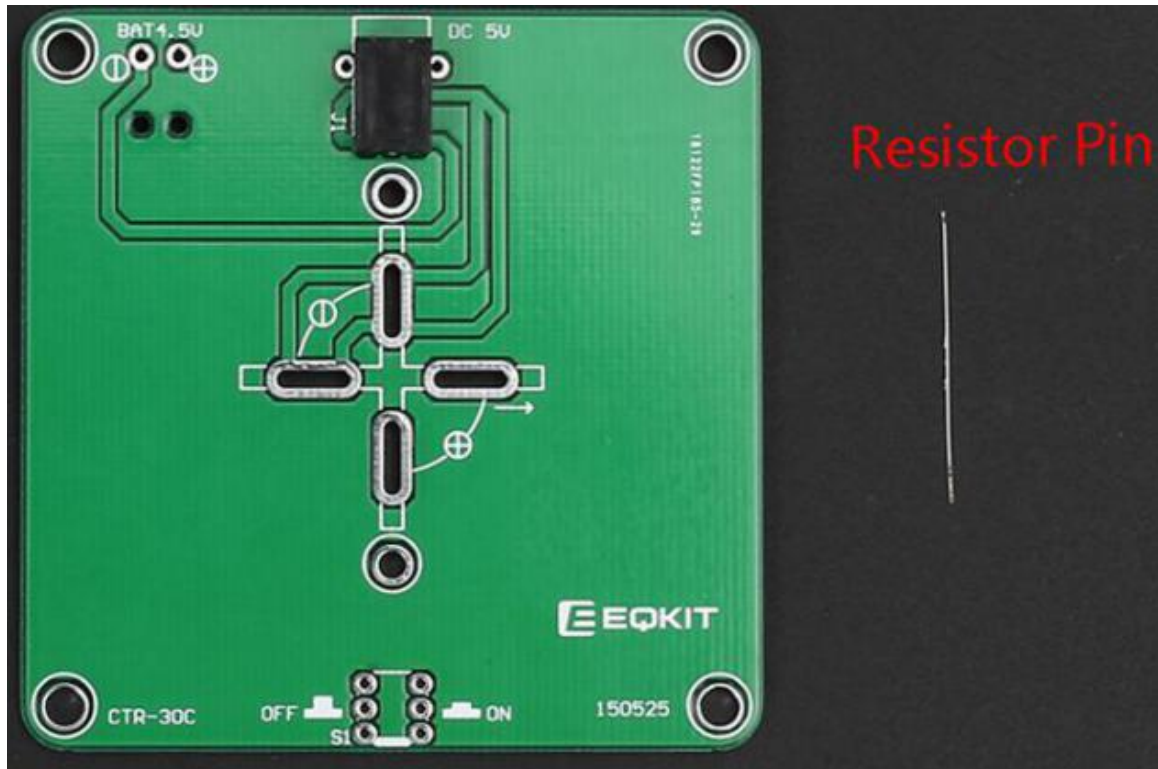
Stitching CTR-30A and CTR-30B

Align the two position heads on CTR-30A and CTR-30B, then solder and fixed with tin.



## Step 8. Install CTR-30C

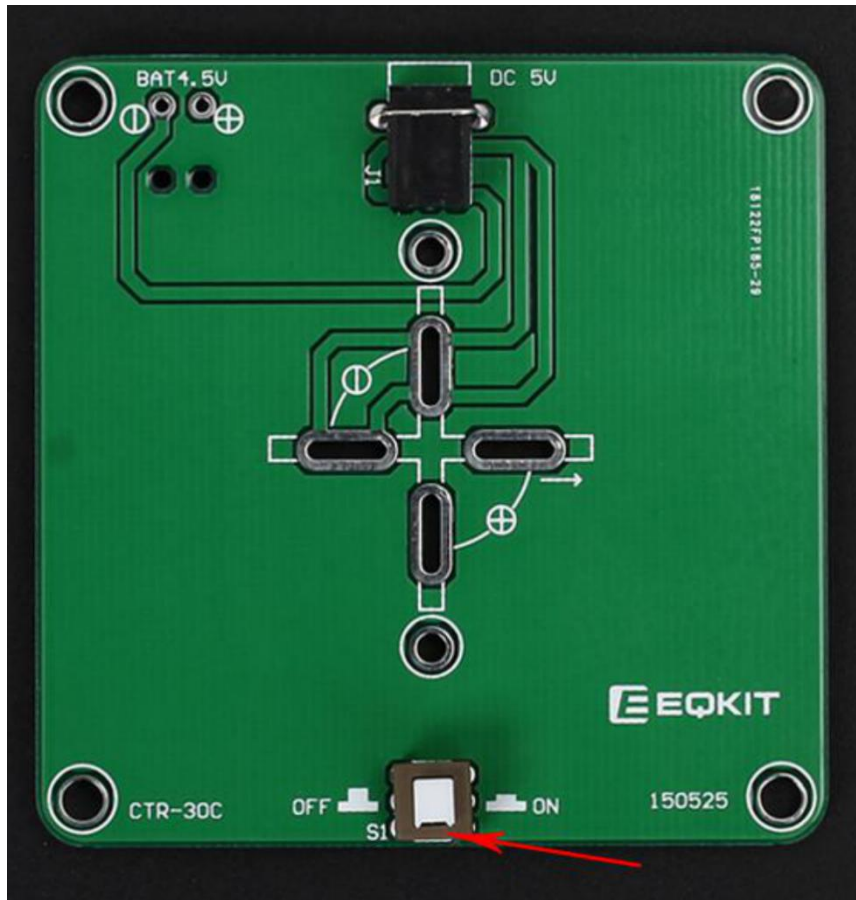
a). Install power socket. Fixed the power supply socket with superfluous pin come from Resistors.





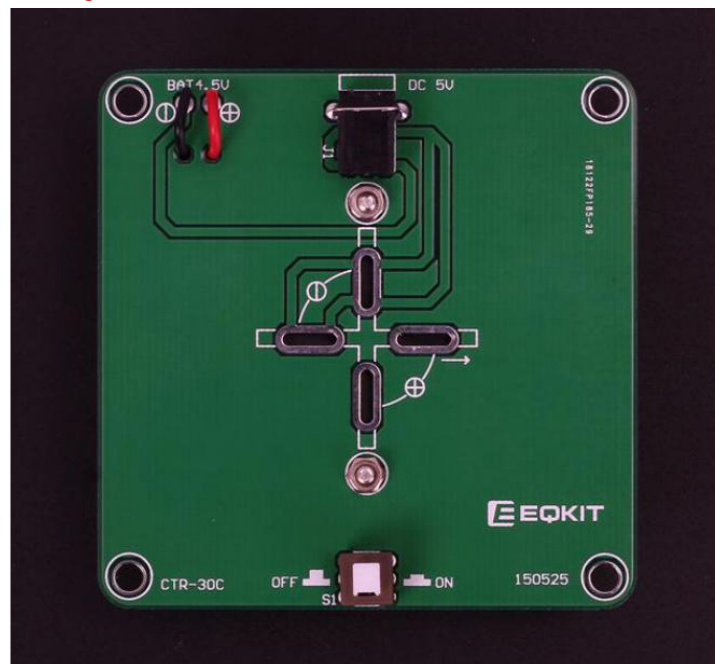
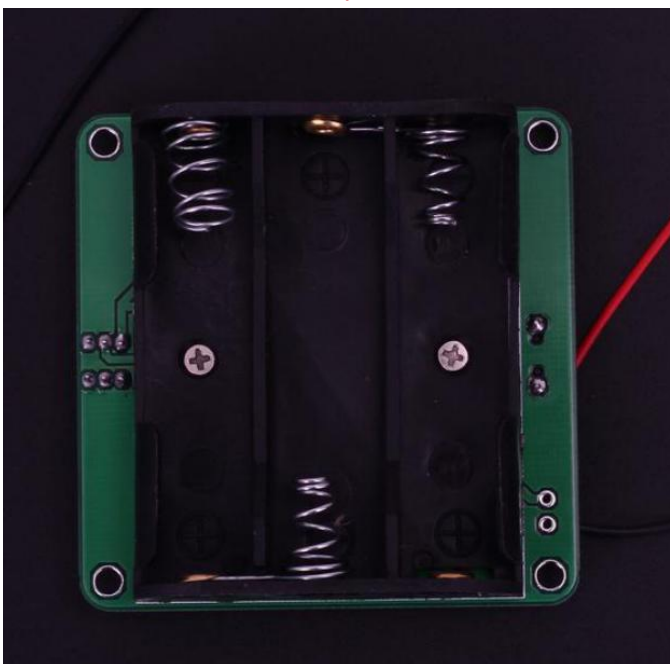
b). Install Self-lock switch.

Note: the concave side of the switch is close to the PCB edge.



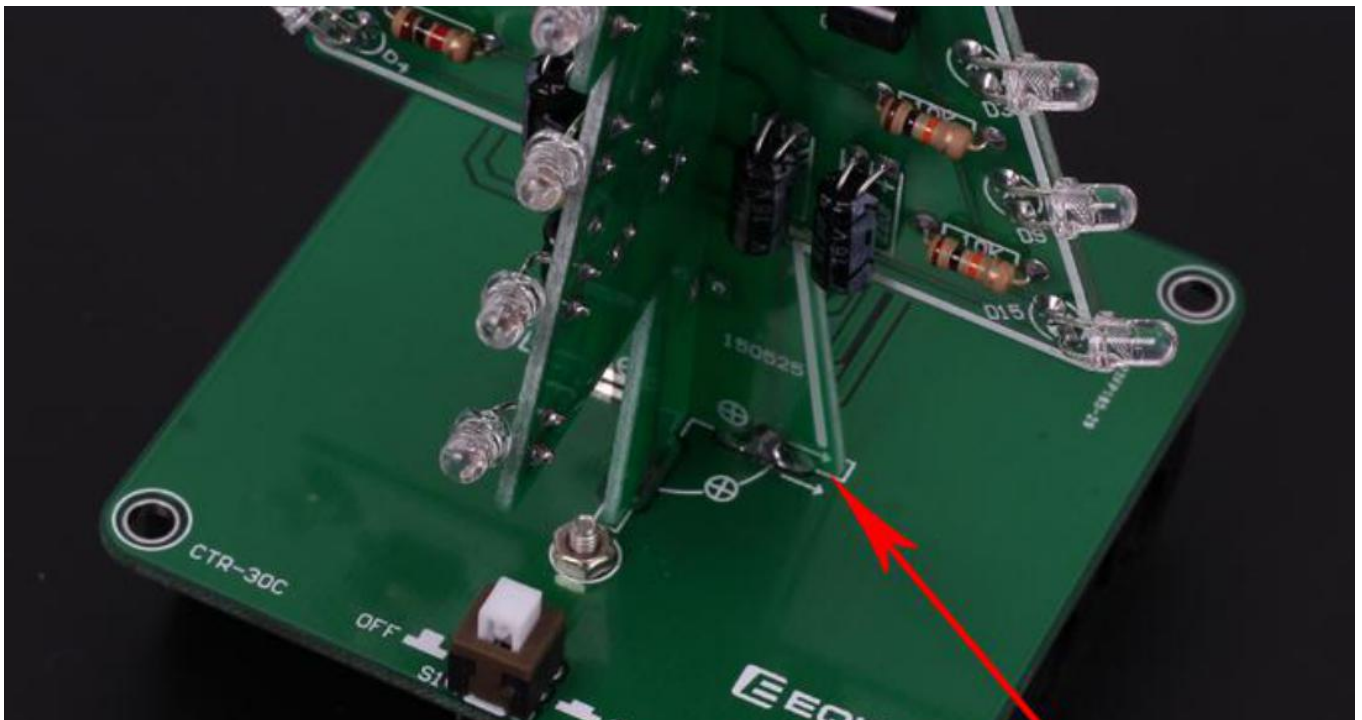
c) Install battery box and fixed.

Note: Red wire is positive solder to +, black wire is negative solder to -.



- d) Fixed CTR-30A, CTR-30B on CTR-30C.

Note: + - marker on CTR-30A and CTR-30B must aligns to + - marker on CTR-30C, as picture shows bellow:



- e) Install the last LED on top of tree.

Note: long pin(+) solder to + on PCB, short pin(-) solder to - .





**Project completed. Happy Christmas !!!**

