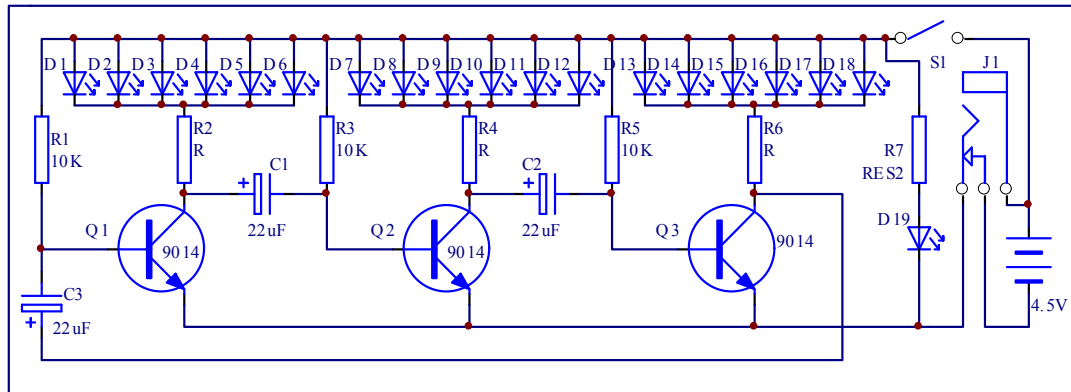


# Flash Christmas Tree DIY Kit

## 3.Schematic



## 4. Component listing

NO.	Component Name	PCB Marker	Parameter	QTY
CTR-30A				
1	Metal Film Resistor	R2,R4,R6	1K	3
2	Metal Film Resistor	R7	2.2K	1
3	Metal Film Resistor	R1,R3,R5	10K	3
4	Electrolytic Capacitor	C1-C3	47uF 16V	3
5	White LED	D1-D18	3mm	19
6	S9014 Transistor	Q1-Q3	TO-92	3
7	PCB	CTR-30A		1
CTR-30B				
8	Metal Film Resistor	R2,R4,R6	1K	3
9	Metal Film Resistor	R1,R3,R5	10K	3
10	Electrolytic Capacitor	C1-C3	47uF 16V	3
11	White LED	D1-D18	3mm	18
12	S9014 Transistor	Q1-Q3	TO-92	3

---

13	PCB	CTR-30B		1
CTR-30C				
14	Self-Locking Switch	S1	5.8mm	1
15	DC Power Socket	J1	3.5mm	1
16	Battery Box		AA*3	1
17	USB to DC 3.5mm Cable		80cm	1
18	Screw		M2*8mm	2
19	Nut		M2	2
20	PCB	CTR-30C		1

NOTE:Users can complete the installation by PCB silk screen and component listing

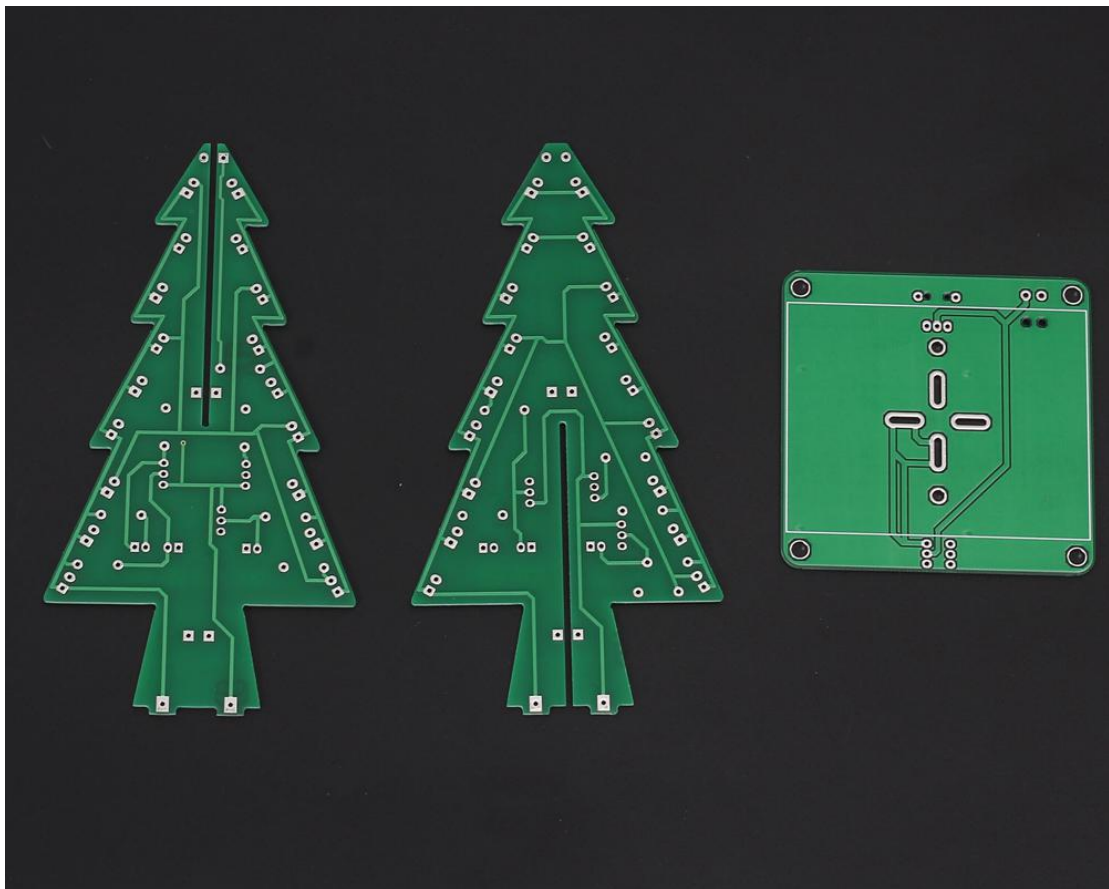
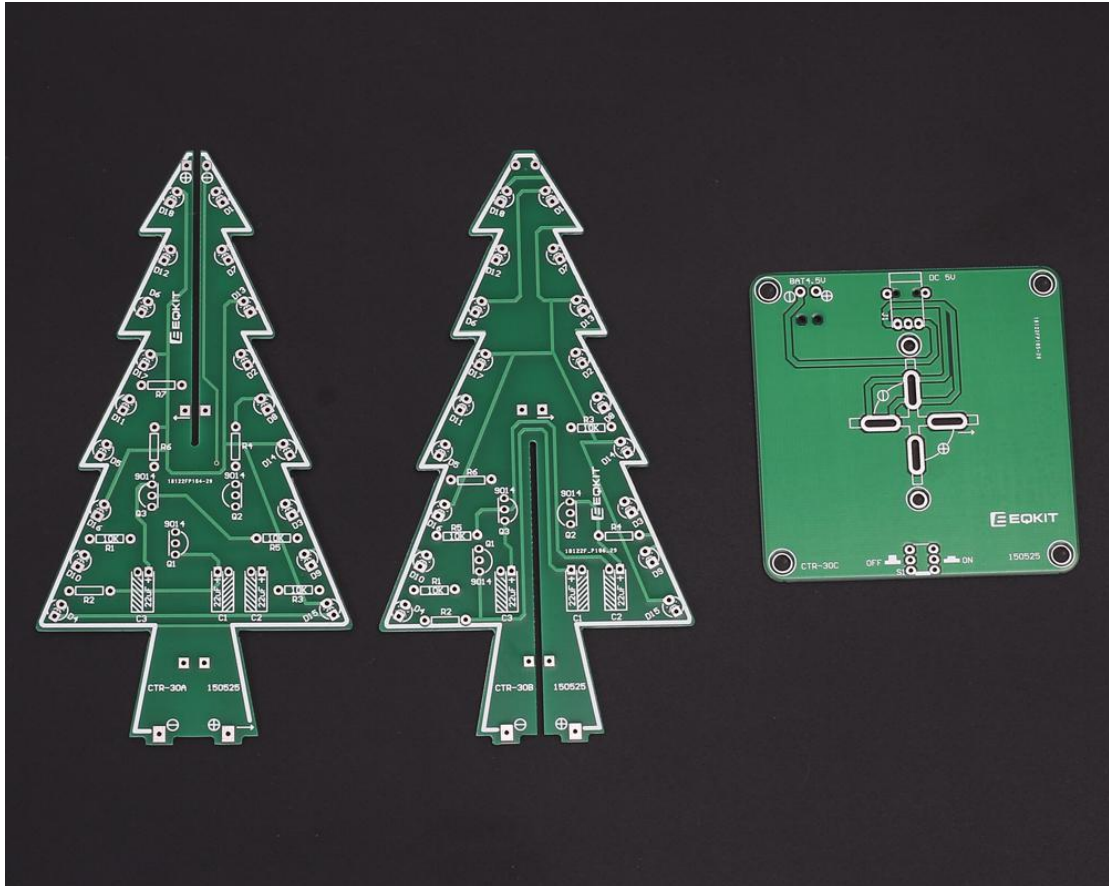
## 5. Component Description



- 1>. 3pcs 1K Metal Film Resistor
- 2>. 1pcs 2.2K Metal Film Resistor
- 3>. 3pcs 10K Metal Film Resistor
- 4>. 3pcs 47uF 16V Electrolytic Capacitor
- 5>. 19pcs 3mm White LED
- 6>. 3pcs S9014 Transistor TO-92
- 7>. 1pcs PCB CTR-30A
- 8>. 3pcs 1K Metal Film Resistor
- 9>. 3pcs 10K Metal Film Resistor

- 10>. 3pcs 47uF 16V Electrolytic Capacitor
- 11>. 18pcs 3mm White LED
- 12>. 3pcs S9014 Transistor TO-92
- 13>. 1pcs PCB CTR-30B
- 14>. 1pcs Self-Locking Switch
- 15>. 1pcs 3.5mm DC Power Socket
- 16>. 1pcs AA\*3 Battery Box
- 17>. 1pcs USB to DC 3.5mm Cable
- 18>. 2pcs Screw M2\*8mm
- 19>. 2pcs Nut M2
- 20>. 1pcs PCB CTR-30C

## 6.Installation Steps



1>. Install CTR-30A



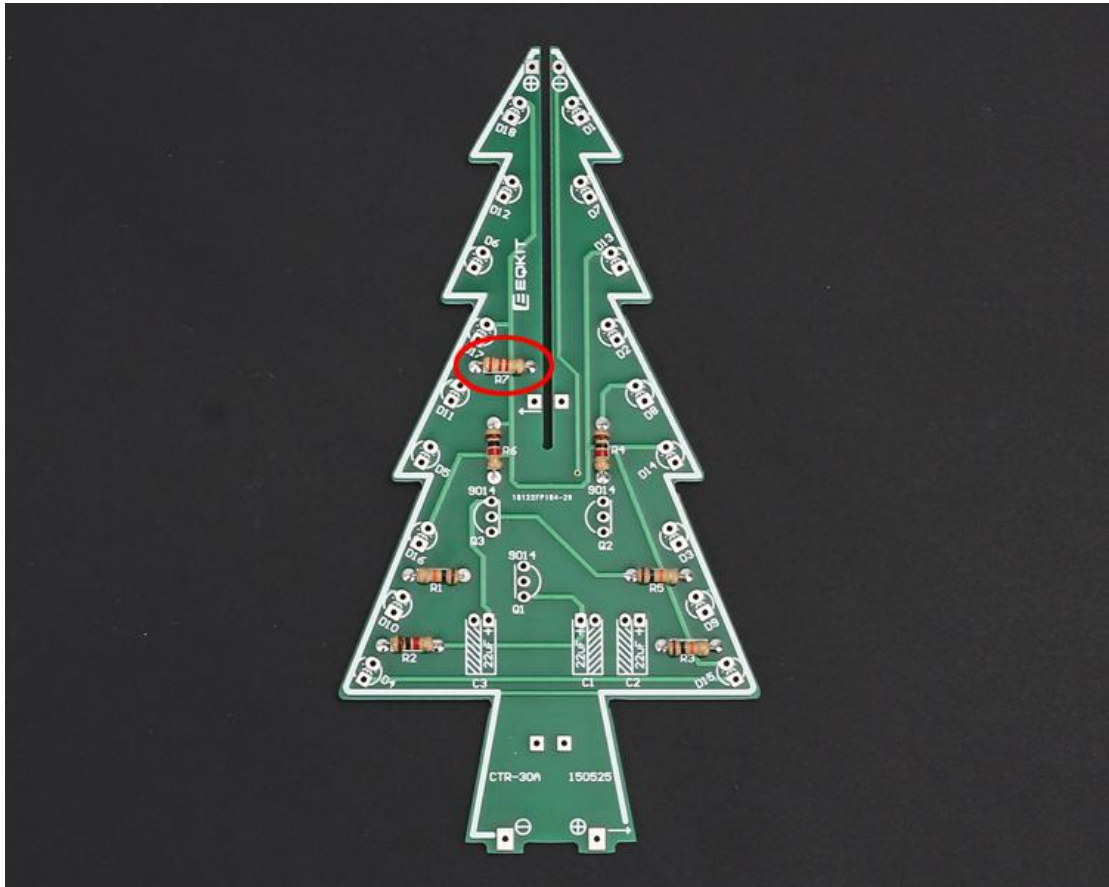
Step 1: Install 3pcs 1K Metal Film Resistor on R2,R4,R6



Step 2: Install 3pcs 10K Metal Film Resistor on R1,R3,R5



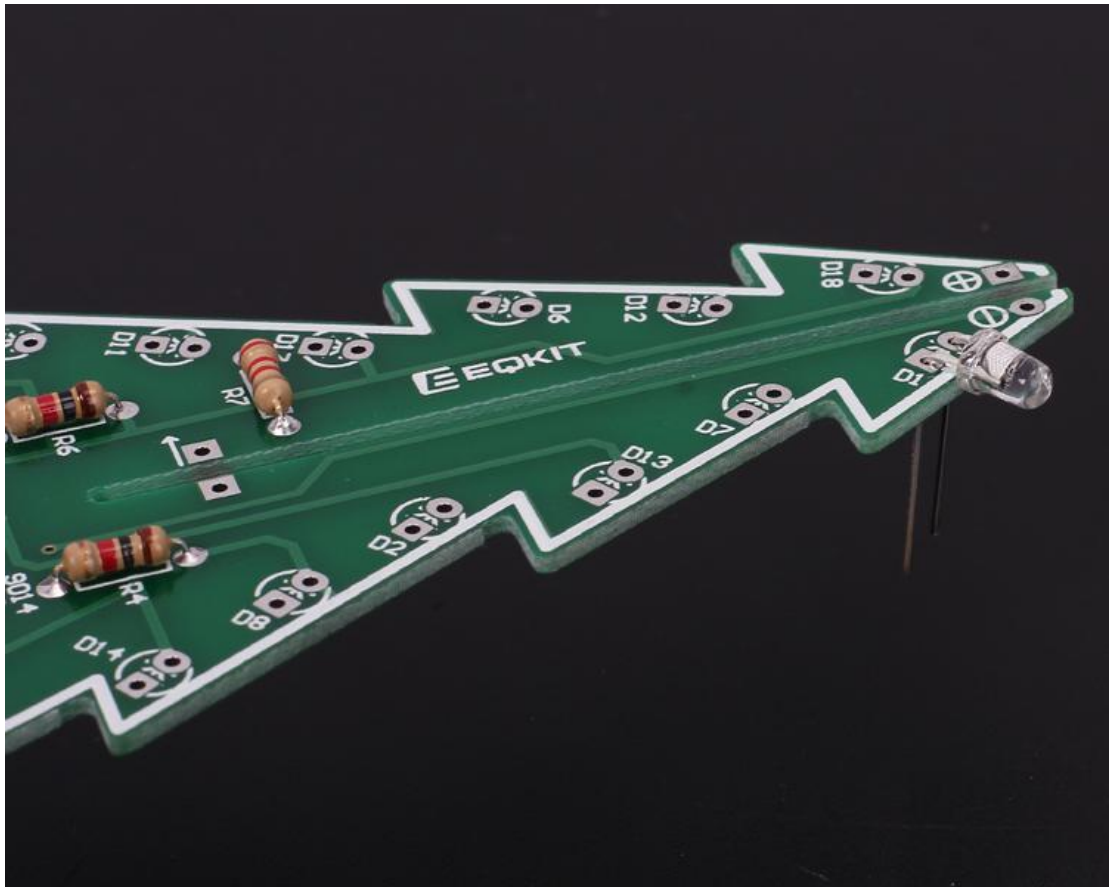
Step 3: Install 1pcs 2.2K Metal Film Resistor on R7

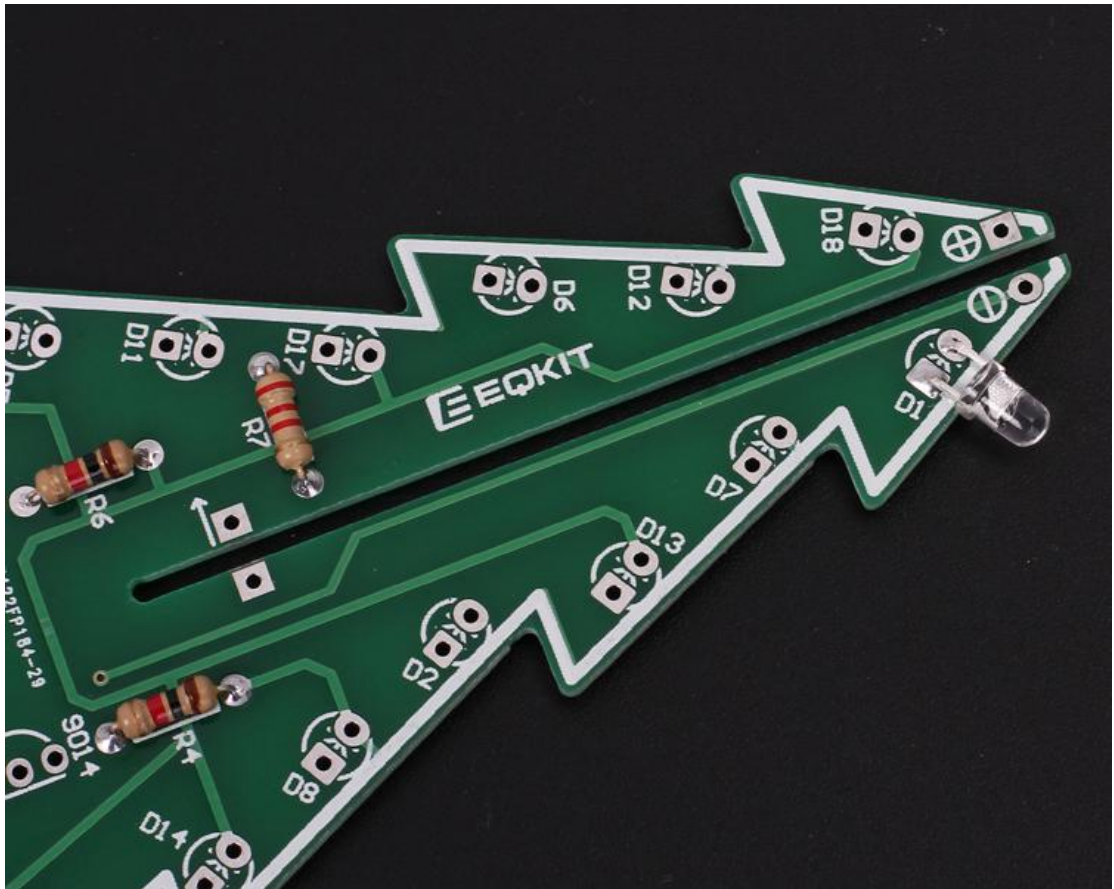


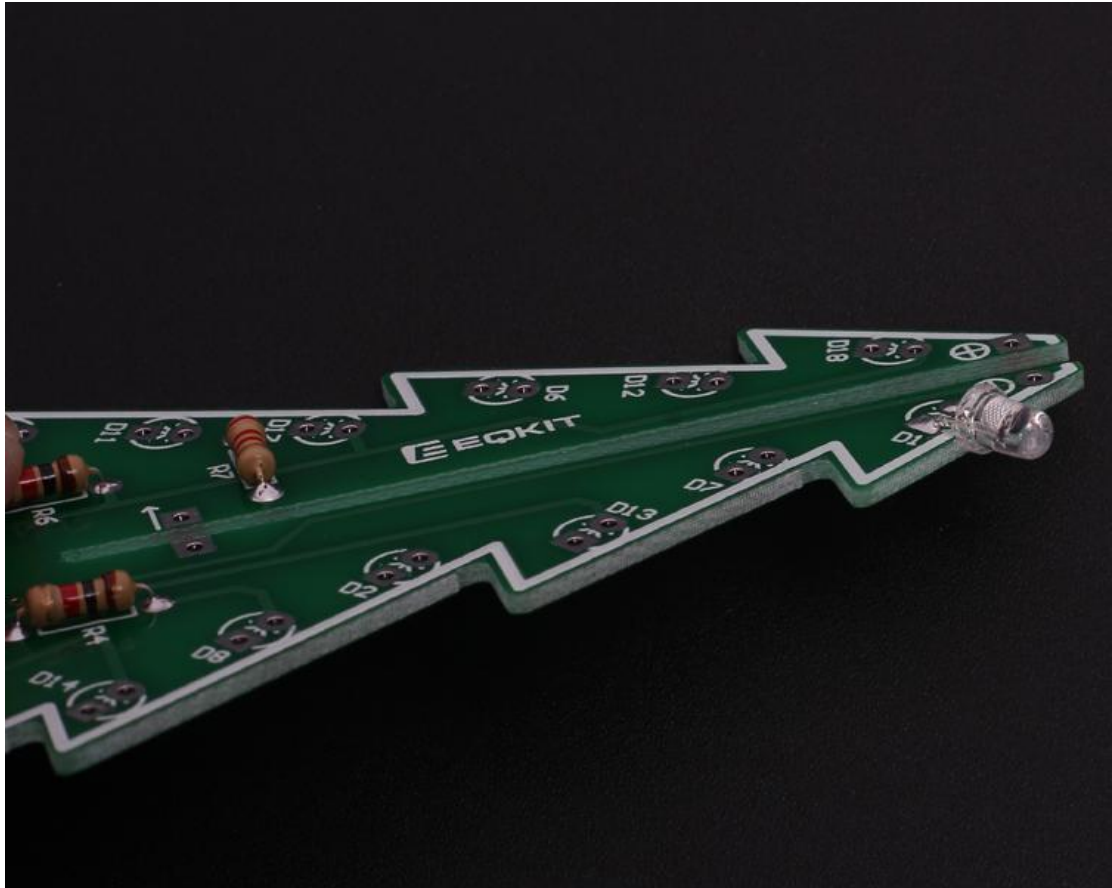
Step 4: Install 18pcs LED.

Tips:

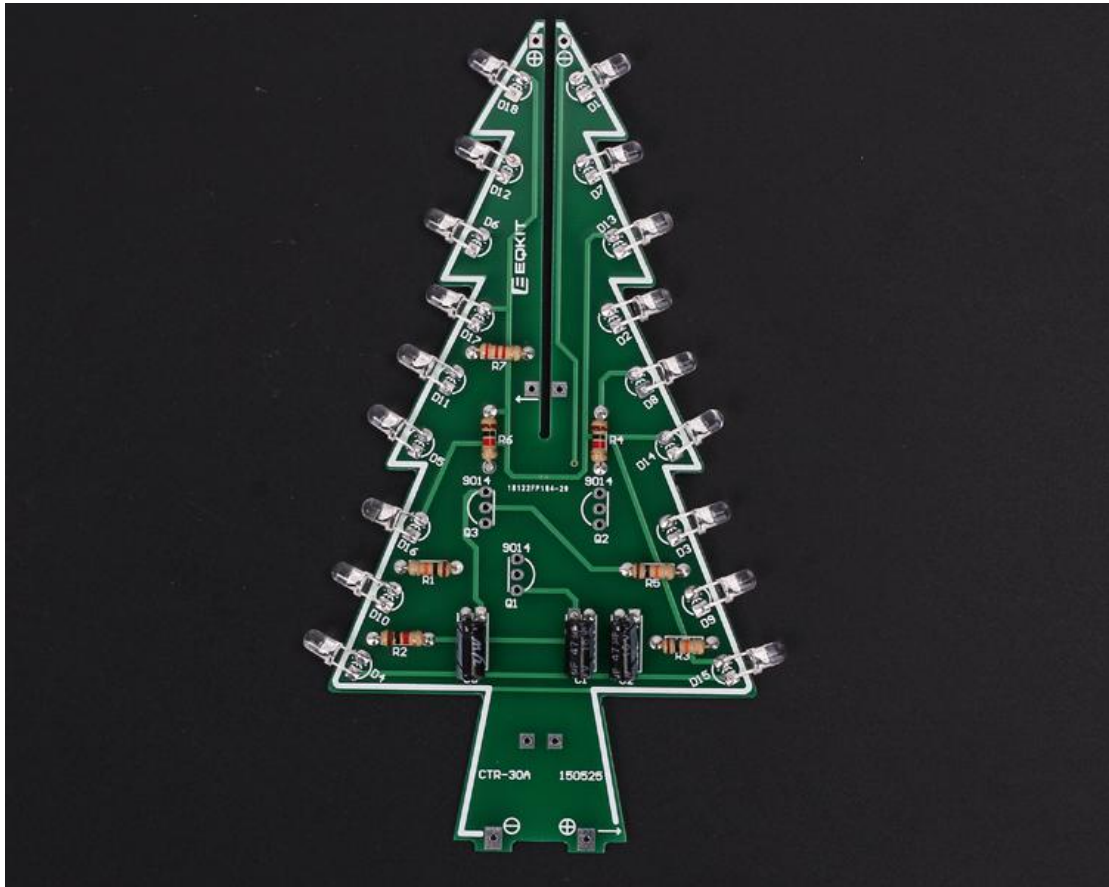
- A. Note the direction of the LED
- B. Control distance between PCB edge and LED head(Two ways).
  - 1). User can bend the LED pin at first after determining the distance and then insert LED to PCB through hole;
  - 2). Insert LED to PCB through hole at first.Then determine the distance.Bend the LED pin at last.







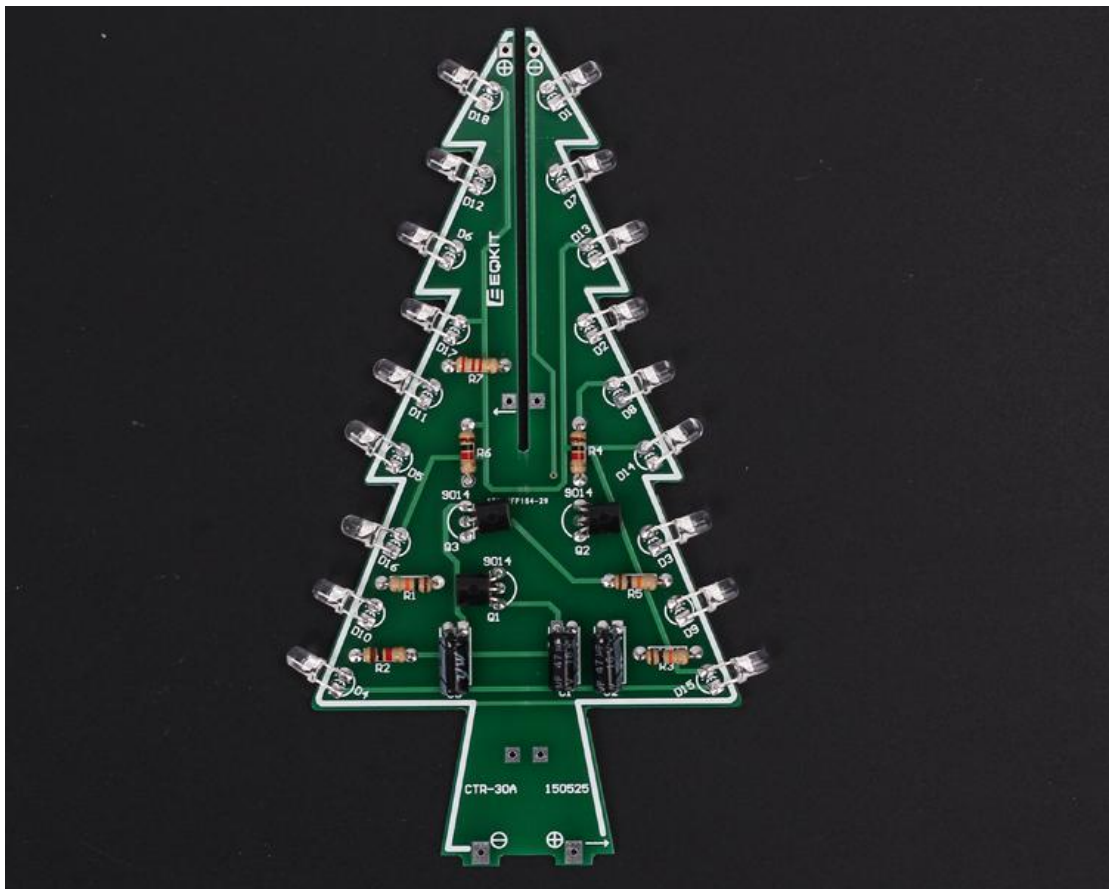
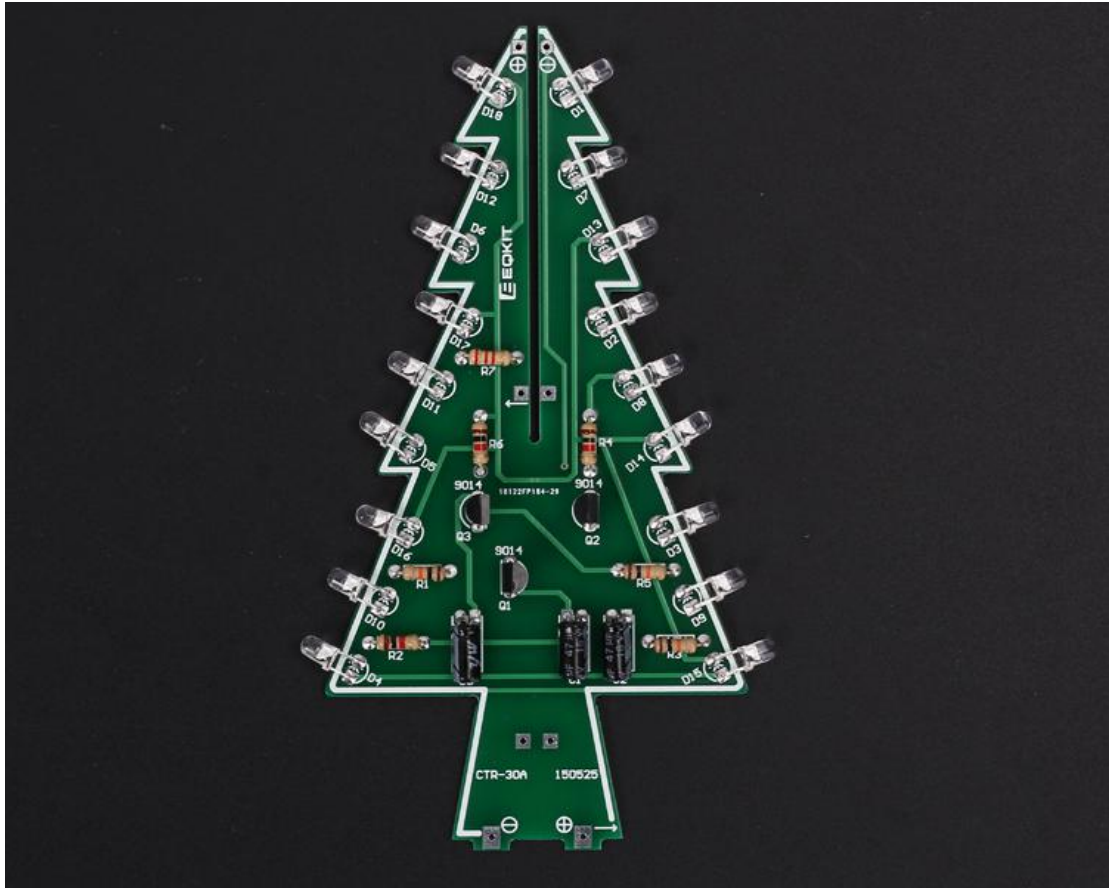
### Step 5: Install 3pcs 47uF 16V Electrolytic Capacitor



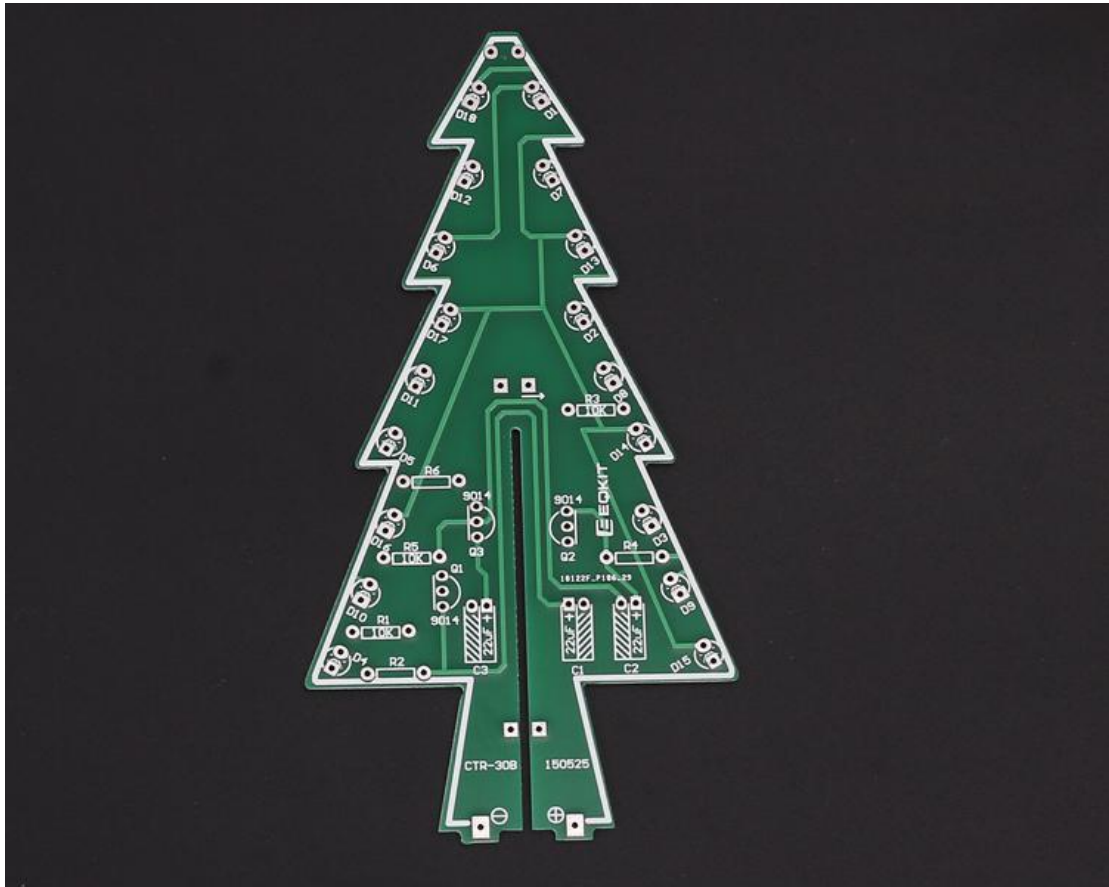
### Step 6: Install 3pcs TO-92 S9014 Transistor

Tips: It is better to bend S9014's pin so that 2pcs PCB CTR-30A and CTR-30B can better splicing.

OK, CTR-30A has been installed completed.



2>. Install CTR-30B



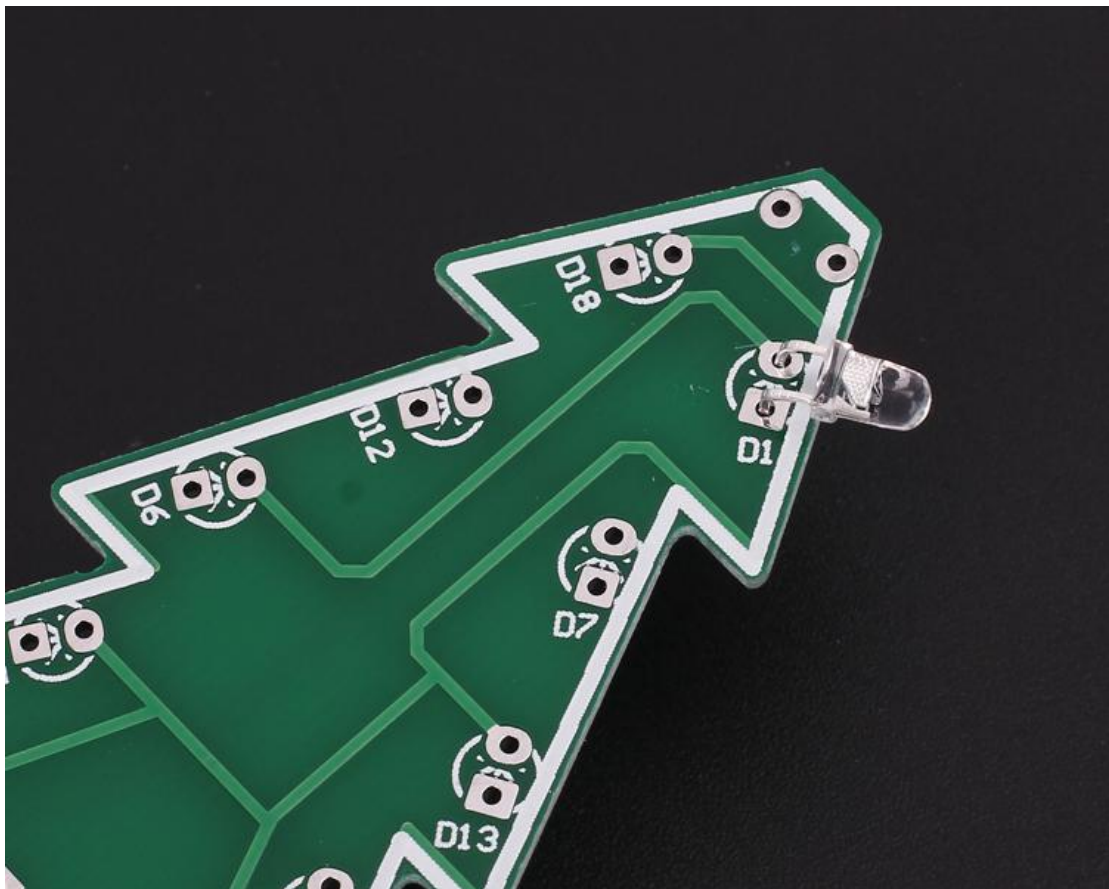
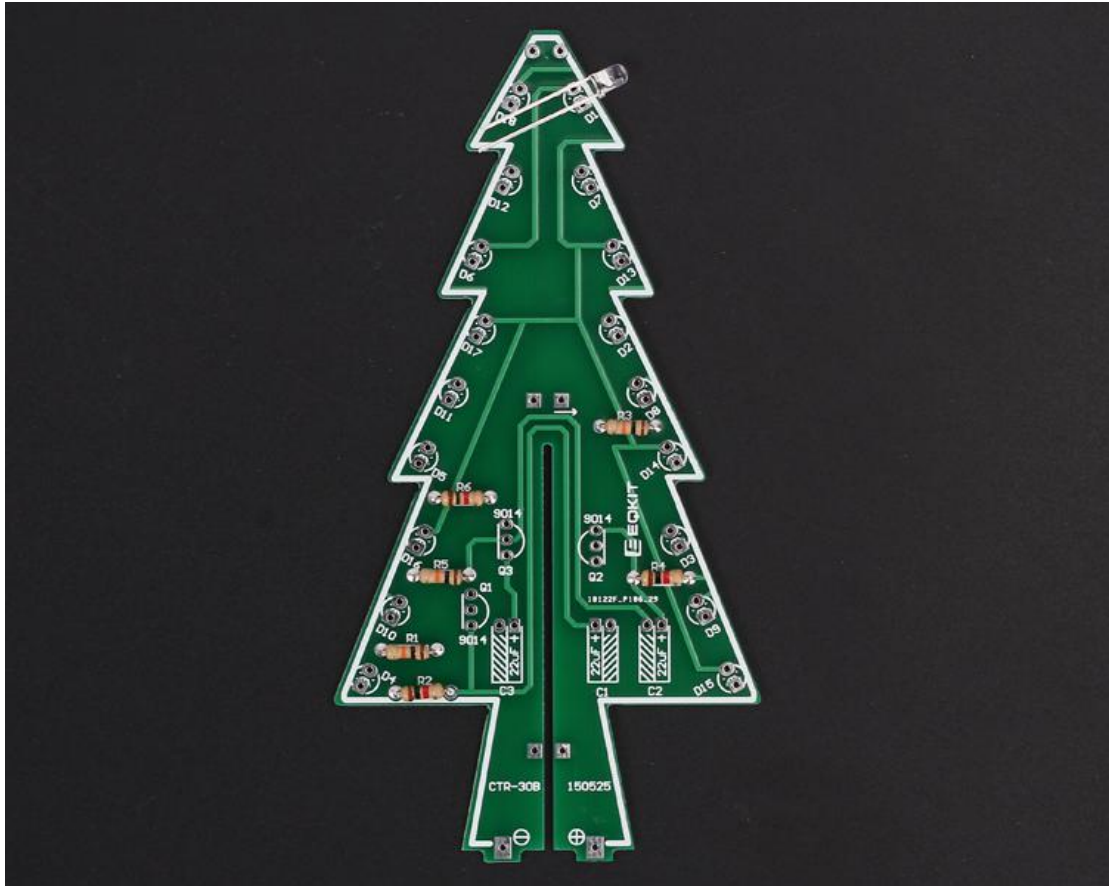
Step 7: Install 3pcs 1K Metal Film Resistor on R2,R4,R6

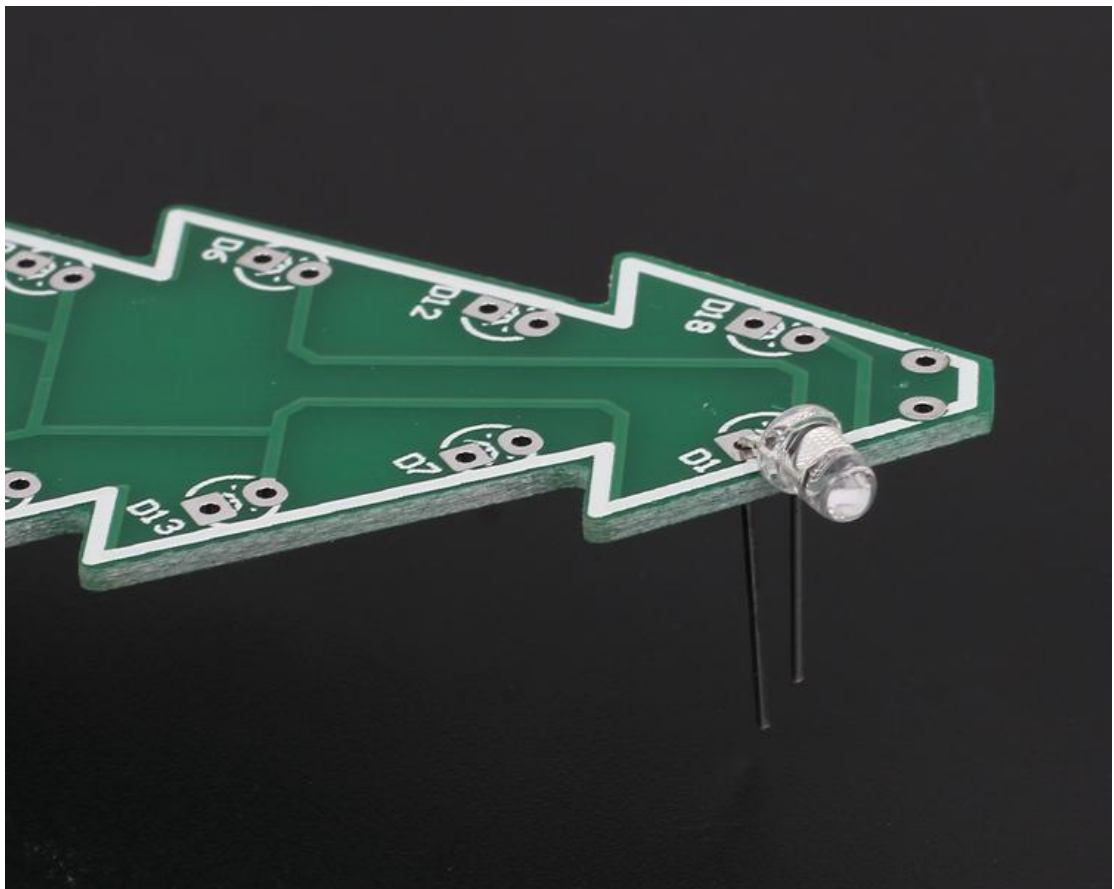
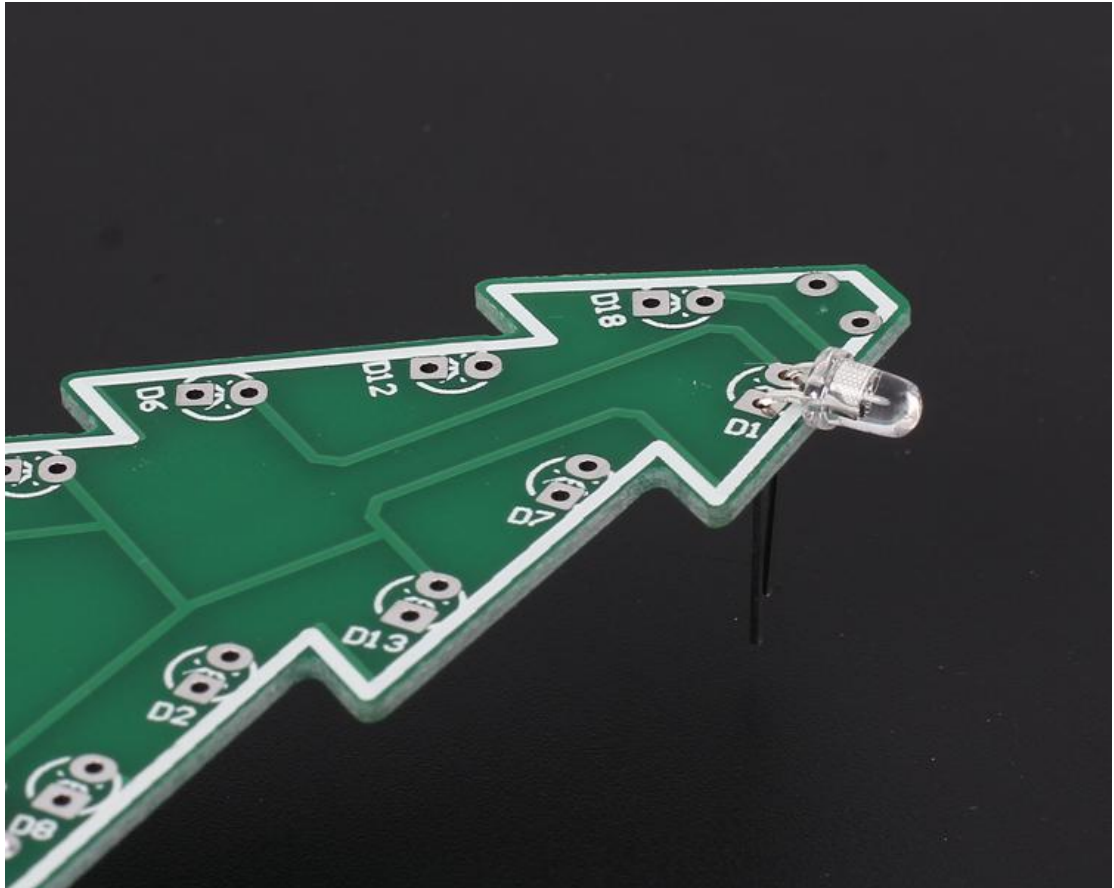


Step 8: Install 3pcs 10K Metal Film Resistor on R1,R3,R5



Step 9: Install 18pcs LED.







Step 10: Install 3pcs 47uF 16V Electrolytic Capacitor



Step 11: Install 3pcs TO-92 S9014 Transistor

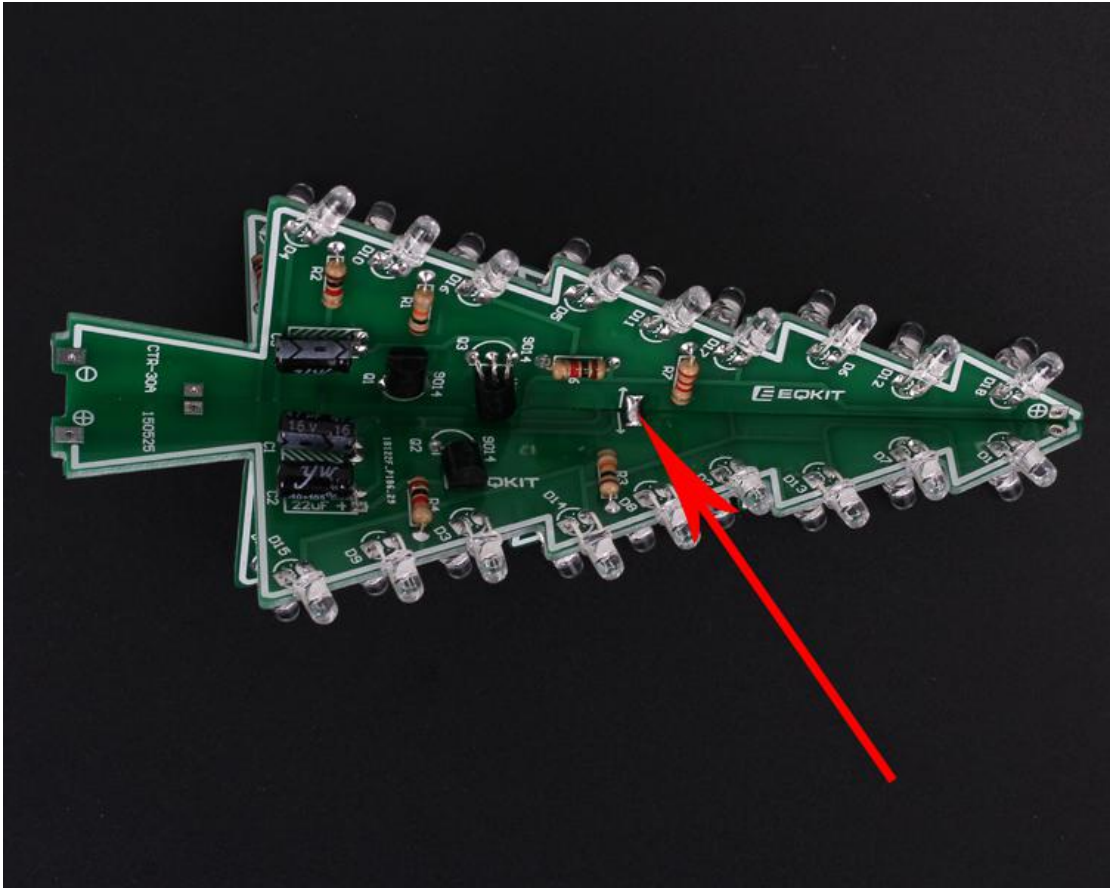


Step 12: Connect 5V to CTR-30A and CTR-30B. Preliminary welding success if LEDs are blinking automatically

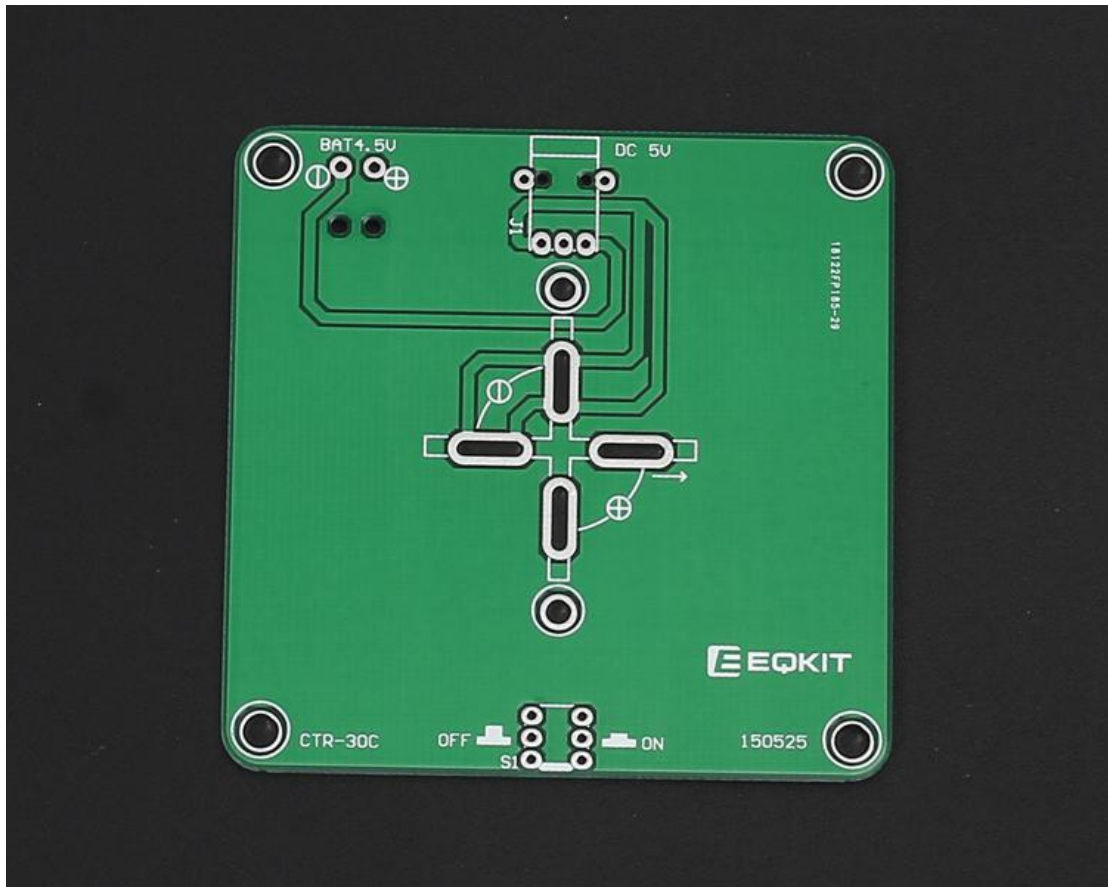
3>. Stitching CTR-30A and CTR-30B

Step 13: Align the two positioning heads on CTR-30A and CTR-30B and then fixed with tin.

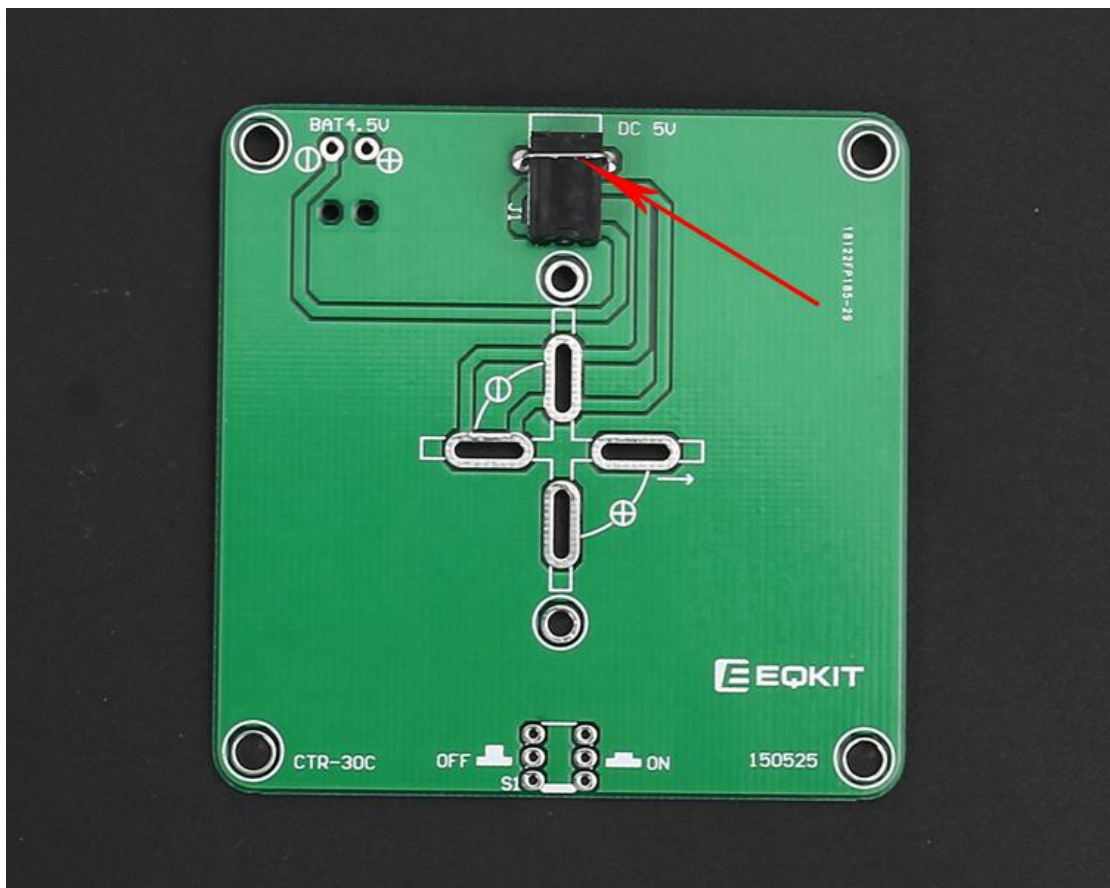
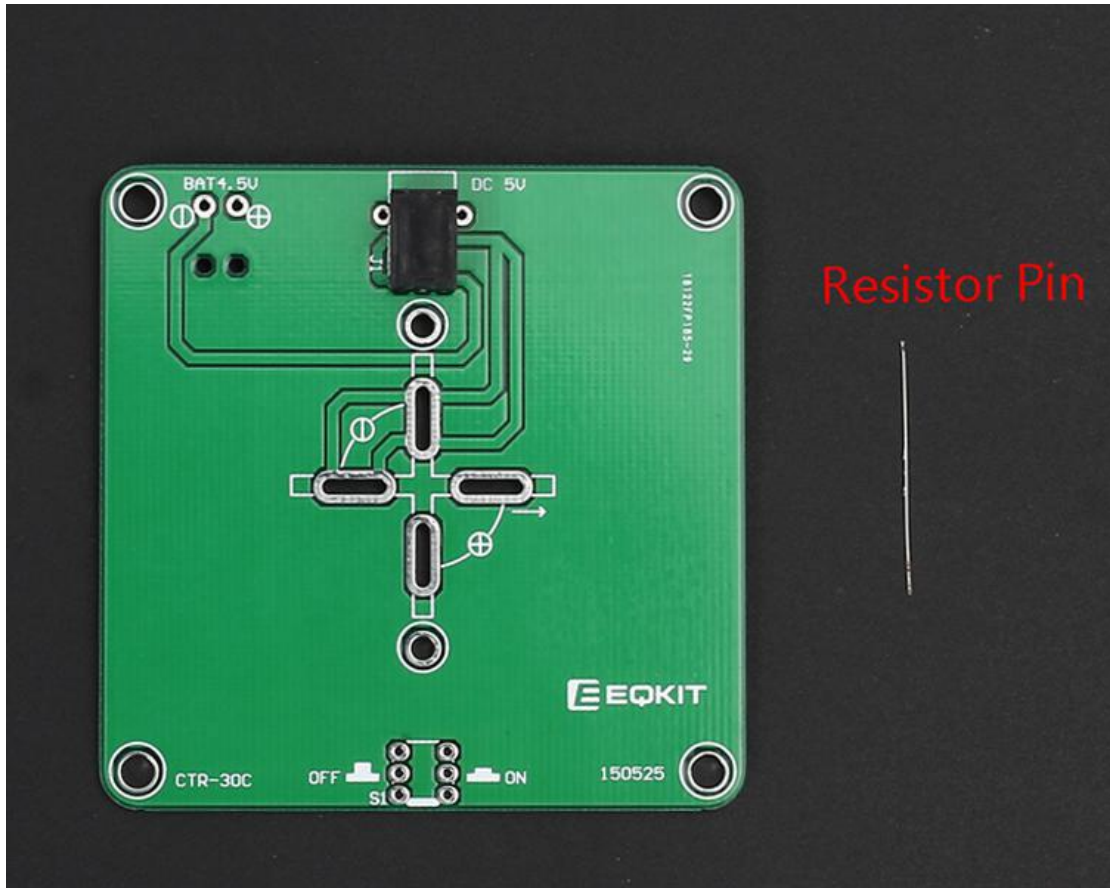




## 4&gt;. Install CTR-30C

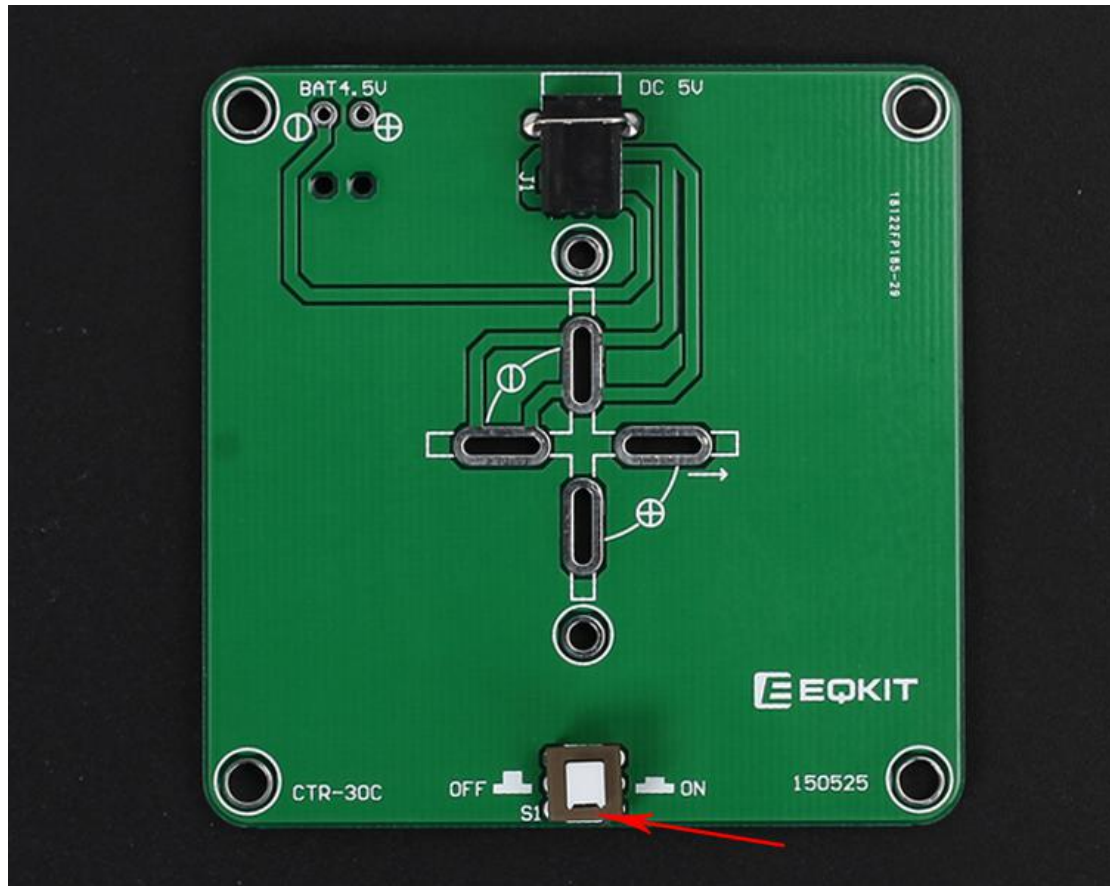


Step 14: Install Power Socket. Use a superfluous pin to fix the power supply socket. This pin can come from a resistor.



Step 15: Install 1pcs Self-Locking Switch. Note the direction of switch.

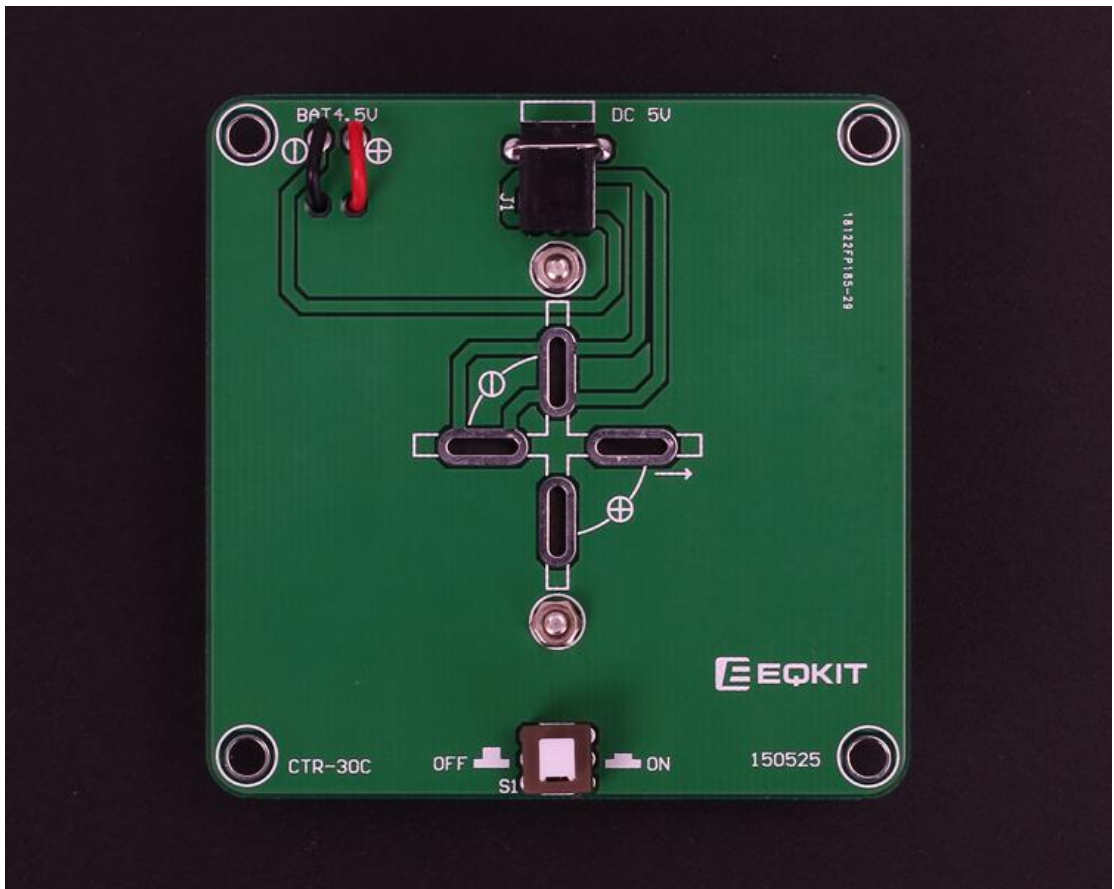
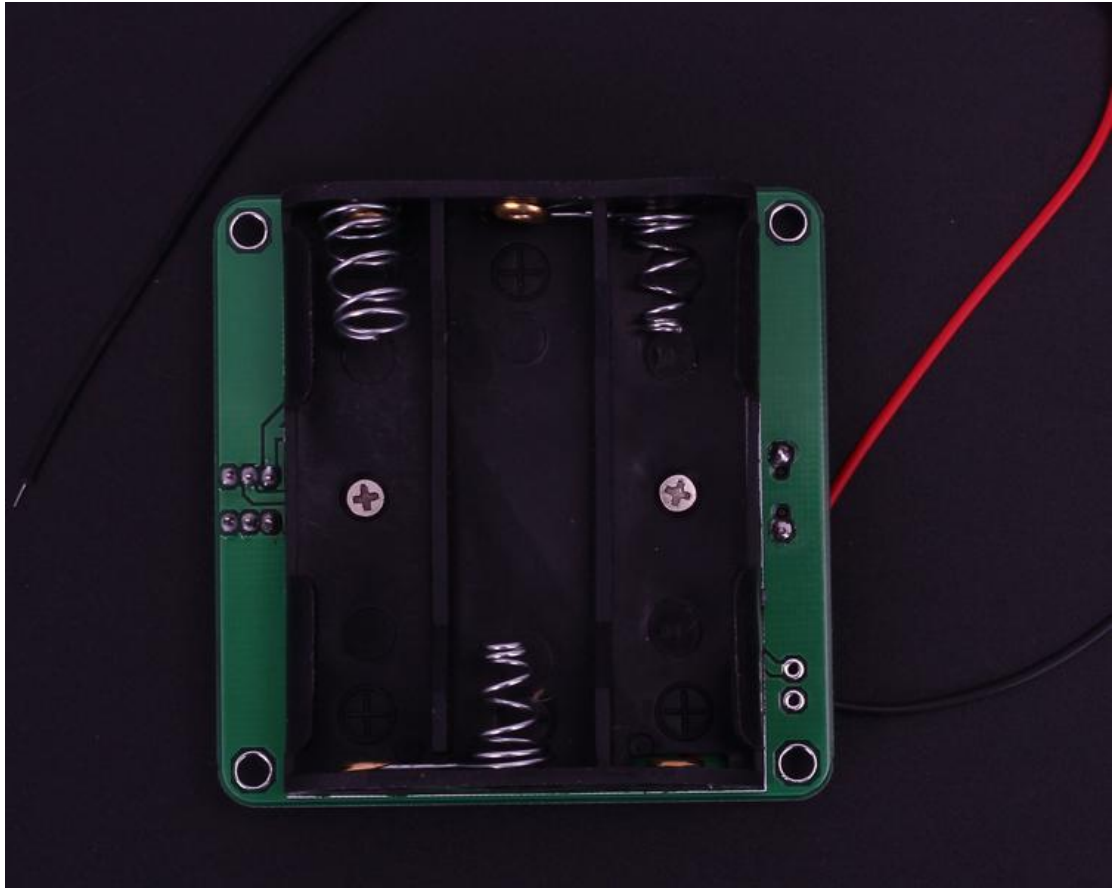
The concave side is close to the PCB edge.



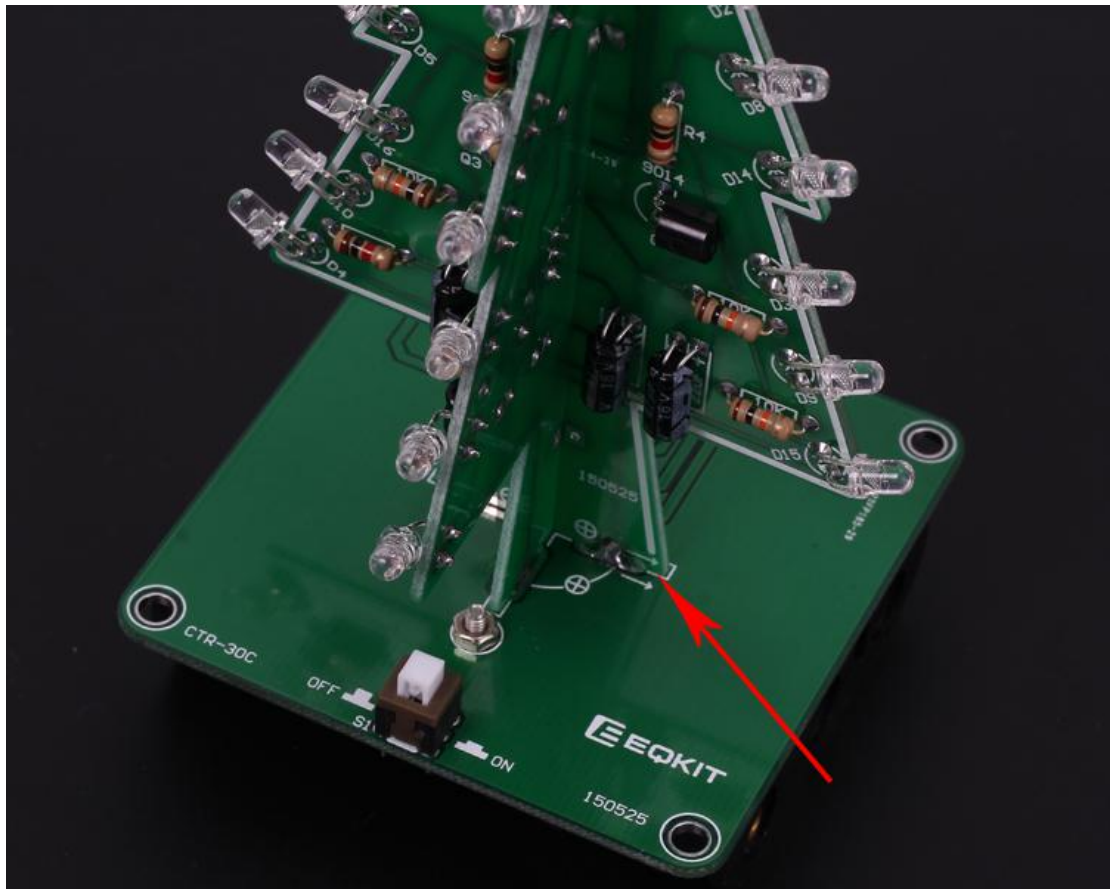
Step 16: Install battery box and fixed by screw/nut.

Tips:

First peel the insulation of the wire, and then welding fixed, and then cut off the excess wire



Step 17: Fixed CTR-30A and CTR-30B on CTR-30C. Align the two positioning heads and then fixed with tin.



Step 18: Install the top LED. Note the positive and negative of LED. At this point, the installation is complete!!



## 7.Effect demonstration

