

Flash Christmas Tree DIY Kit

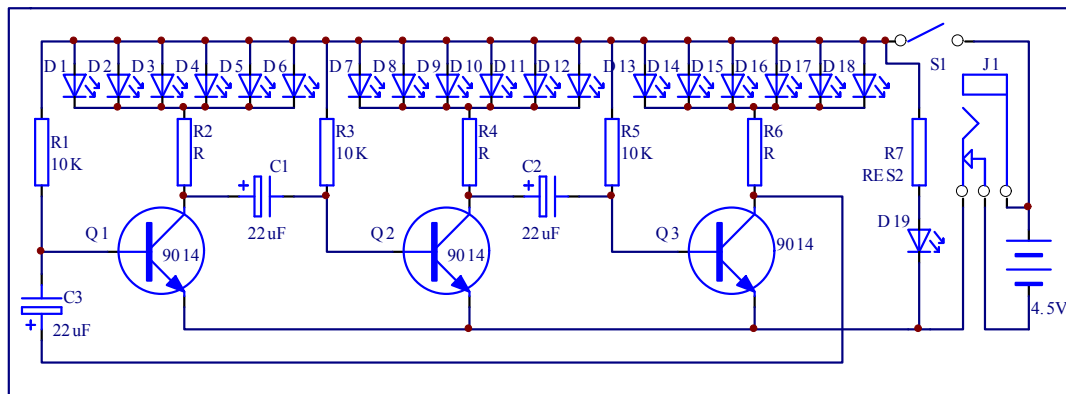
The Christmas is approaching this year, have you already thought of which gift you will buy for your lovely kids, if not, while we suggest you consider this creative 3D christmas tree assemble kit.

This is a creative soldering practice kit with the XMAS tree shape when assembled.

There are 7-color 36pcs RGB LED diode divided into four groups, and each group has different flashing frequencies, when four groups flash together, it looks like a small Christmas tree, so interesting and exciting.

It has 4.5-5V working voltage supporting 3x AA battery or DC 5V power supply power supply with the battery holder and USB cable.

1.Schematic



2. 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

NOTICE PLEASE:

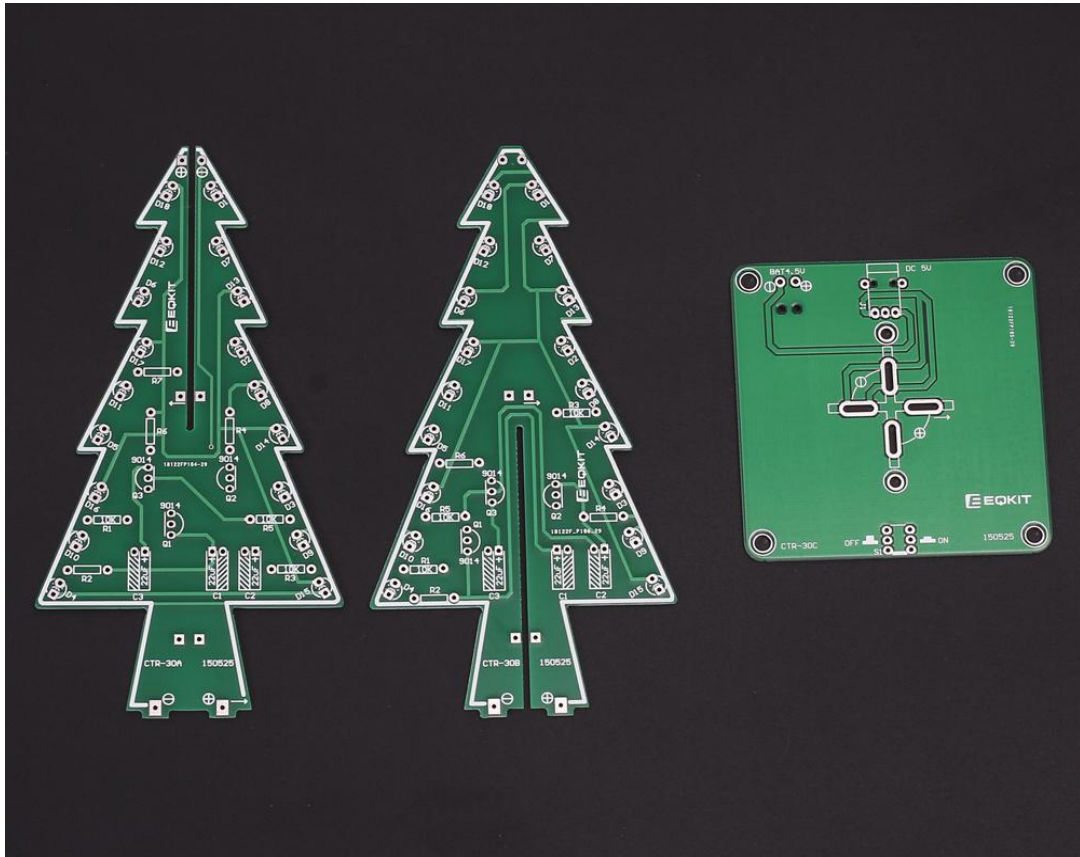
User can complete the installation by PCB silk screen and component listing.



3. 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

4. Installation Steps



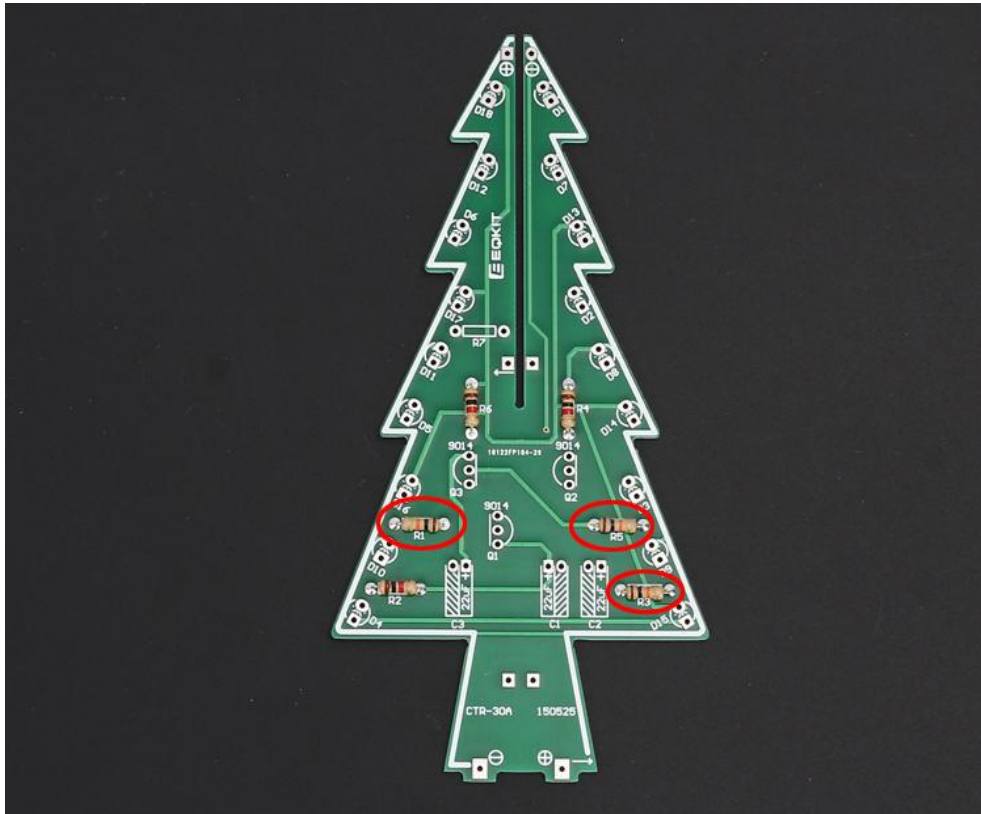
1>. Install CTR-30A



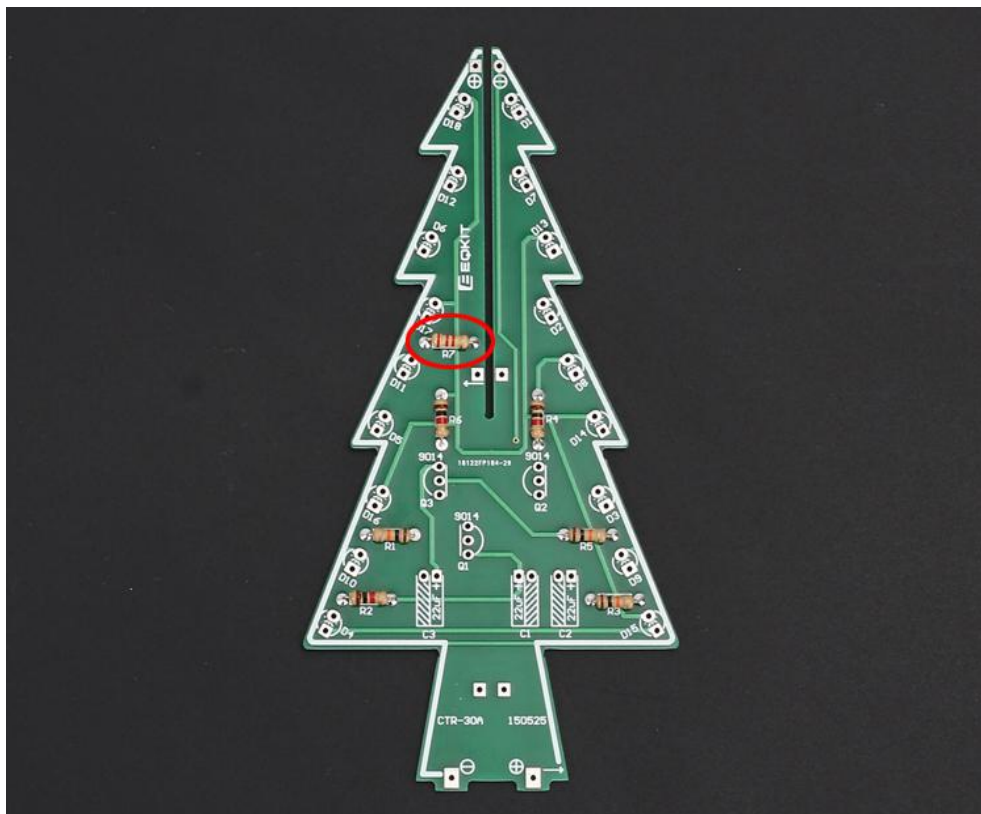
Step 1: Install 3pcs 1K Metal Film Resistor on R2,R4,R6



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



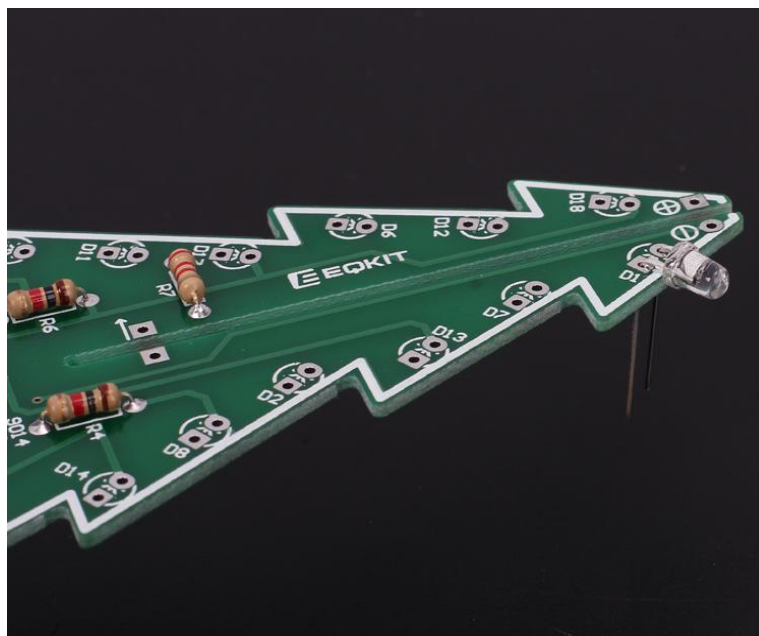
Step 3: Install 1pcs 2.2K Metal Film Resistor on R7



Step 4: Install 18pcs LED.

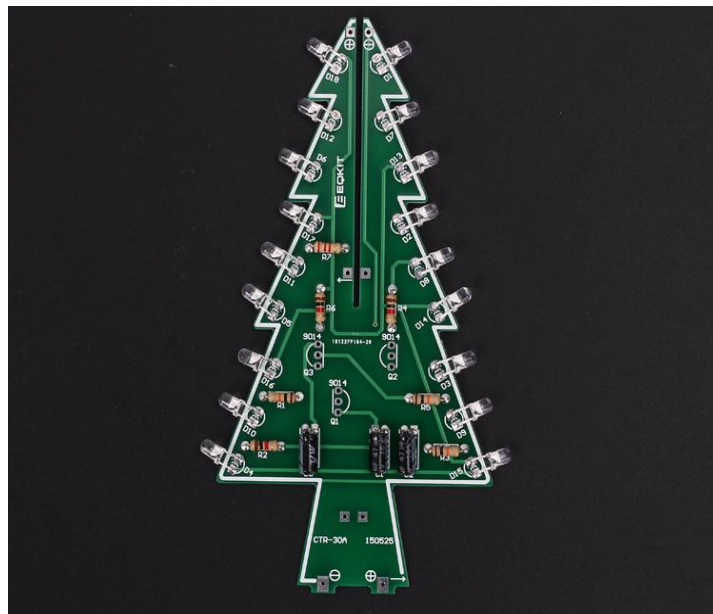
Tips:

- 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.





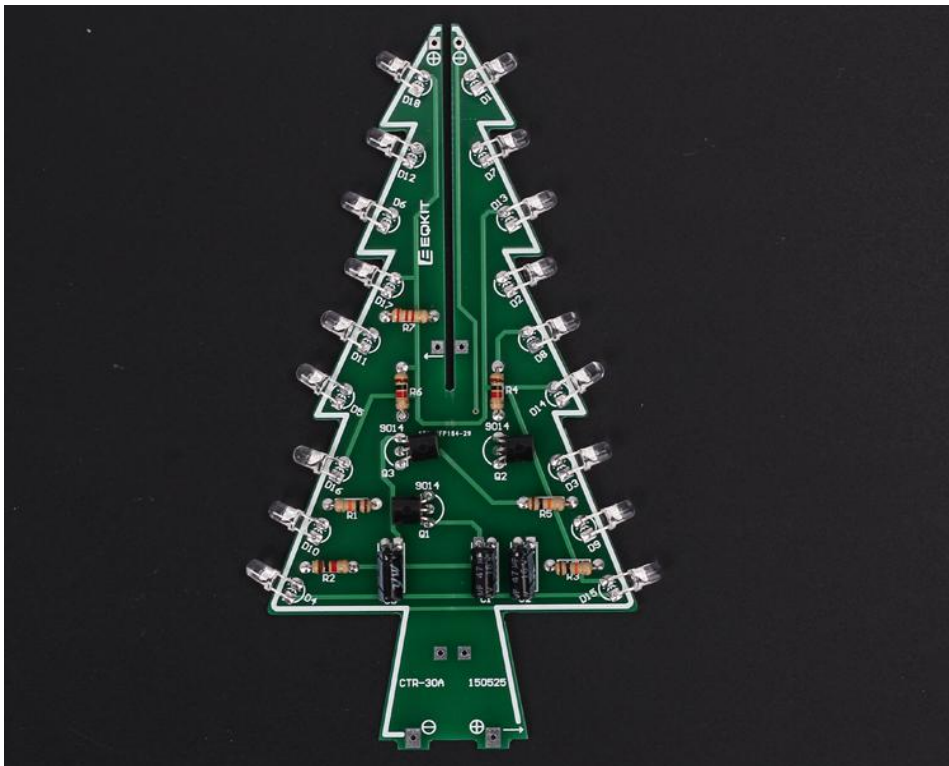
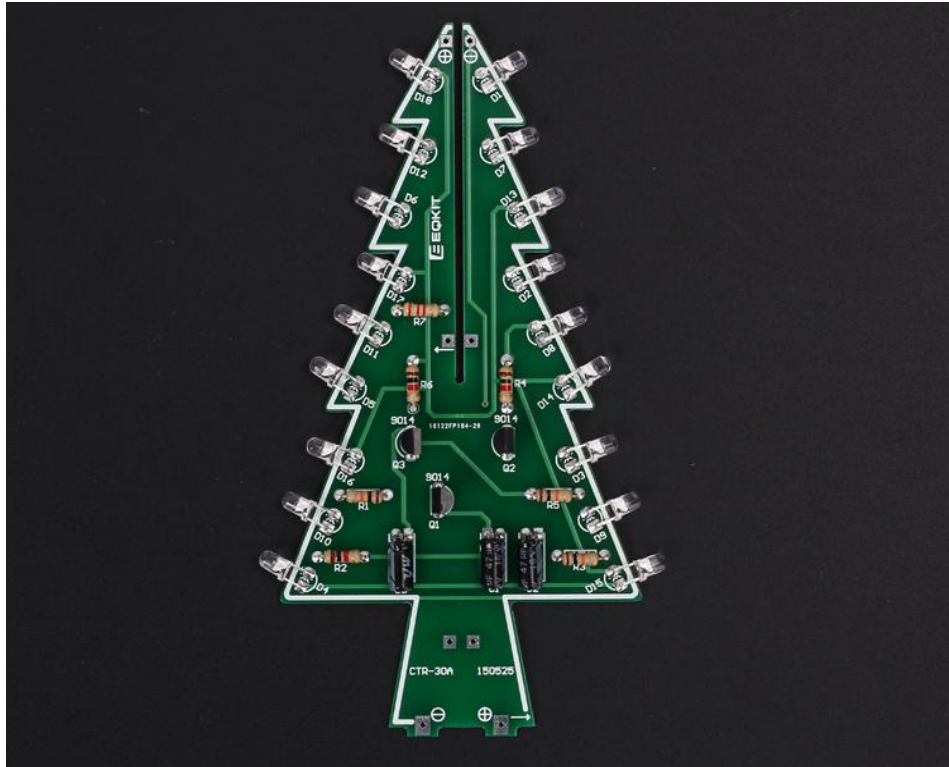
Step 5: Install 3pcs 47uF 16V Electrolytic Capacitor



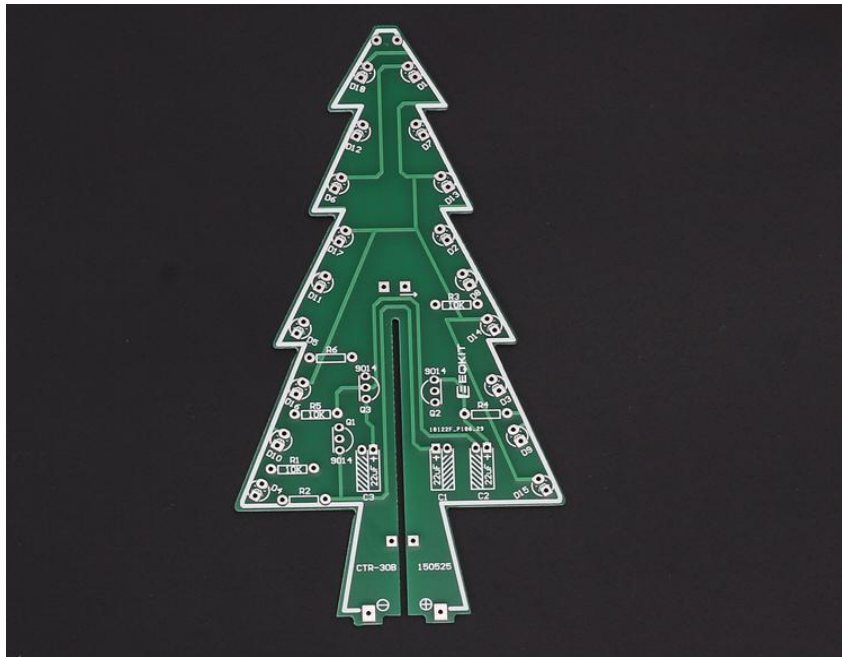
Step 6: Install 3pcs TO-92 S9014 Transistor

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

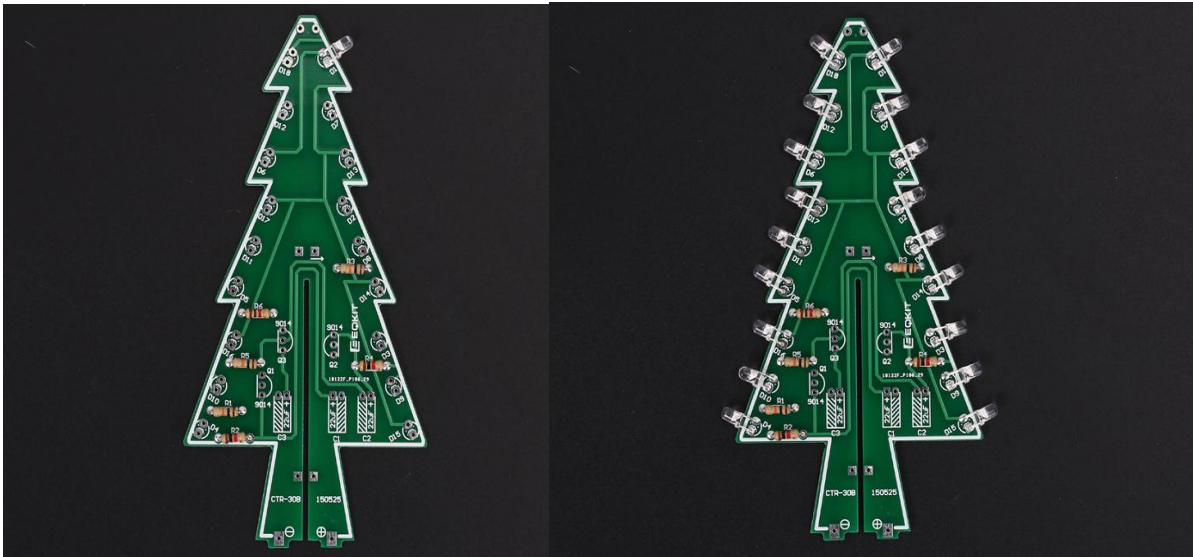
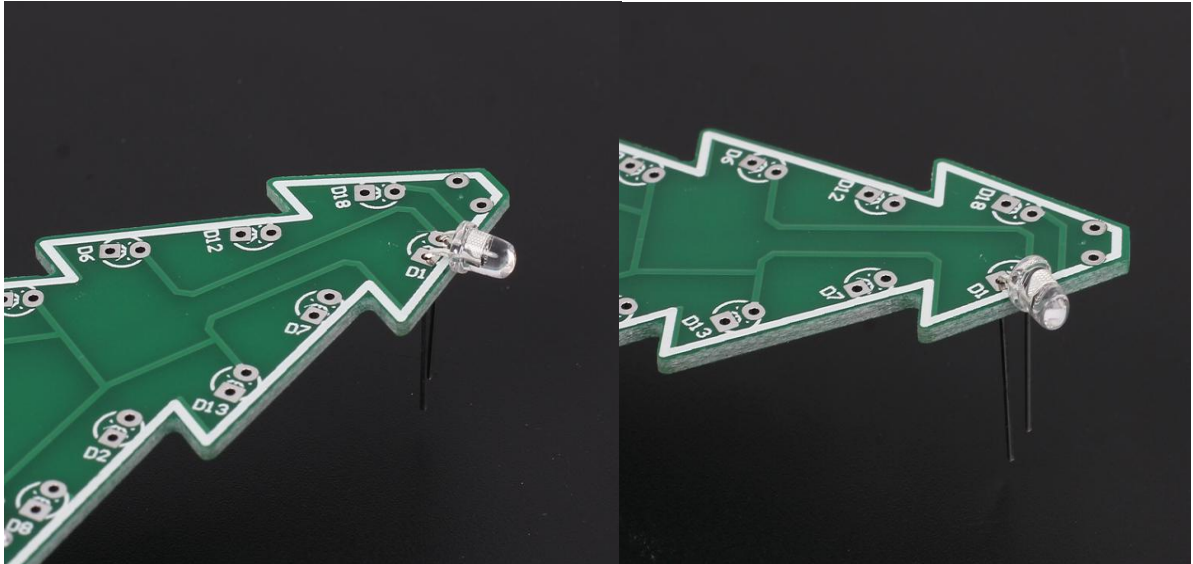


Step 8: Install 3pcs 10K Metal Film Resistor on R1,R3,R5



Step 9: Install 18pcs LED.





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



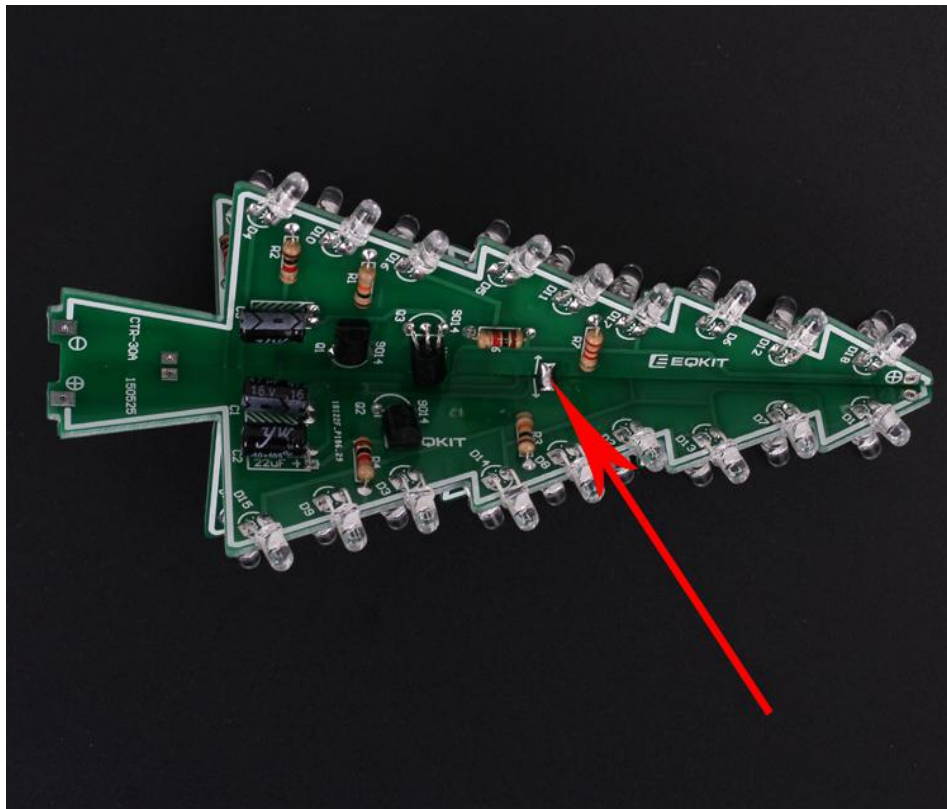
Step 11: Install 3pcs TO-92 S9014 Transistor



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

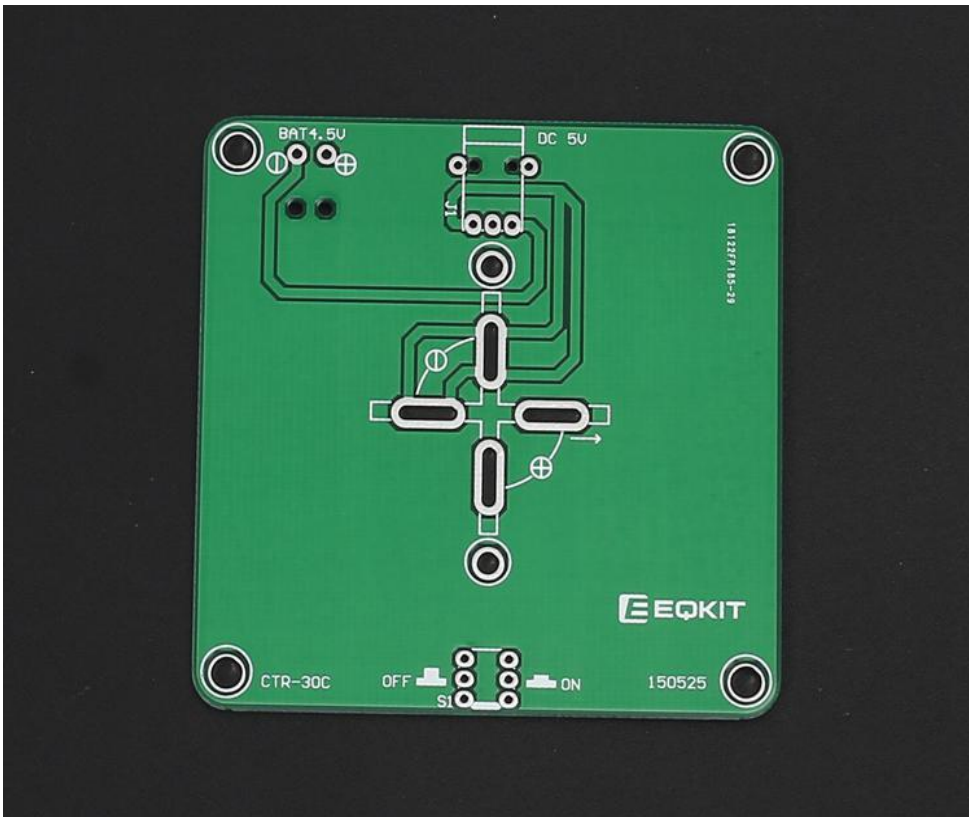
3>. Stitching CTR-30A and CTR-30B

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

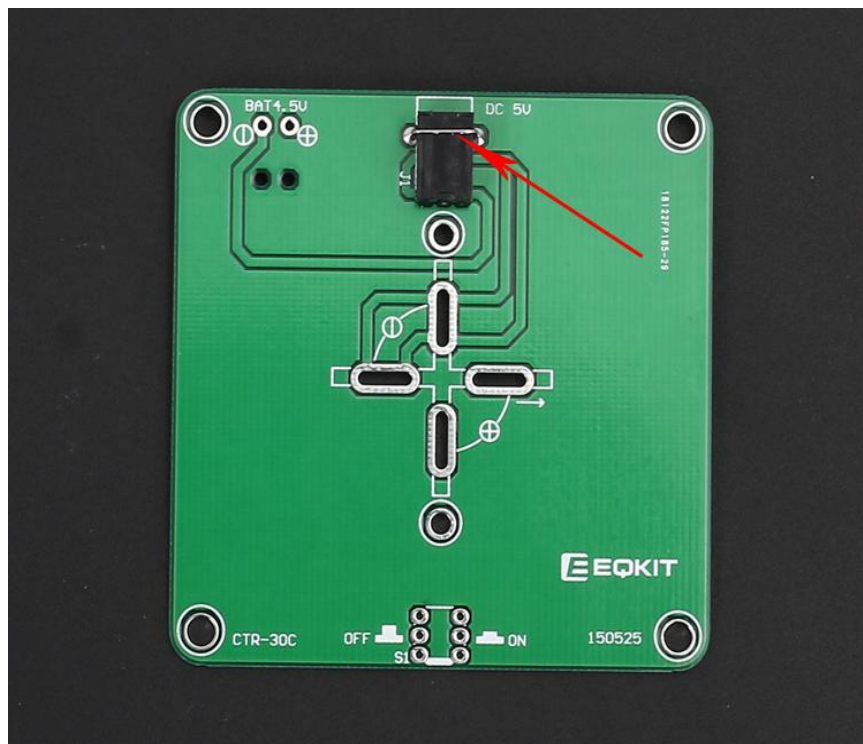
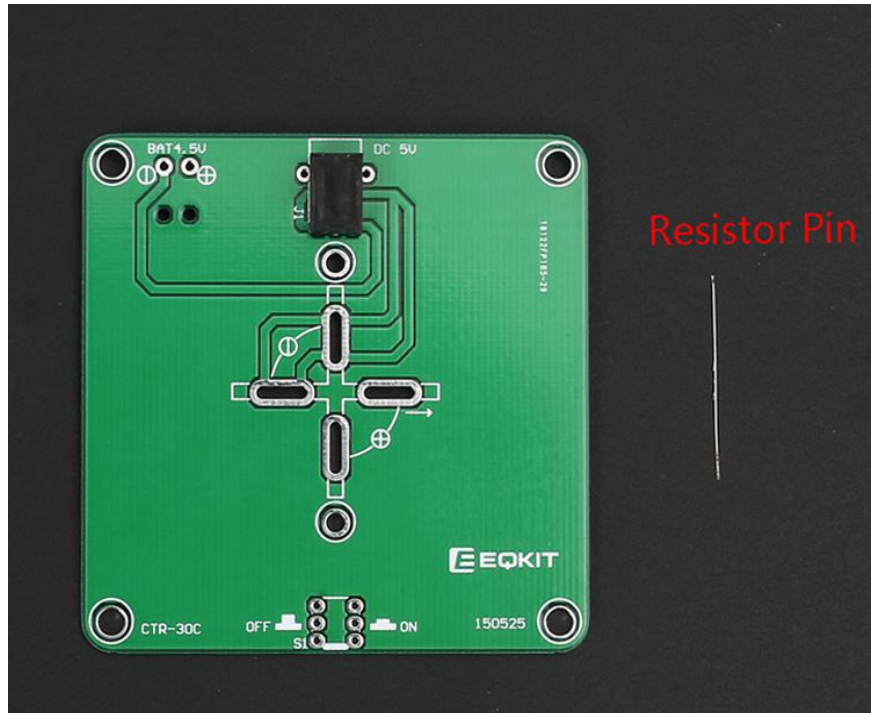




4>. Install CTR-30C

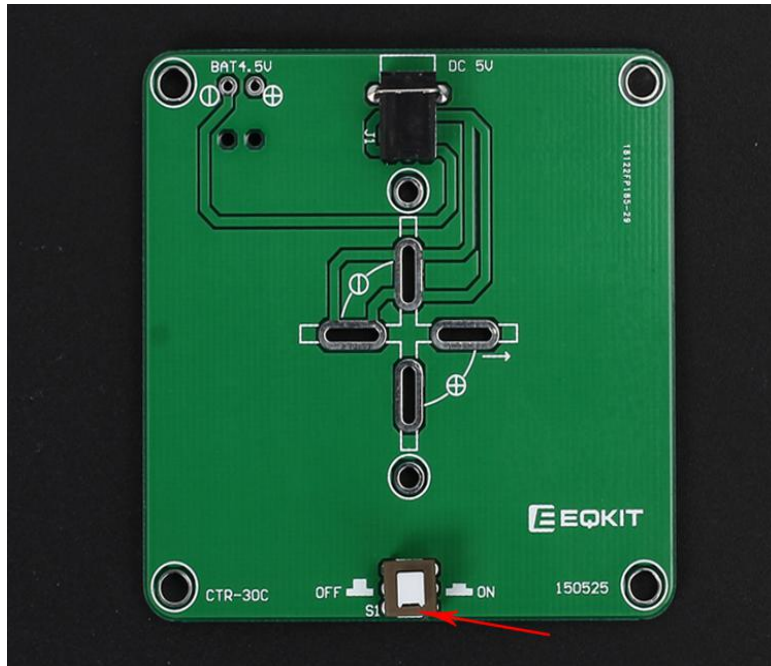


Step 14: Install Power Socket. Use a superfluous pin to fixed the power supply socket. This pin can come from resistor.



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

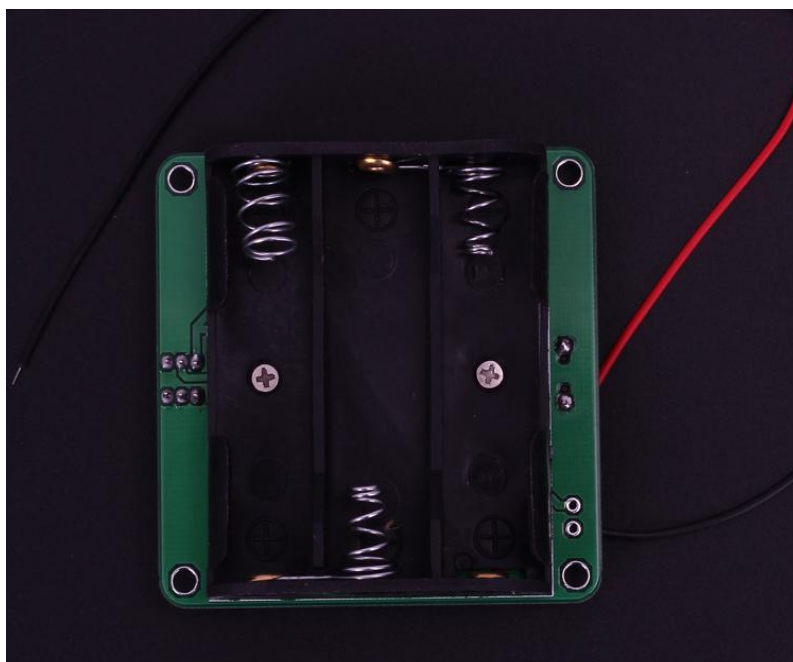
The concave side is close to the PCB edge.

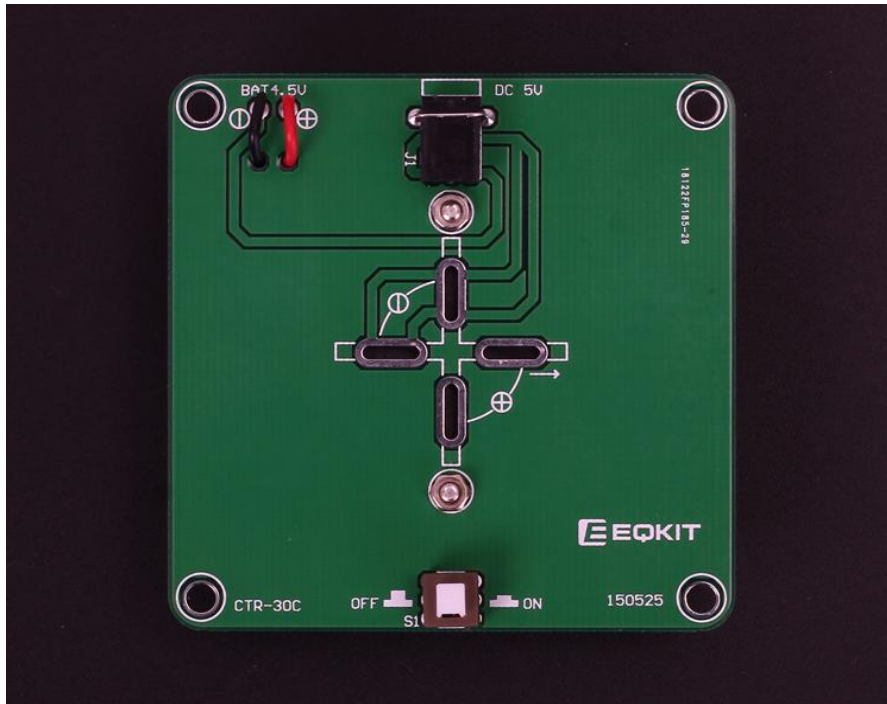


Step 16: Install battery box and fixed by screw/nut.

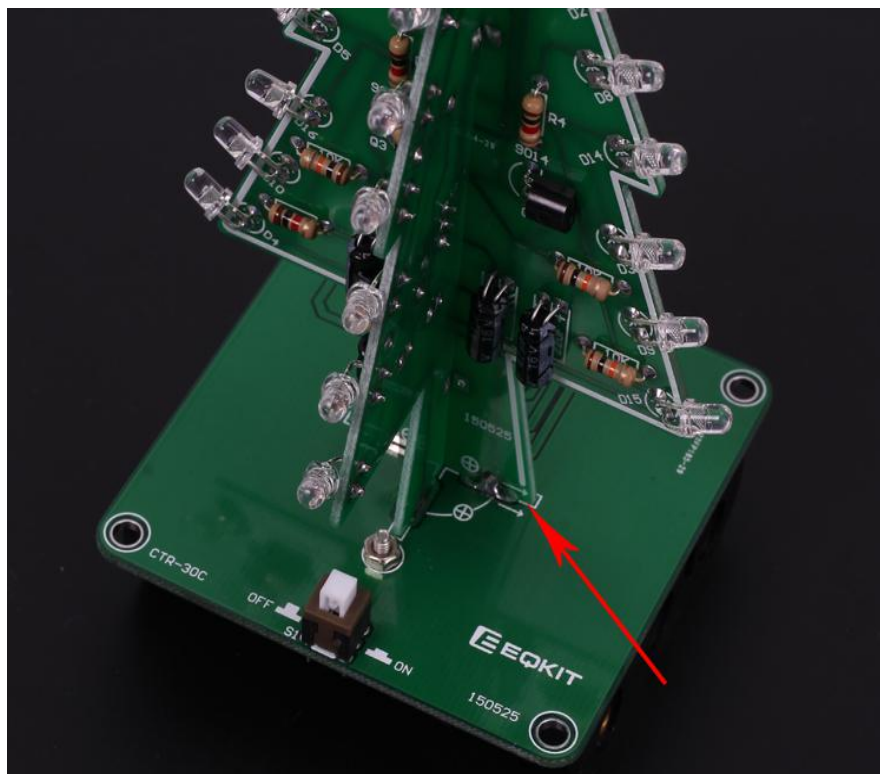
Tips:

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

