Tools you need:
①Iron (30W)   ④Tweezers
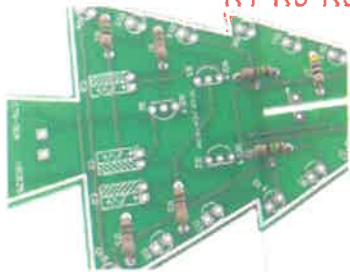②Solder wire   ⑤Wire cutters
③Multimeter

Precautions:
①Check part values & quantities against part list
②Always meter resistor values before soldering
③Understand all part polarities and orientations
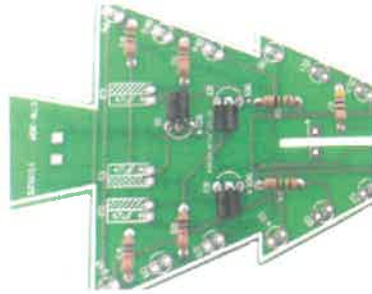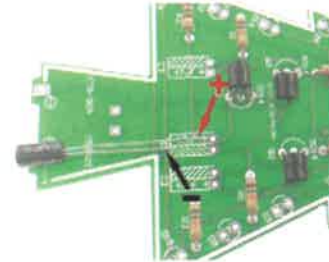
1. Install Resistance
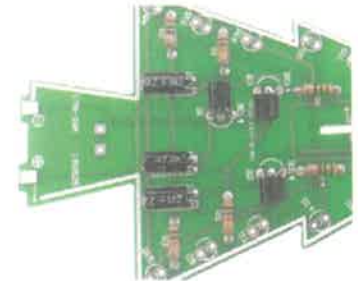
R1 R3 R5=10K

R2 R4 R6=150R,   R7=470R

2. Install Triode
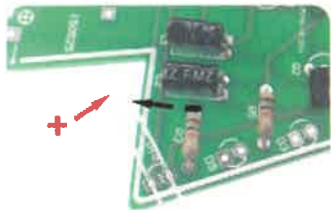**Pin bending 90 degrees**

3. Install Electrolytic capacitor
Long pin is positive
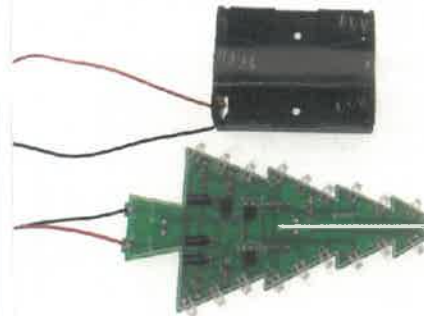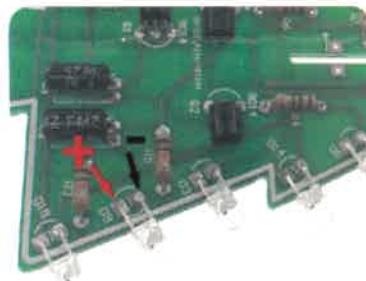Short pin is negative poles

4. Install Electrolytic capacitor
Pin bending 90 degrees

5. Install LED
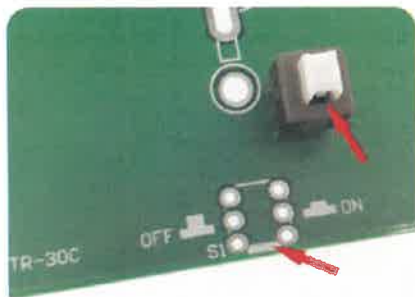Long pin is positive
Short pin is negative poles

6. Install LED
Pin bending 90 degrees
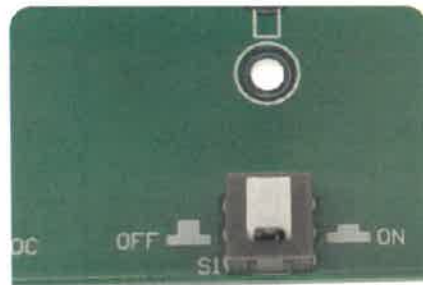

7. A board installation completed
Connecting power supply test
If the work is normal, the next step can be started.

Install and test B board in the same way
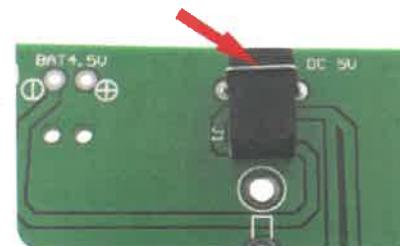
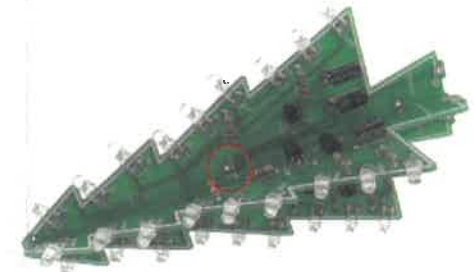## 8. Install switch
Gap corresponding to thick line

9. Install switch

10. Install DC socket
Reinforcement of DC Socket with Component Pins

11. A board and B board combination
Location mark
(two arrow marks)
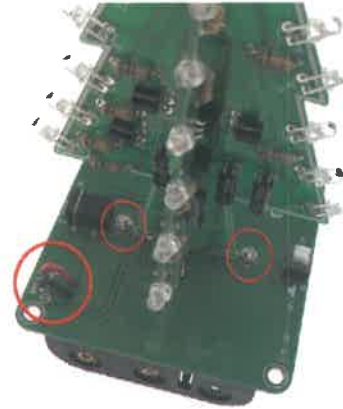
12. A , B board and C board combination

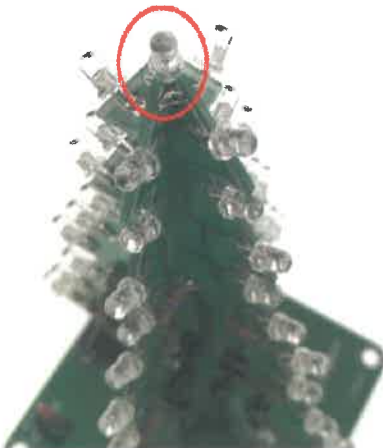## 13. Wires pass through the holes and cut off the excess wires.

14. Welding wires and mounting screws

15. Install the top LED
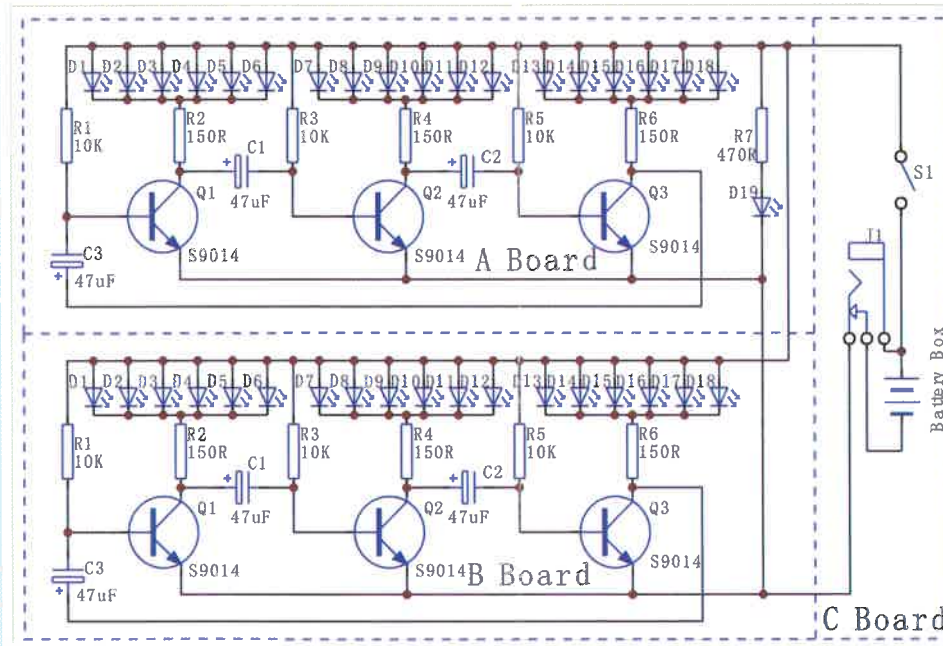
Long pin is positive
Short pin is negative poles

Schematics

A Board

B Board

C Board

Components List

A board components list

Name	Model	Numbering	QTY
Resistor	150R	R2 R4 R6	3
	470R	R7	1
	10K	R1 R3 R5	3
Capacitor	47uF/16V	C1 C2 C3	3
LED	Φ3 Colorful	D1---D19	19
Triode	S9014	Q1---Q3	3
PCB	CTR-30A	1	1

B board components list

Name	Model	Numbering	QTY
Resistor	150R	R2 R4 R6	3
	10K	R1 R3 R5	3
Capacitor	47uF/16V	C1 C2 C3	3
LED	Φ3 Colorful	D1---D18	18
Triode	S9014	Q1---Q3	3
PCB	CTR-30B	1	1

C board components list

Name	Model	Numbering	QTY
Switch	5.8*5.8mm	S1	1
DC Socket	3.5mm	J1	1
Battery box	AA*3	1	1
Screw	2*6mm	2	2
Nut	2mm	2	2
Power cord	USB to DC	1	1
PCB	CTR-30C	1	1