DIY Kit RGB Flash LED Circuit Colorful Christmas Trees LED Soldering Practice Kits Instructions

Contents

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Product Information
Product Name: RGB LED Flash Christmas Tree DIY Kit

Introduction: This flash Christmas tree kit consists of three circuit boards and allows 36 LEDs to flash alternately, creating a three-dimensional profile of a Christmas tree. It is best viewed in a night environment. This DIY product requires soldering and assembly.

Parameter

- Work Voltage: DC 4.5V-5.5V
- Work Current: 60mA
- Power Type: MINI USB
- Control Type: Button Control
- Color: RGB LED
- Work Temperature: -20~85
- Work Humidity: 0%~95%RH
- Size (Installed): 130*70*59mm

Function

1. RGB LED light color changes automatically
2. Switch control
3. MINI USB provides a power supply
4. Perfect simple circuit

Component Listing

NO.	Component Name	QTY
1	Metal Film Resistor	4 (R2,R4,R6,R7)
2	Metal Film Resistor	3 (R1,R3,R5)
3	Electrolytic Capacitor	3 (C1,C2,C3)
4	RGB LED	18 (D1-D18)
5	S9014 Transistor	3 (Q1,Q2,Q3)
6	PCB	1 (PCB-A)
7	Metal Film Resistor	3 (R2,R4,R6)
8	Metal Film Resistor	3 (R1,R3,R5)
9	Electrolytic Capacitor	3 (C1,C2,C3)
10	RGB LED	18 (D1-D18)
11	S9014 Transistor	3 (Q1,Q2,Q3)
12	PCB	1 (PCB-B)
13	Power Switch	1
14	Mini USB Socket	1 (P1)
15	Mini USB Cable	1 (80cm)
16	Copper Column	4 (M3*5+4mm)
17	Nut	4 (M3)
18	PCB	1 (PCB-C)

Product Usage Instructions
Installation Notes
Users should follow the PCB silkscreen and component list for installation.

Installation Steps

1. **Step 1:** Install PCB-A. Install 4pcs 100ohm Metal Film Resistor on R2, R4, R6, R7.
2. **Step 2:** Install 3pcs 4.7K Metal Film Resistor on R1, R3, R5.
3. **Step 3:** Install 18pcs 3mm RGB LED at D1-D18. Pay attention to distinguishing the positive and negative poles of the LED, and the longer pin is the positive pole. Control the distance between the PCB edge and the LED head.
4. **Step 4:** Install 3pcs 47uF 16V Electrolytic Capacitor at C1, C2, C3. Pay attention to distinguishing the positive and negative poles and the longer pin is the positive pole. Reserve a 2~3mm spacing between the capacitor and the PCB for bending the capacitor during subsequent installation.
5. **Step 5:** Install 3pcs TO-92 S9014 Transistor at Q1, Q2, Q3. It is better to bend S9014’s pin so that 2 PCs PCB-A and PCB-B can be better spliced. PCB-A installation is now completed.

Follow the provided diagram for further installation steps.

Application

1. Training welding skills
2. Student School
3. DIY production
4. Project Design
5. Electronic competition
6. Gift giving
7. Crafts collection
8. Home decoration
9. Souvenir collection

Introduction

It is a flash Christmas tree kit consisting of three circuit boards, that allow 36 LED flashes alternately, showing a Christmas tree in the space of a three-dimensional profile (the night environment has better viewing). This DIY product needs to be soldered and assembled by yourself.

Parameter

1. Work Voltage: DC 4.5V-5.5V
2. Work Current:60mA
3. Power Type: MINI USB
4. Control Type: Button Control
5. Color: RGB LED
6. Work Temperature:-20℃~85℃
7. Work Humidity:0%~95%RH
8. Size(Installed):130*70*59mm

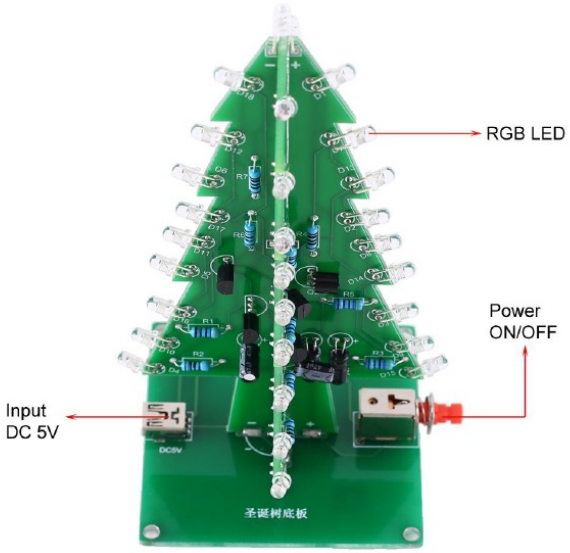
Function

1. RGB LED light color changes automatically
2. Switch control
3. MINI USB provides a power supply
4. Perfect simple circuit

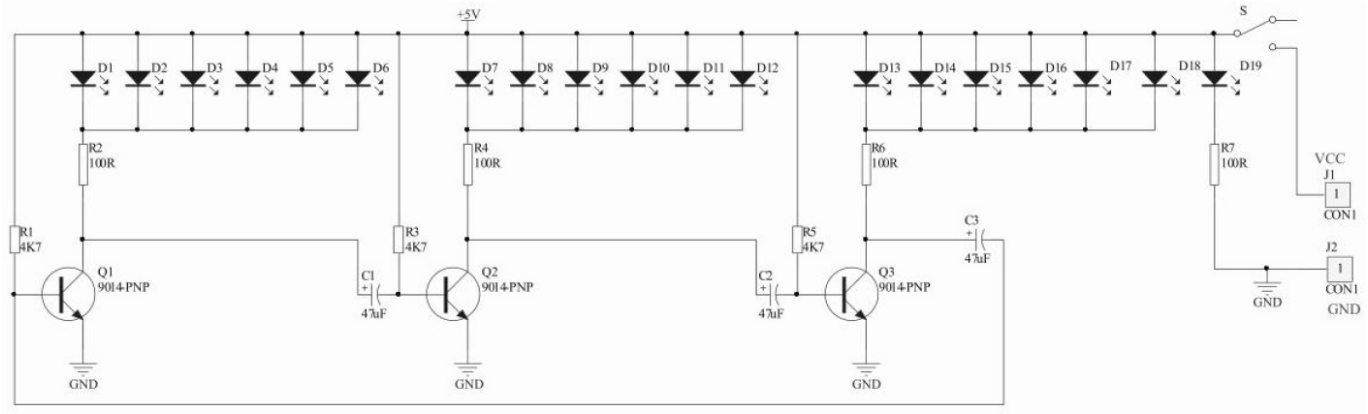
Component listing

NO.	Component Name	PCB Marker	Parameter	QTY
PCB-A				
1	Metal Film Resistor	R2,R4,R6,R7	100ohm	4
2	Metal Film Resistor	R1,R3,R5	4.7K ohm	3
3	Electrolytic Capacitor	C1,C2,C3	47uF 16V	3
4	RGB LED	D1-D18	3mm	18
5	S9014 Transistor	Q1,Q2,Q3	TO-92	3
6	PCB	PCB-A	115*59*1.6mm	1
PCB-B				
7	Metal Film Resistor	R2,R4,R6	100ohm	3
8	Metal Film Resistor	R1,R3,R5	4.7K ohm	3
9	Electrolytic Capacitor	C1,C2,C3	47uF 16V	3
10	RGB LED	D1-D18	3mm	18
11	S9014 Transistor	Q1,Q2,Q3	TO-92	3
12	PCB	PCB-B	115*59*1.6mm	1
PCB-C				
13	Power Switch	S	Red	1
14	Mini USB Socket	P1		1
15	Mini USB Cable		80cm	1
16	Copper column		M3*5+4mm	4
17	Nut		M3	4
18	PCB	PCB-C	59*59*1.6mm	1
Note: Users can complete the installation according to the PCB silk screen and component list.				

Basic instruction



Schematic



Application

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Installation Notes

1. The user needs to prepare the welding tool first.
2. This DIY installation is more difficult to install, please be patient until the installation is complete.
3. The package is a DIY kit. It needs finish installed by the user.
4. The soldering iron can’t touch the components for a long time(1.0 seconds), otherwise, it will damage the

components.

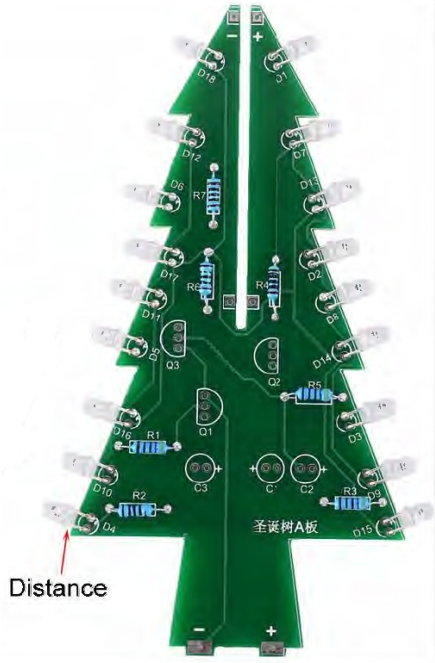
5. Pay attention to the positive and negative of the components.
6. users can complete installation by PCB silk screen and component listing.
7. Users must install the LED according to the specified rules. Otherwise, some LEDs will not light.
8. install complex components preferentially.
9. Make sure all components are in the right direction and right place.
10. It is strongly recommended to read the installation manual before starting installation.

Installation Steps(Please be patient install! !)

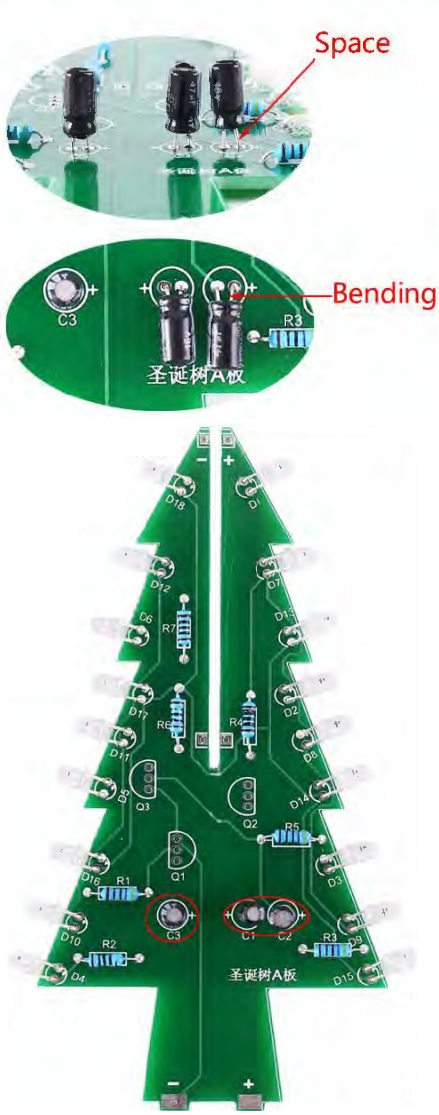
Step 1: Install PCB-A. Install 4pcs 100ohm Metal Film Resistor on R2,R4,R6,R7.

Step 2: Install 3pcs 4.7K Metal Film Resistor on R1, R3, R5.

Step 3: Install 18pcs 3mm RGB LED at D1-D18.Pay attention to distinguishing the positive and negative poles of LED and the Longer pin are positive pole. Control distance between PCB edge and LED head.

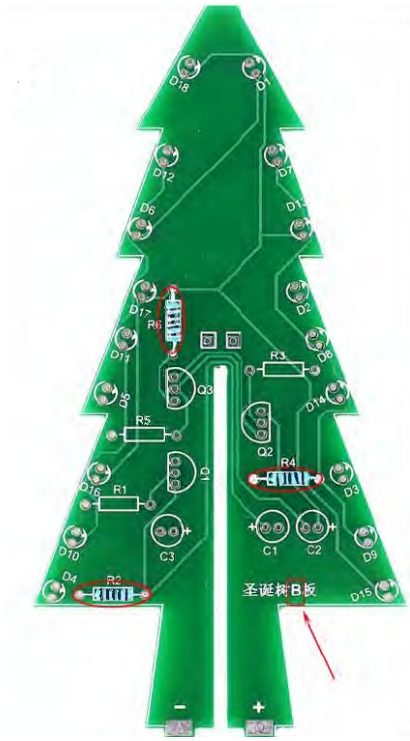


Step 4: Install 3pcs 47uF 16V Electrolytic Capacitor at C1,C2,C3.Pay attention to distinguishing the positive and negative poles and the Longer pin are positive poles. A 2~3mm spacing is reserved between the capacitor and the PCB to facilitate the bending of the capacitor for subsequent installation.

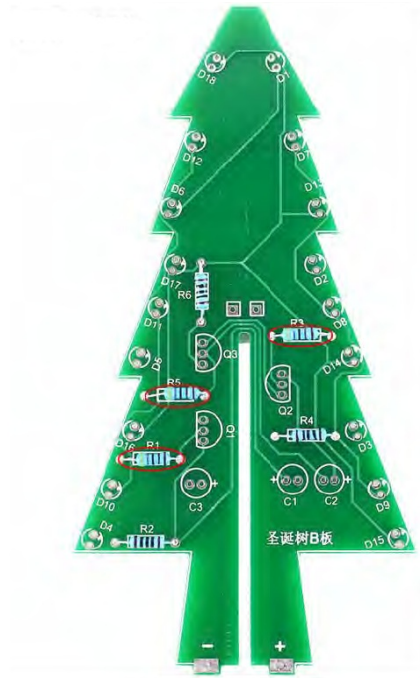


Step 5: Install 3pcs TO-92 S9014 Transistor at Q1,Q2,Q3.It is better to bend S9014's pin so that 2pcs PCB-A and PCB-B can better splicing.OK, PCB-A has been installed and completed.

Step 6: Install PCB-B. Install 3pcs 100ohm Metal Film Resistor on R2, R4, and R6.

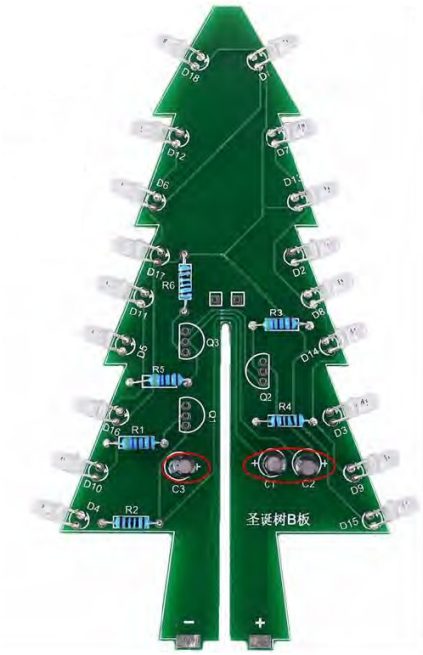


Step 7: Install 3pcs 4.7K Metal Film Resistor on R1, R3, R5.



Step 8: Install 18pcs 3mm RGB LED at D1-D18.Pay attention to distinguish the positive and negative poles of LED and the Longer pin are positive pole. Control distance between PCB edge and LED head.

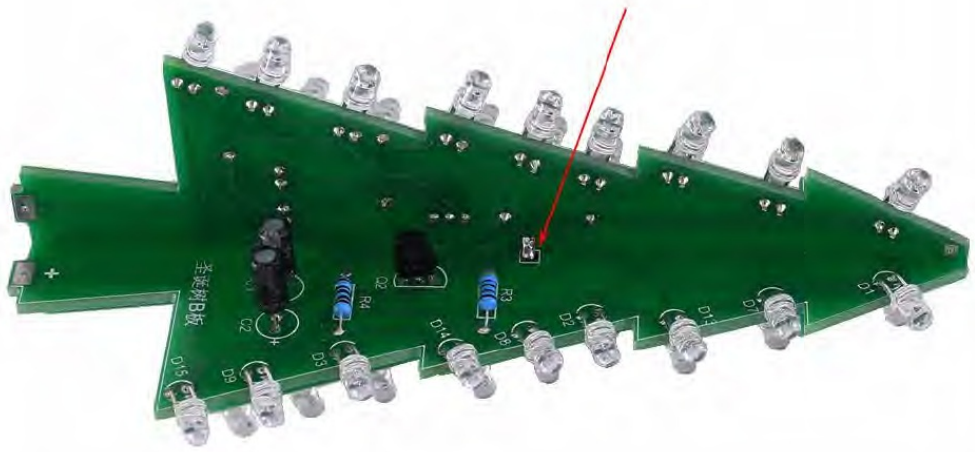
Step 9: Install 3pcs 47uF 16V Electrolytic Capacitor at C1,C2,C3.Pay attention to distinguishing the positive and negative poles and the Longer pin are positive pole.A 2~3mm spacing is reserved between the capacitor and the PCB to facilitate the bending of the capacitor for subsequent installation.



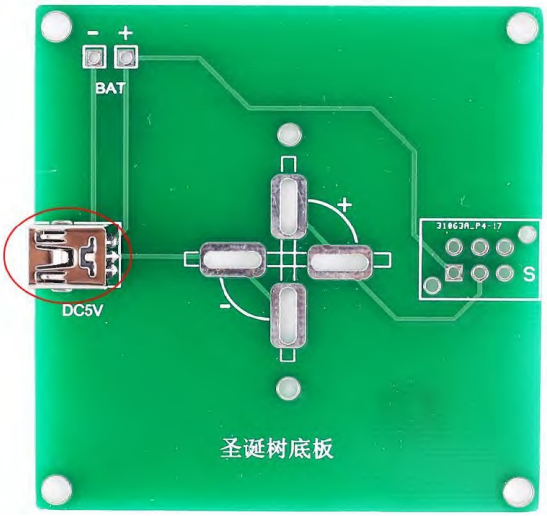
Step 10: Install 3pcs TO-92 S9014 Transistor at Q1,Q2,Q3.It is better to bend S9014's pin so that 2pcs PCB-A and PCB-B can better splicing.OK, PCB-B has been installed and completed.

Step 11: Test. Connect 4.5V-5V to PCB-A and PCB-B separately. Preliminary welding success if LEDs are blinking automatically.

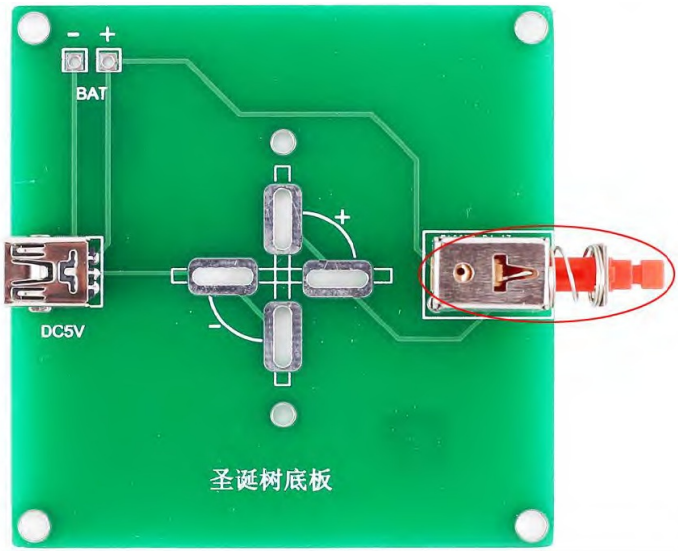
Step 12: Align the two positioning heads on PCB-A and PCB-B and then fix them with tin.



Step 13: Install the Mini USB Socket at P1.



Step 14: Install 1pcs power switch at S.



Step 15: Fixed PCB-A and PCB-B on PCB-C.Align the two positioning heads and then fix them with tin.

Step 16: Install the top LED Note the positive and negative of LED. At this point, The installation is complete!!

Step 17: Mount the Copper column and nut as a bracket.
Step 18: Turn on the power and enjoy the effect.

Documents / Resources

	DIY Kit RGB Flash LED Circuit Colorful Christmas Trees LED Soldering Practice Kits [pdf] Instructions RGB Flash LED Circuit Colorful Christmas Trees LED Soldering Practice Kits, RGB Flash, LED Circuit Colorful Christmas Trees LED Soldering Practice Kits, Trees LED Soldering Practice Kits , Soldering Practice Kits, Practice Kits

References

- Home - Multivision

Manuals+,