

Electronic LED Wind Chime DIY Kit

1.Introduction:

It is a Electronic LED Wind Chime DIY Kit. It simulates the swing of the wind chime through the flashing of the LED. It is a very interesting DIY product.

It is a very interesting DIY electronic product which enables users to understand the circuit more clearly and learn welding skills.

2.Feature:

- 1>.LED flashes automatically
- 2>.Controllable self-locking switch
- 3>.Acrylic shell
- 4>.Perfect simple circuit
- 5>.DIY hand soldering

3.Parameter:

- 1>.Product Name:Electronic LED Wind Chime DIY Kit
- 2>.Work Voltage:DC 4.5V-5V
- 3>.Work Temperature:-20℃~85℃
- 4>.Work Humidity:5%~85%RH
- 5>.Size(Installed):112*107*30mm

4.Use Steps:

- 1>.Connect work voltage DC4.5V-5V from 3.5mm socket by USB wire.
- 2>.Press switch to turn ON LED flashes.
- 3>.Press again to turn OFF.

5.Component Listing:

NO.	Component Name	PCB Marker	Parameter	QTY
1	Electrolytic Capacitor	C1,C2	10uF	2
2	Green LED	D63,D64,D65	3mm	3
3	Red LED	D55-D62	3mm	8
4	Blue LED	D1-D54,D66-D83	3mm	72
5	Power Socket	P1	3.5mm	1
6	S9014 Transistor	Q1,Q2	TO-92	2
7	Metal Film Resistor	R1,R2	68Kohm	2
8	Metal Film Resistor	R3-R29	1Kohm	27
9	Self-Locking switch	S1	8.5*8.5mm	1
10	USB-3.5mm Power Wire		100cm	1
11	PCB		95*85*1.6mm	1
12	Acrylic board			6
13	M3+10mm Copper pillar			4
14	M3+7mm Screw			8
15	M2+10mm Screw			12
16	M2 Nut			12

Note:Users can complete the installation according to the PCB silk screen and component list.

6.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
- 10>.Graduation design
- 11>.Holiday gifts

7. Installation Tips:

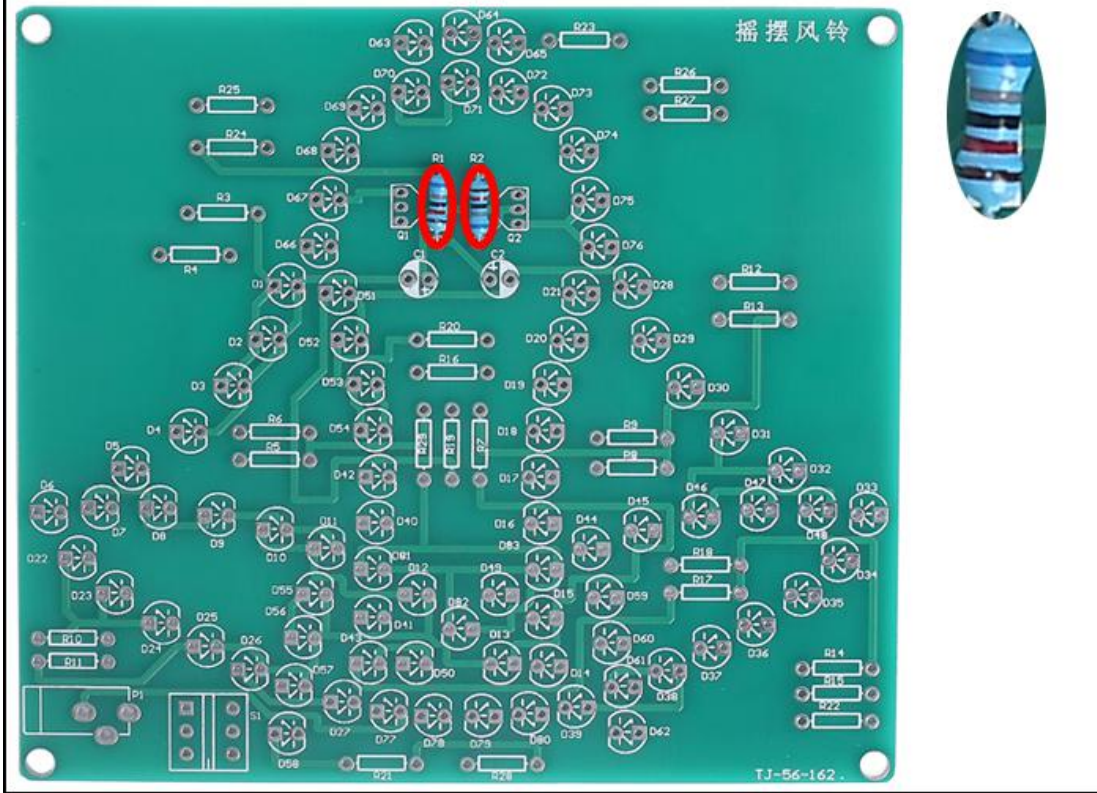
- 1>.User needs to prepare the welding tool at first.
- 2>.Please be patient until the installation is complete.
- 3>.The package is DIY kit.It need finish install by user.
- 4>.The soldering iron can't touch the components for a long time(3s), otherwise damage components.
- 5>.Pay attention to the positive and negative of the components.
- 6>.Strictly prohibit short circuit.
- 7>.User must install the LED according to the specified rules.Otherwise some LED will not light.
- 8>.Install complex components preferentially.
- 9>.Make sure all components are in right direction and right place.
- 10>.Check that all of the LED can be illuminated.
- 11>.It is strongly recommended to read the installation manual before starting installation!!!
- 12>.Please wear anti-static gloves or anti-static wristbands when installing electronic components.

8. Installation Steps(Please be patient install!!!):

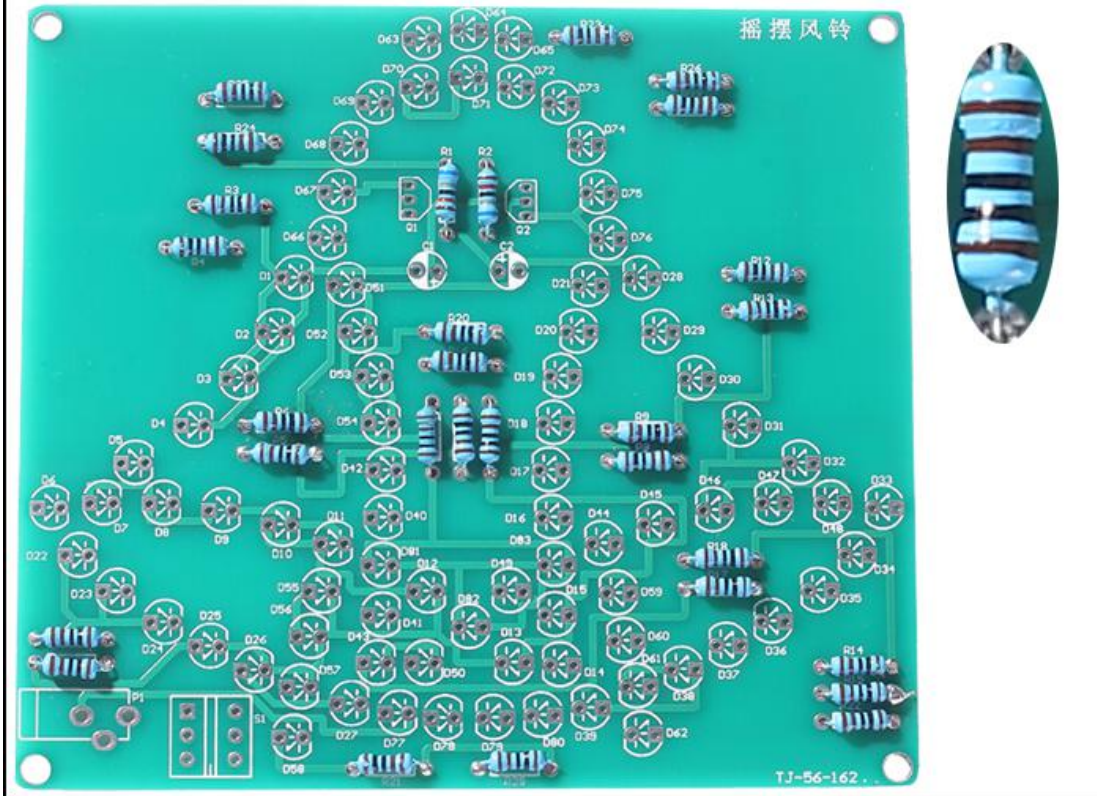
- 1>.Step 1: Install 2pcs 68Kohm Metal Film Resistor at R1,R2.
- 2>.Step 2: Install 27pcs 10Kohm Metal Film Resistor at R3-R29.
- 3>.Step 3: Install 2pcs TO-92 S9014 Transistor at Q1,Q2. The arc of the S9014 corresponds to the arc silk screen of the PCB.
- 4>.Step 4: Install 2pcs 10uF Electrolytic Capacitor at C1,C2. Note: Pay attention to distinguish between positive and negative. The Longer pin is positive pole and connect to symbol '+'.
- 5>.Step 5: Identify the positive(anode) and negative(cathode) lead of LED.The leads of the LED must be installed correctly, otherwise the LED cannot be turned on.Here are four methods as following:
 - 5.1>.According to the length of the LED lead to distinguish. The longer pin is positive(anode) lead. The shorter pin is negative(cathode) lead.
 - 5.2>.Identify the negative(cathode) of the LED is to look into the plastic case where one can see that the negative(cathode) is much thicker/bigger inside the plastic case than the anode lead.
 - 5.3>.Identify by edge of plastic case.The negative(cathode) lead of the LED should be the pin nearest the flat on the plastic case.
 - 5.4>.Test by 3V battery or multimeter.The pin is positive(anode) lead which has connect to the positive of 3V if LED can light up after connect 3V power supply.(LED should not be powered directly from the 3V for a short time:less then 0.5second)
 - 5.5>.It is positive(anode) where the white mark "+" pointing to on PCB.
- 6>.Step 6: Install 3pcs 3mm Green LED at D63,D64,D65. Note: The longer pin connect to square pad.
- 7>.Step 7: Install 8pcs 3mm Red LED at D55-D62. Note: The longer pin connect to square pad.
- 8>.Step 8: Install 72pcs 3mm Blue LED at D1-D54,D66-D83. Note: The longer pin connect to square pad.
- 9>.Step 9: Install 1pcs 8.5*8.5mm Self-locking switch at S1.
- 10>.Step 10: Install 1pcs 3.5mm DC Socket at P1.
- 11>.Step 11: Install 4pcs M3+10mm Copper pillar and 4pcs M3+7mm Screw on PCB as bracket.
- 12>.Step 12: Tear off the acrylic surface protective film.
- 13>.Step 13: Install Acrylic bottom plate by 4pcs M3+7mm Screw.
- 14>.Step 14: Install 4pcs side acrylic panels by M2+10mm Screw and M2 Nut.
- 15>.Step 15: Install Acrylic top plate by M2+10mm Screw and M2 Nut.

9. Install shown steps:

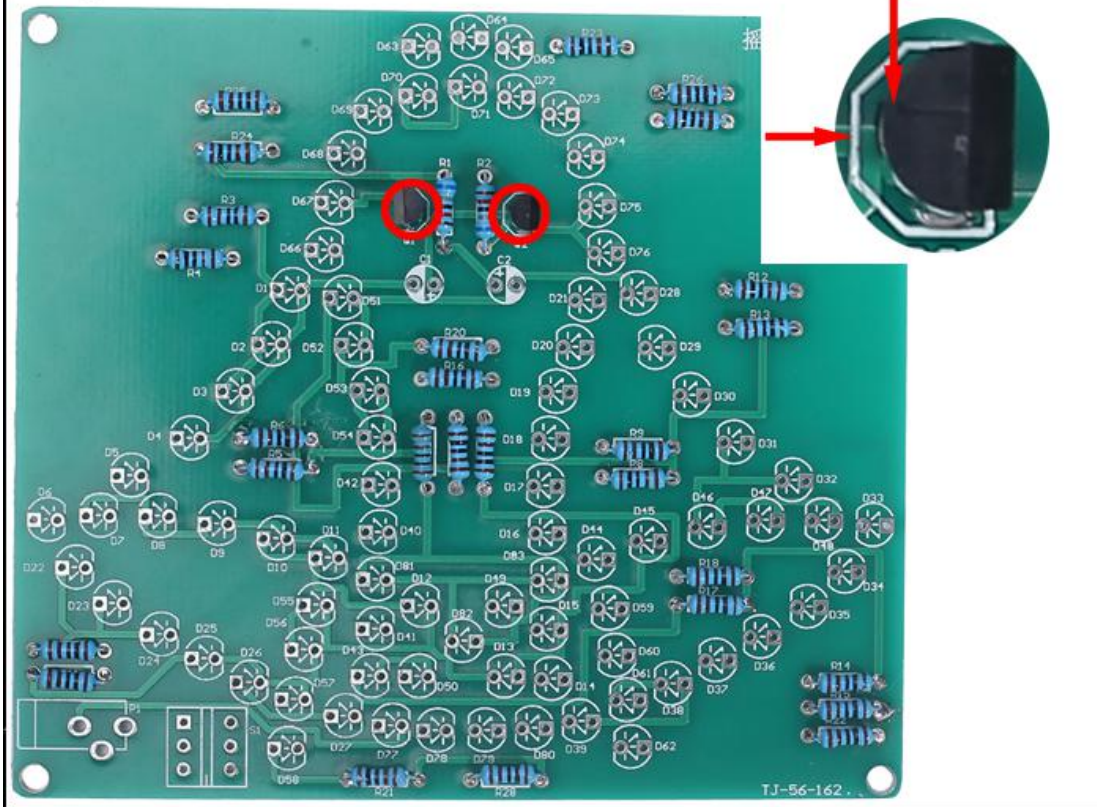
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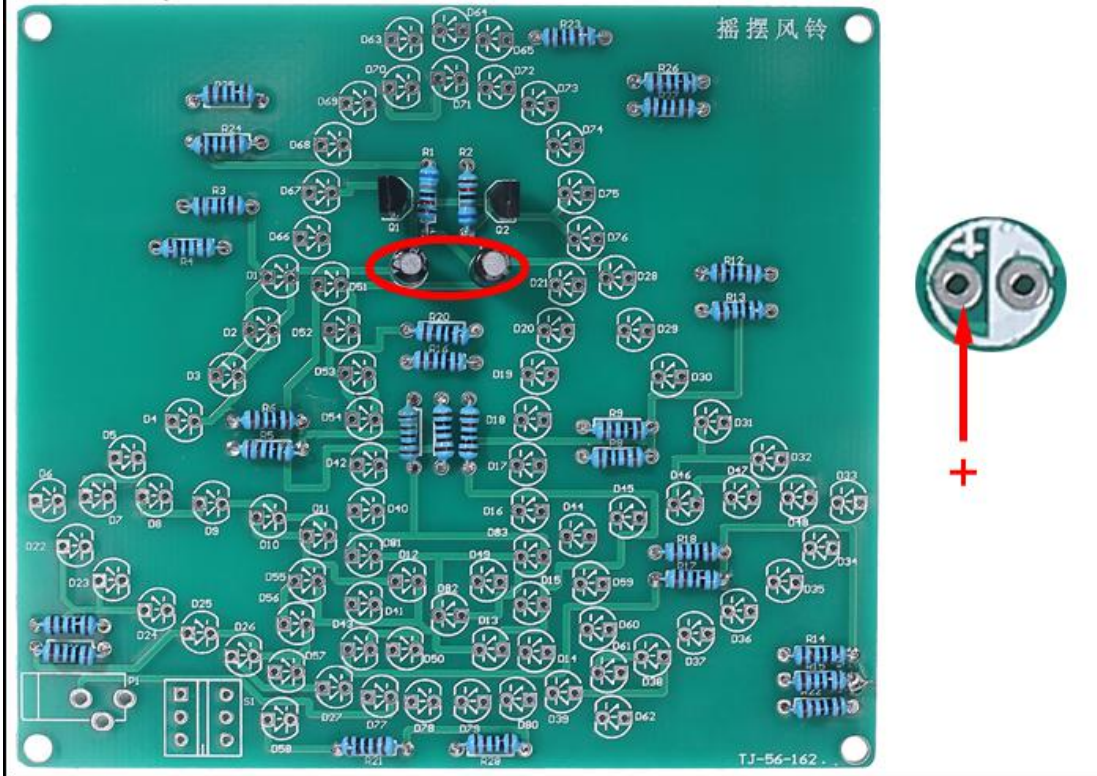
Step 2: Install 27pcs 10Kohm Metal Film Resistor at R3-R29.



Step 3: Install 2pcs TO-92 S9014 Transistor at Q1,Q2. The arc of the S9014 corresponds to the arc silk screen of the PCB.



Step 4: Install 2pcs 10uF Electrolytic Capacitor at C1,C2. Note: Pay attention to distinguish between positive and negative. The Longer pin is positive pole and connect to symbol '+'.



Step 5: Identify the positive(anode) and negative(cathode) lead of LED. The leads of the LED must be installed correctly, otherwise the LED cannot be turned on. Here are four methods as following:

5.1>.According to the length of the LED lead to distinguish. The longer pin is positive(anode) lead. The shorter pin is negative(cathode) lead.

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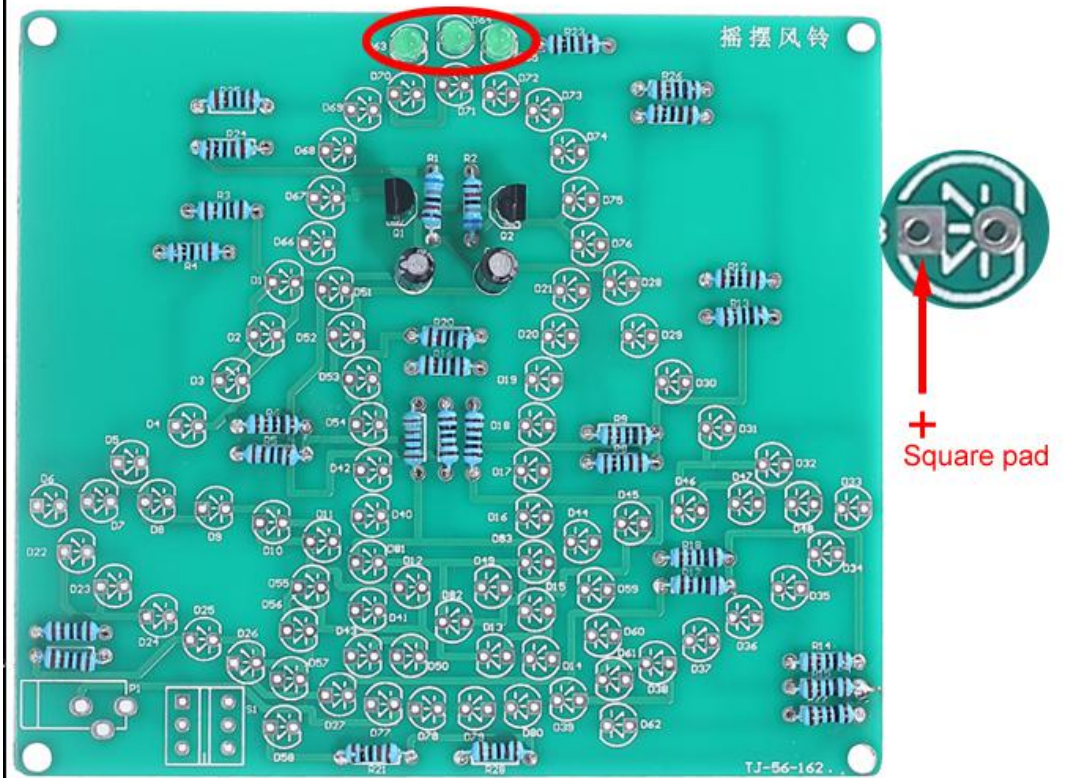
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(LED can not be powered directly from 3V for a short time:less then 0.5second)

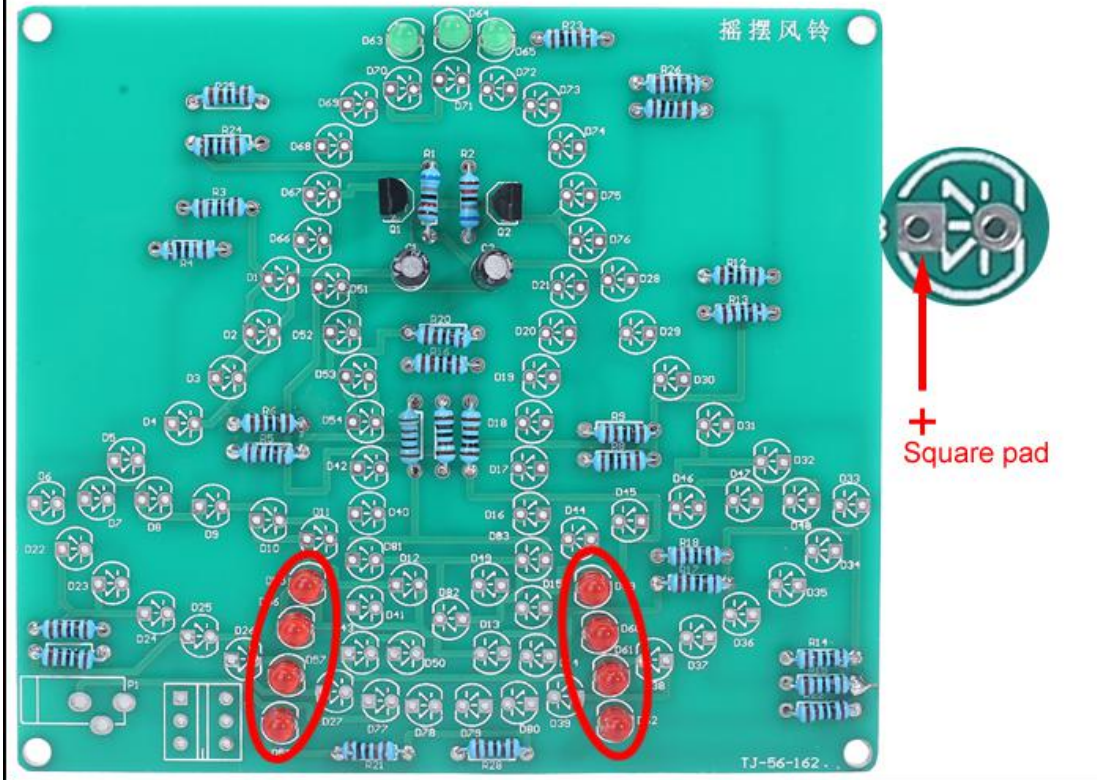
5.5>.Note:If the flat on package disagrees with other indicators(short lead,large cathode lead end), then other indicators take priority. I.e. if the flat disagrees with the lead length,use the lead length as the cathode indicator.



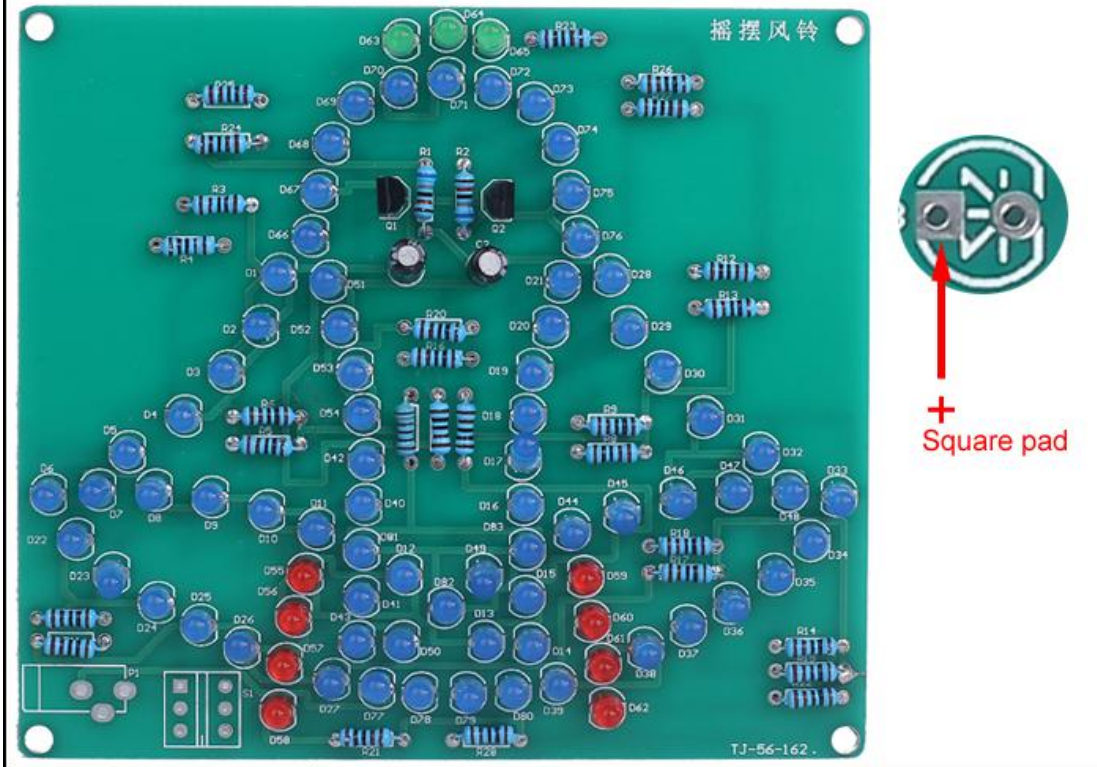
Step 6: Install 3pcs 3mm Green LED at D63,D64,D65. Note: The longer pin connect to square pad.



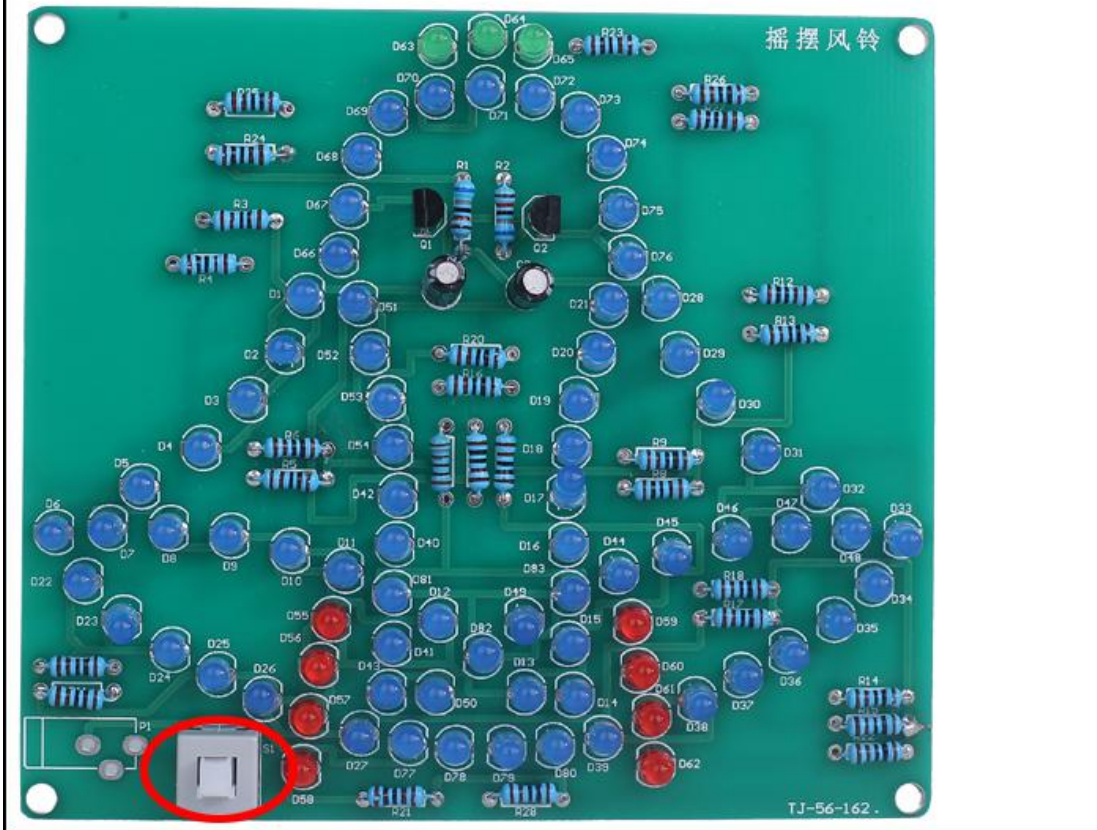
Step 7: Install 8pcs 3mm Red LED at D55-D62. Note: The longer pin connect to square pad.



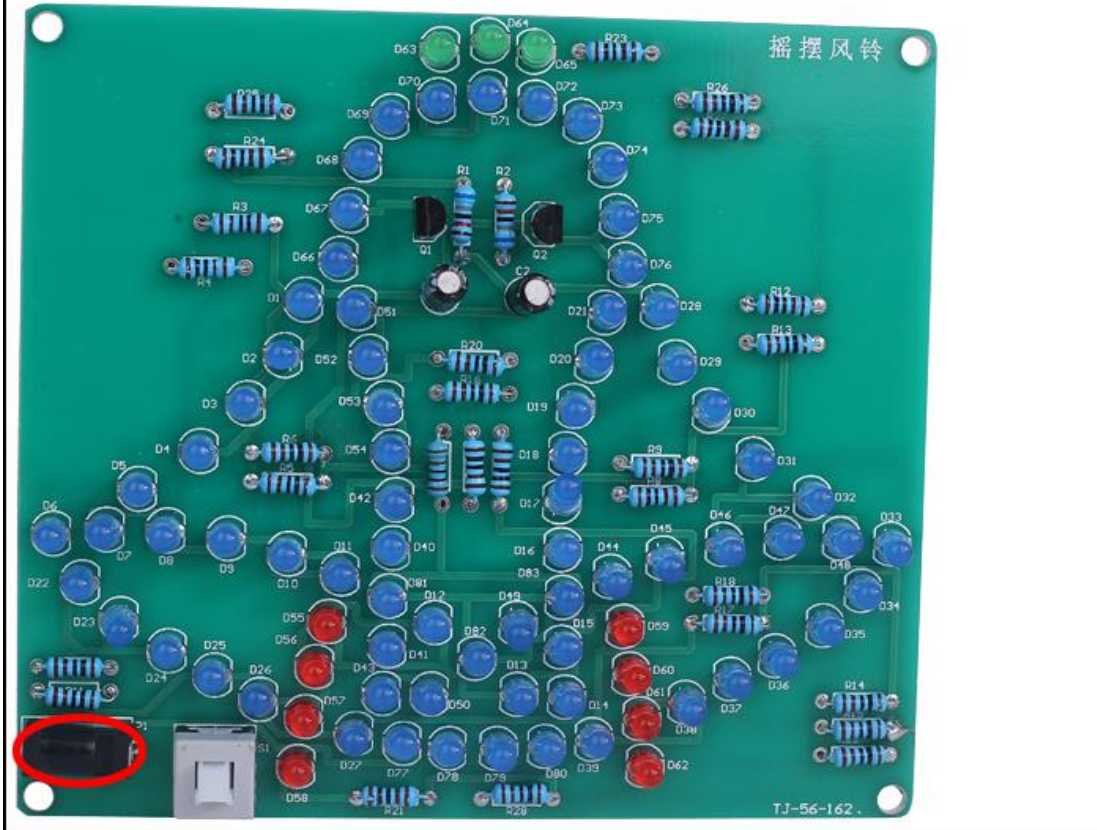
Step 8: Install 72pcs 3mm Blue LED at D1-D54,D66-D83. Note: The longer pin connect to square pad.



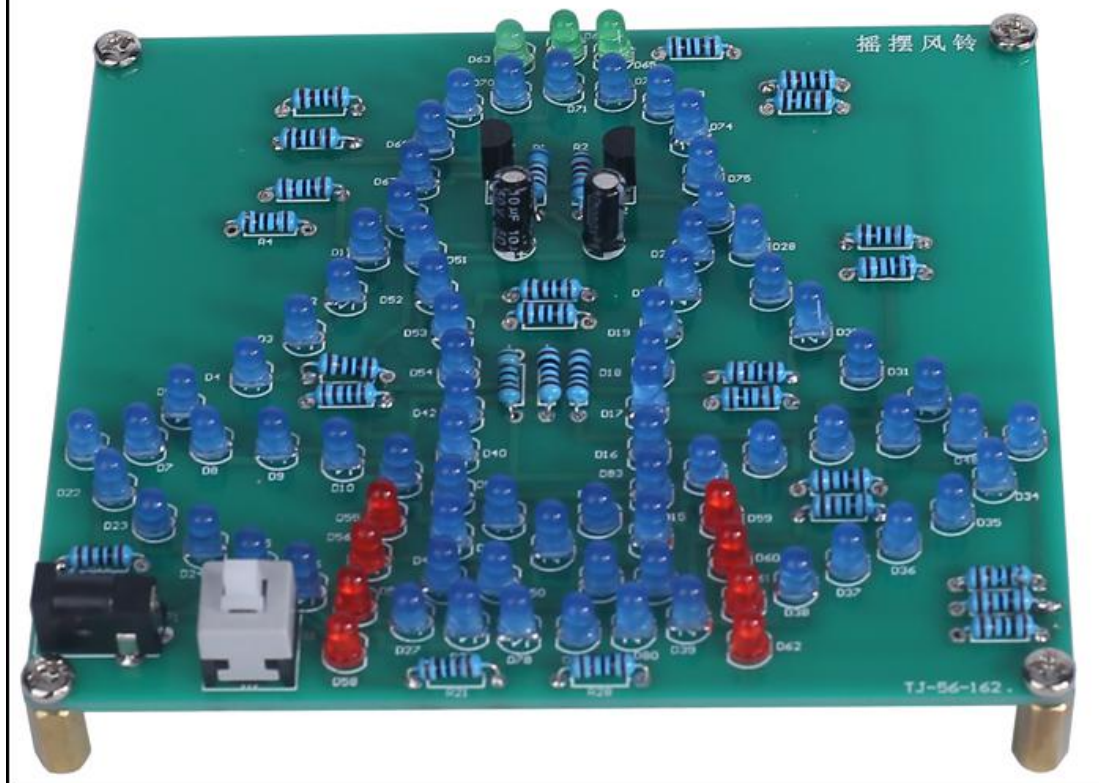
Step 9: Install 1pcs 8.5*8.5mm Self-locking switch at S1.



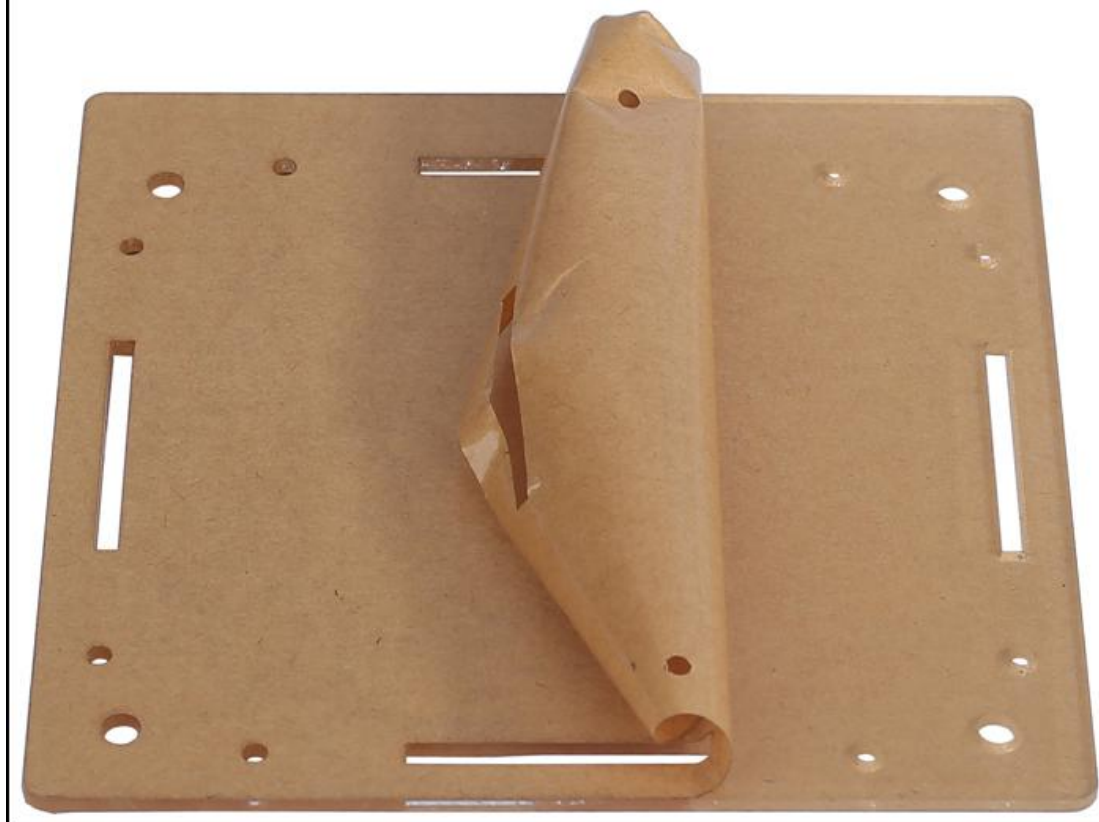
Step 10: Install 1pcs 3.5mm DC Socket at P1.



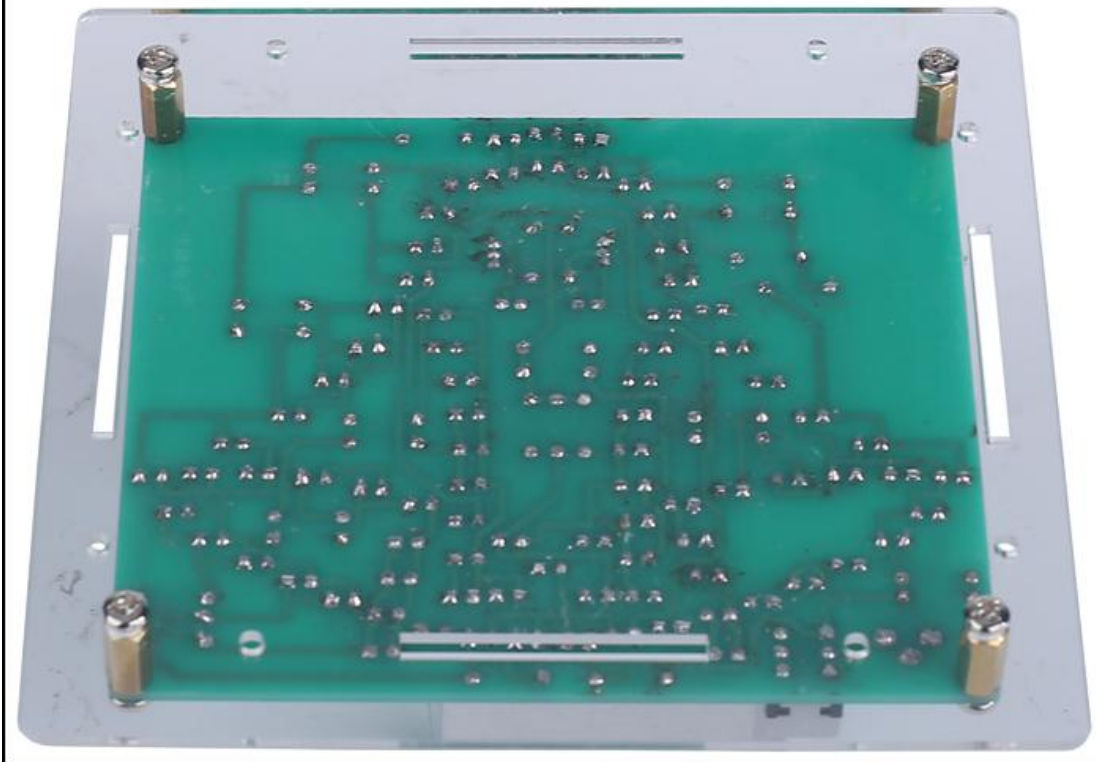
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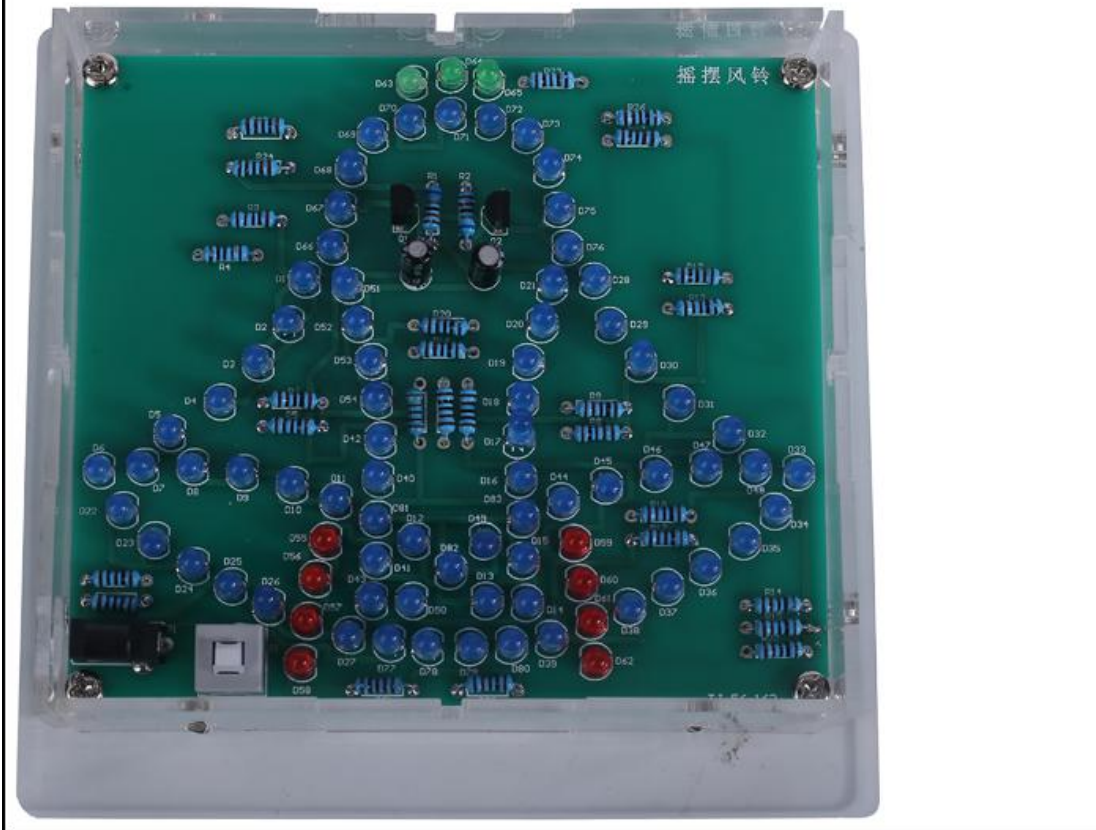
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