4x4x4 light cube

1 Introduction

1> Working voltage: 5V

2> PCB size:. 71 * 73mm

3> .PCB contains four fixing holes, the kit offers four pillars

4> .LED select the highlighted square monochrome LED fog

5> The program has been programmed into the chip, can display 50 kinds of animation effects

6>. Selection STC12C5a60s2 microcontroller, Flash capacity of 60K, you can add animation based on source

7> on .PCB has already set aside program download interface

8> The information provided in the schematics and source code

2 program download instructions

Our data provide schematics and source code. Schematic file format is PDF file, you can choose PDF reader software to open.

The source code is written using Kil uVision3 software, you can use Kil uVision3 open source code and conduct code writing, production .hex file.

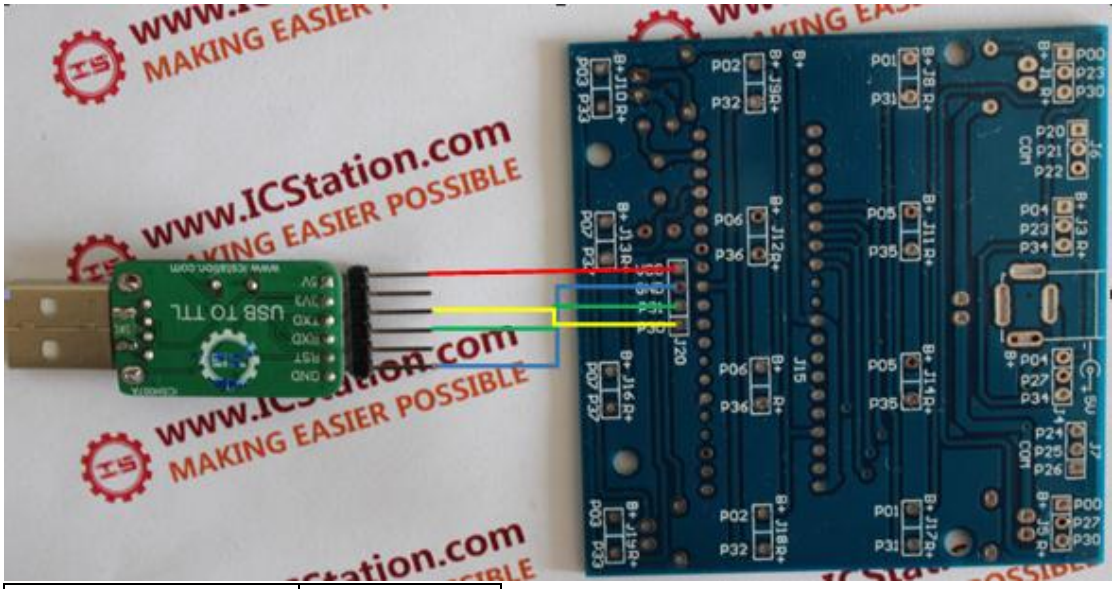
.hex file can be programmed into the software using STC_ISP_V480 STC microcontroller.

STC microcontroller used serial download, you can select the USB TO

TLL download manager program.

PCB set aside in our program download port

Line connection

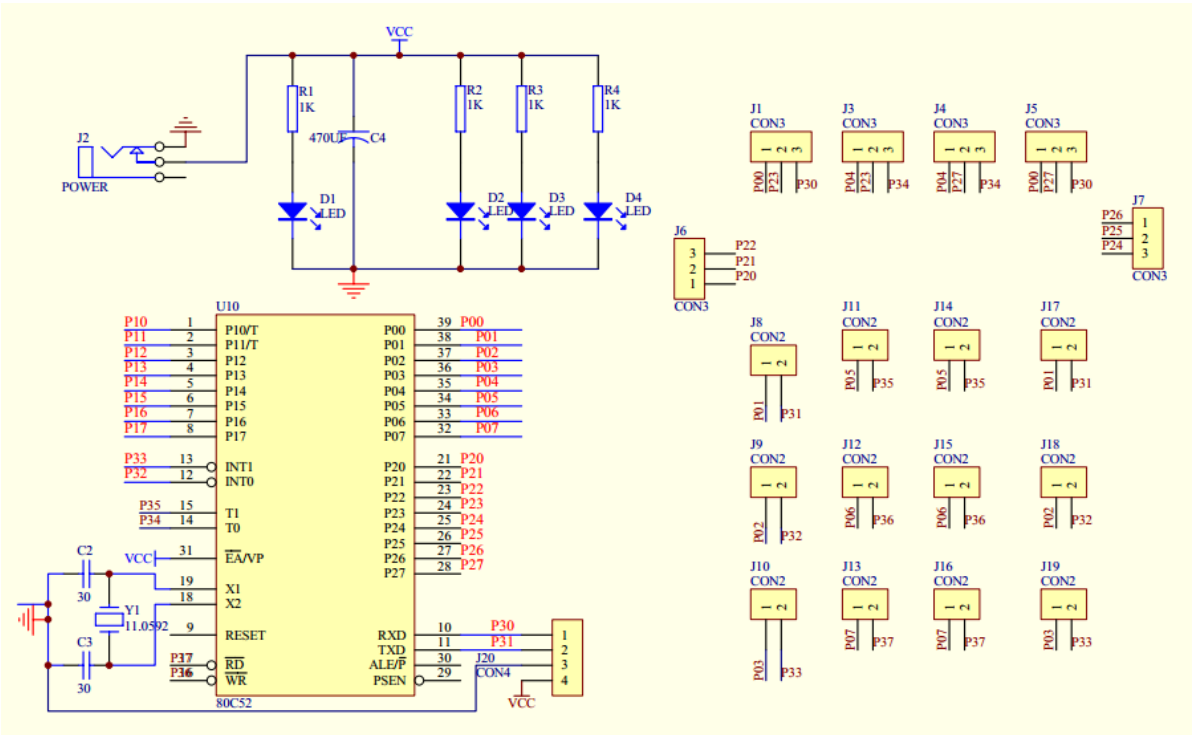


USB TO TTL	PCB
+5V(VCC)	VCC
RX	P31(TX)
TX	P30(RX)
GND	GND

3 Components list

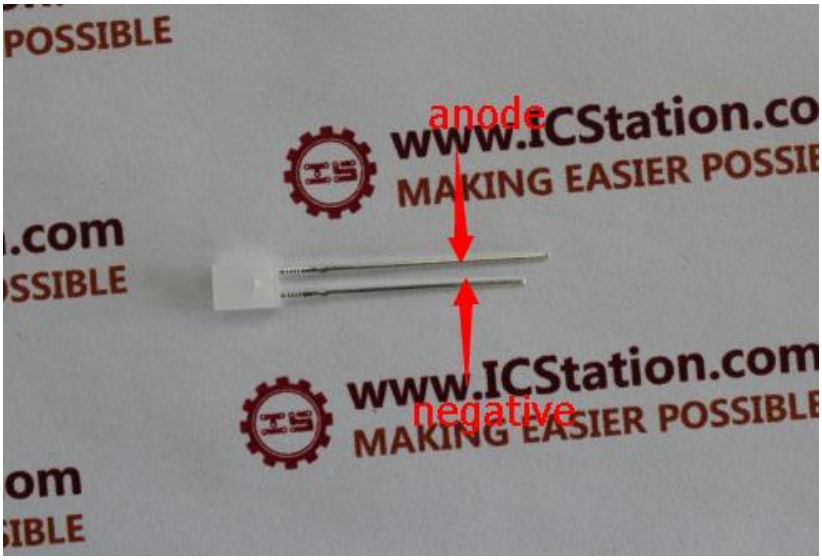
Components	Label	Value	Number
PCB			1
Super bright blue long legs LED			70
40P Round Female	J1~J19		2
5MM LED Spacers			5
5MM colorful LED	D1, D2, D3, D4		4
15Mm copper Columbia			4
DC005 line			1
DC005 seat			1
25V470UF Electrolytic capacitor	C4		1
1K Resistance	R1, R2, R3, R4		4
40P IC seat			1
STC12C5A60S2	U10		1
22P Ceramic capacitors	C2, C3		3
11.0592M Crystal	Y1		1
Single Conductor			1

4 Schematic

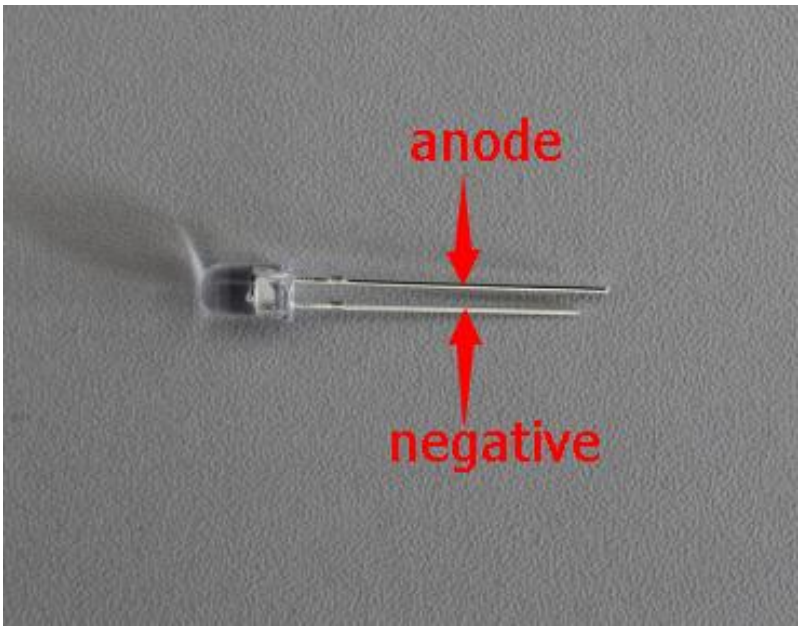


5 Component Identification

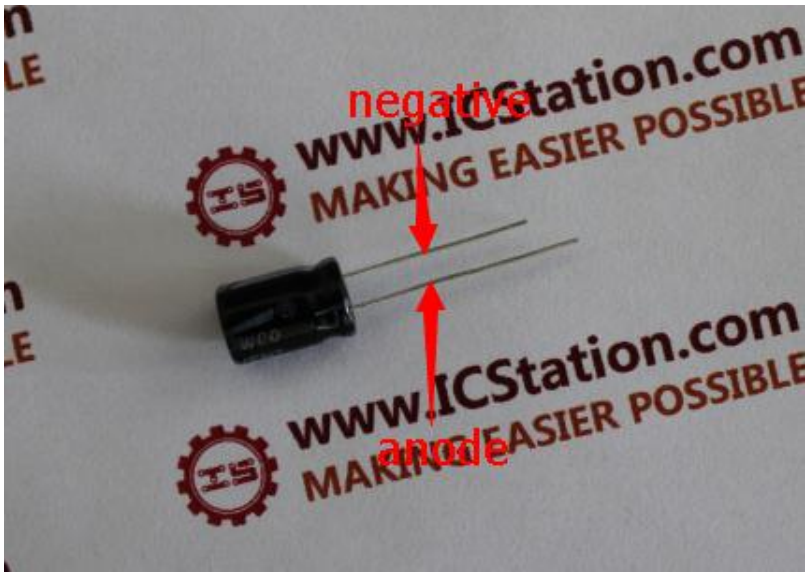
1 blue LED super bright long legs



2. 5MM Colorful LED

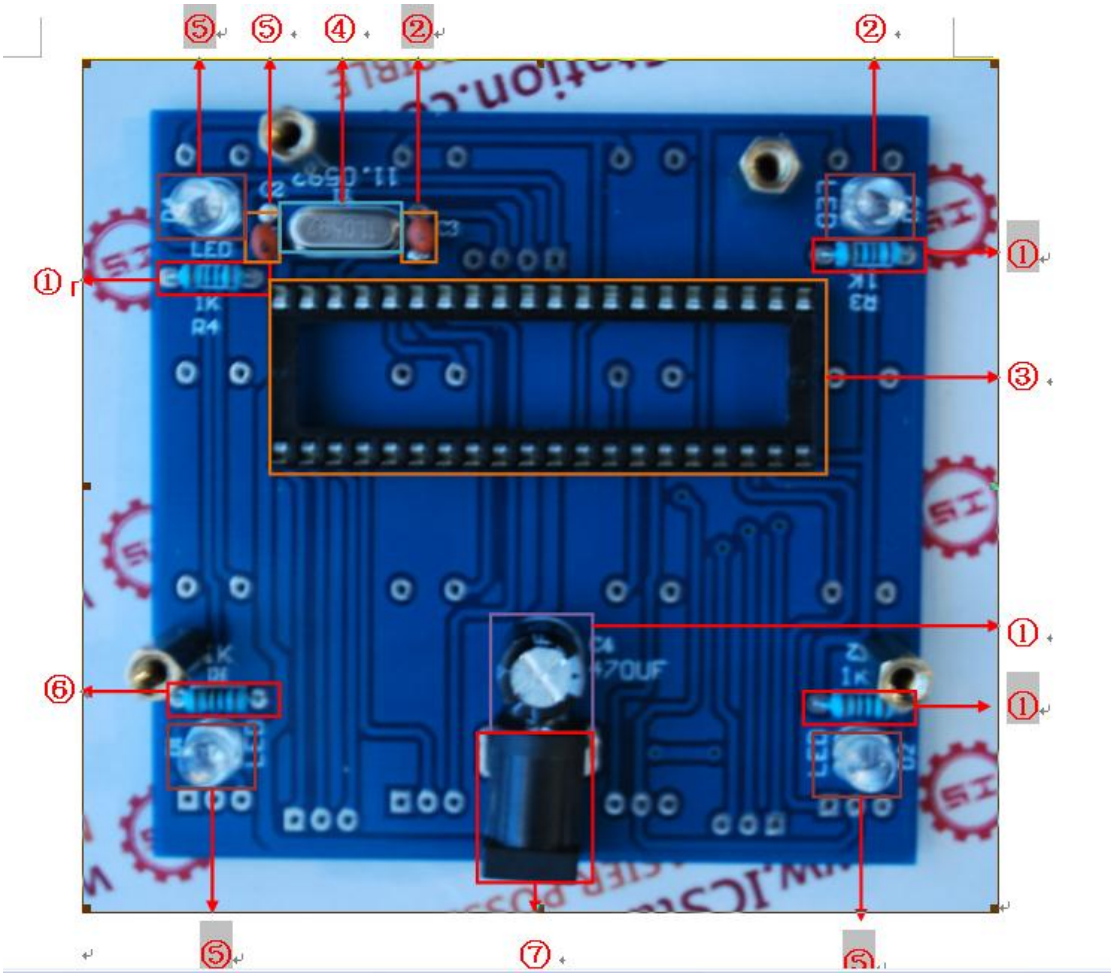


3. 25V470UF electrolytic capacitors



6 welding step

Welding as shown in the bottom



① welding 4 1K resistor (resistance, regardless of

positive or negative, can easily be placed)

② welding four 22p ceramic capacitors (this capacitor regardless of positive or negative, can easily be placed)

③ welding a 11.0592MHZ crystal (regardless of direction, can easily be placed)

④ welding a 40P IC holder (end notched, placed close to the crystal end)

⑤ welding four colorful LED (LED pin in the end, you need to set set 5mm LED Spacers)

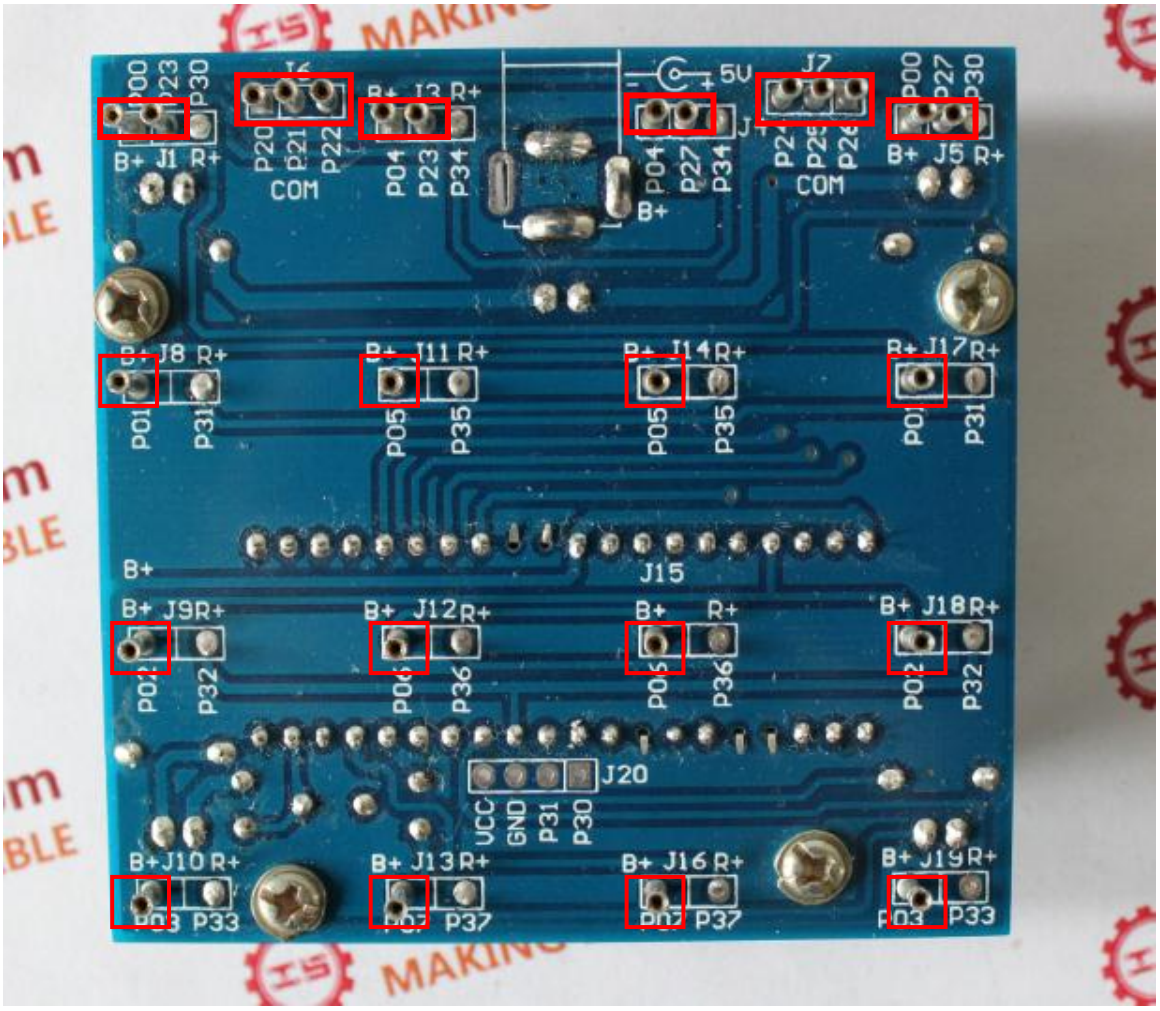
⑥ welding DC-005 Power Block

⑦ welding 25V / 470UF electrolytic capacitors (this capacitor has a positive and negative)

Welding as shown in the top

1 metal pin production

2 welding Figure

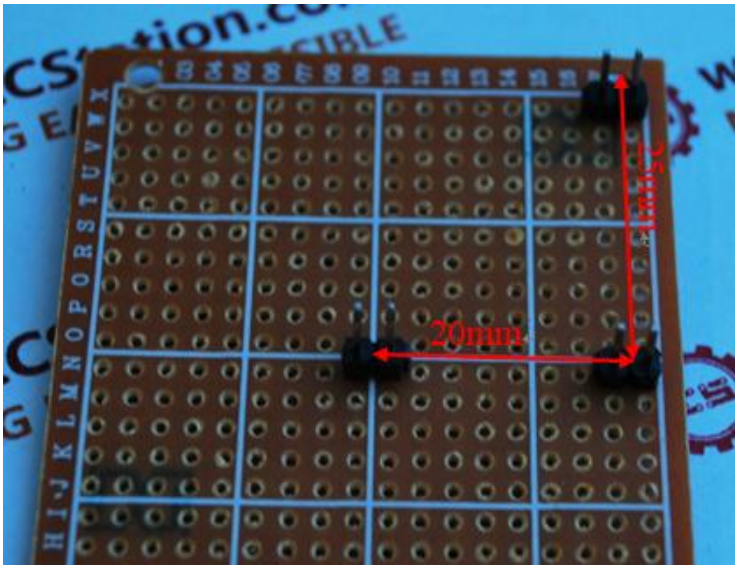


LED welding

1 Production holder

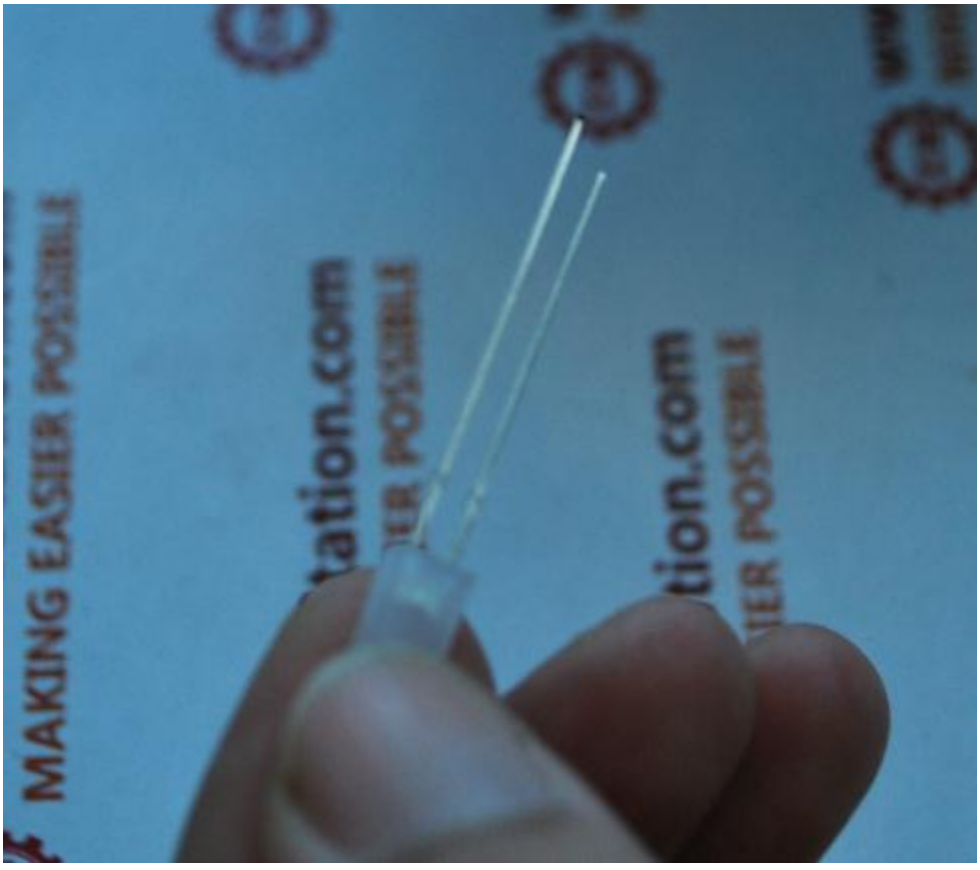
Use universal plate production fixed plate, as shown in

welding



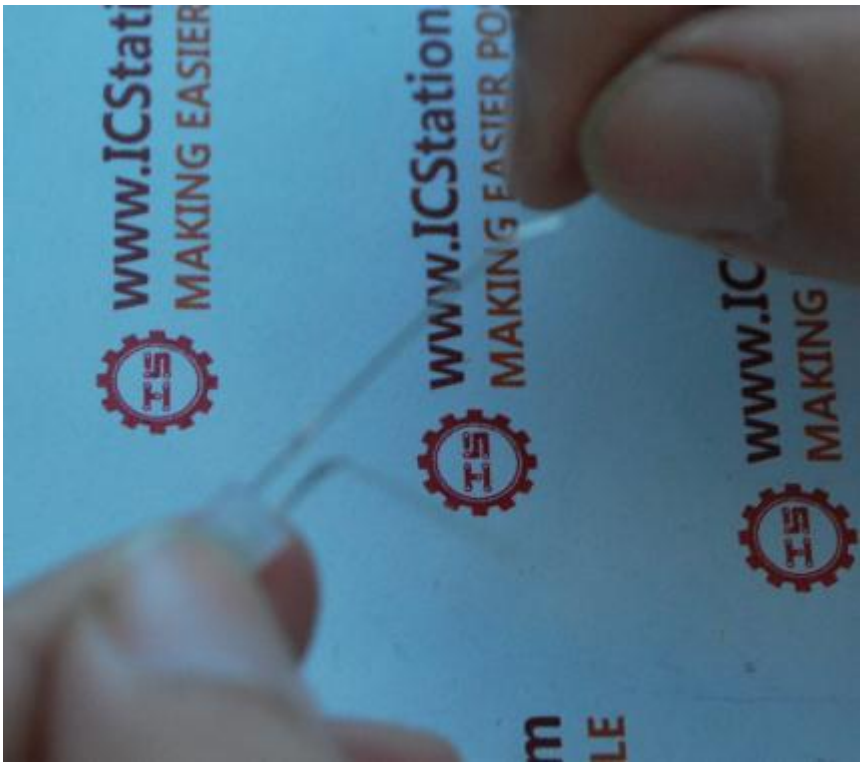
2. LED pin processing method

The LED shown in place (next paragraph pin, long pin on)

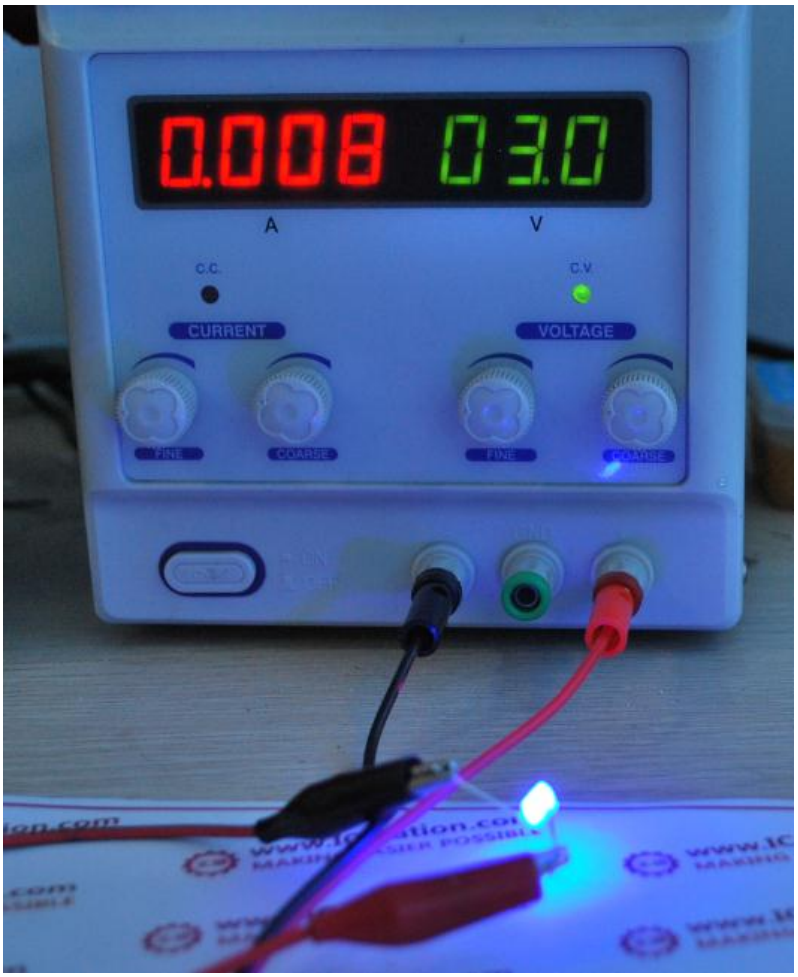


The segment pin inward (to himself) rotated 90 °, long

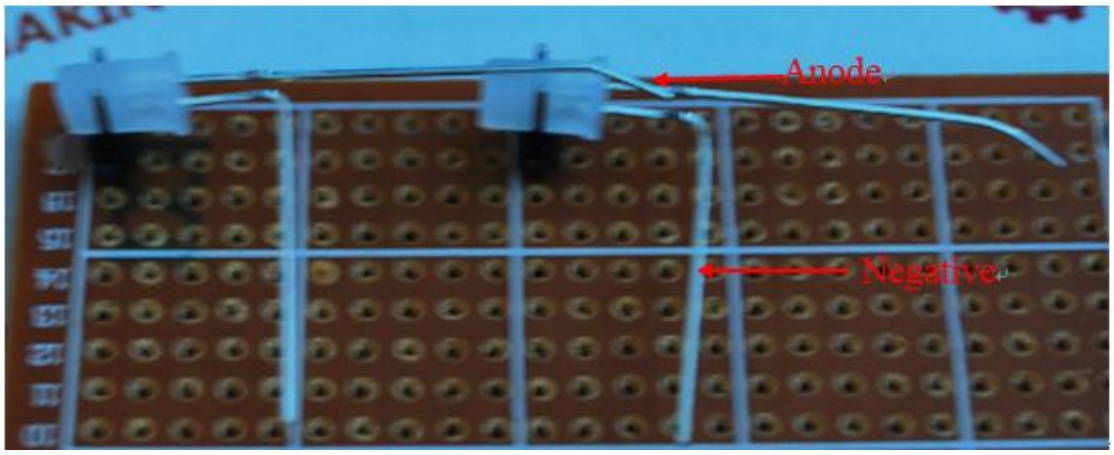
pin end (distance end 5mm) downward rotation of 10 °

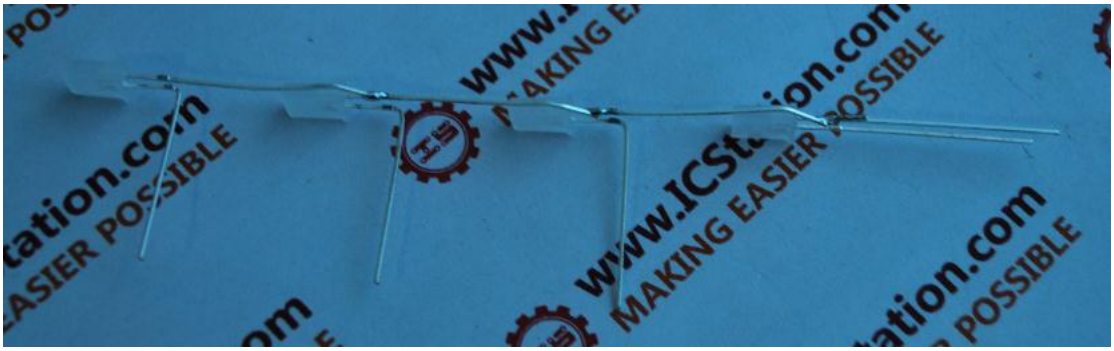


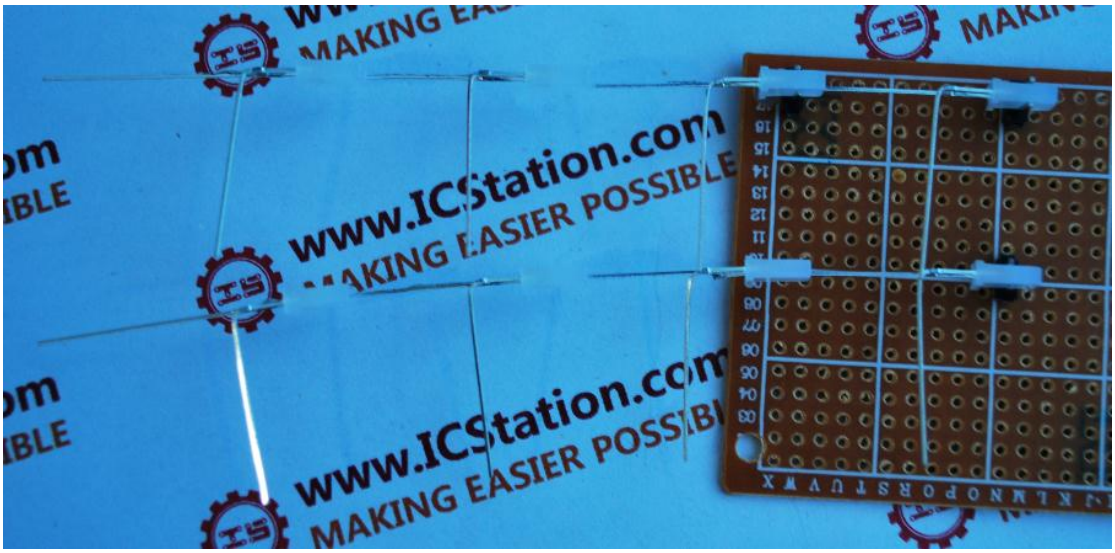
Before welding LED detecting, determining, for each light-emitting LED can be normal

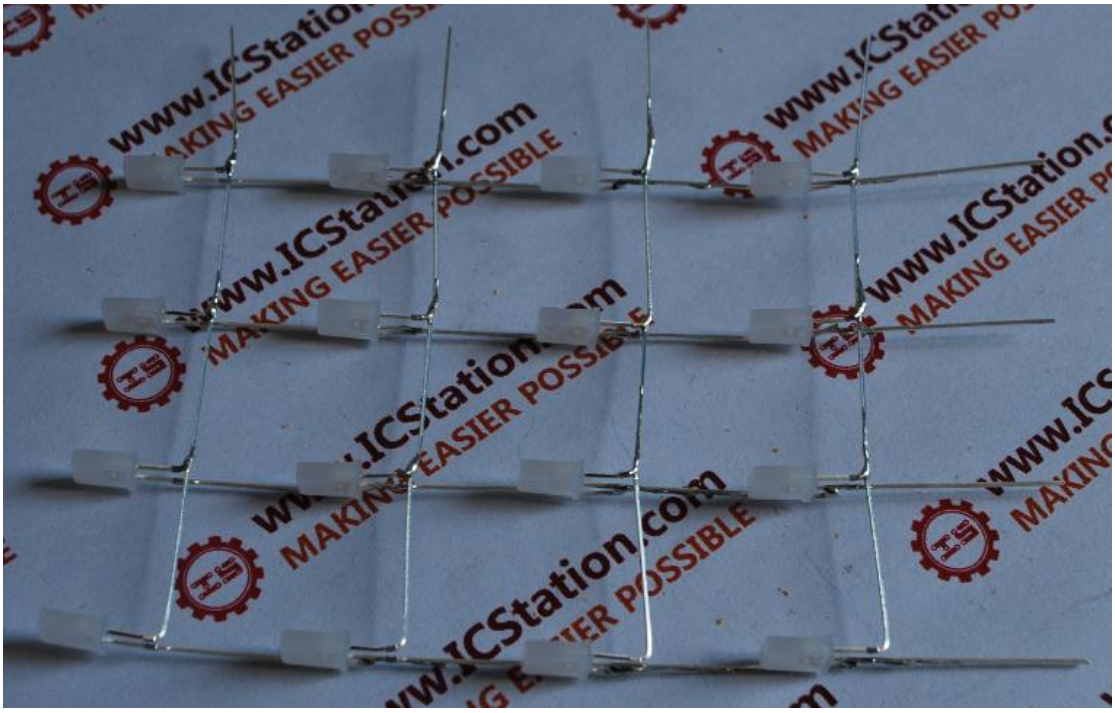


LED welding follows



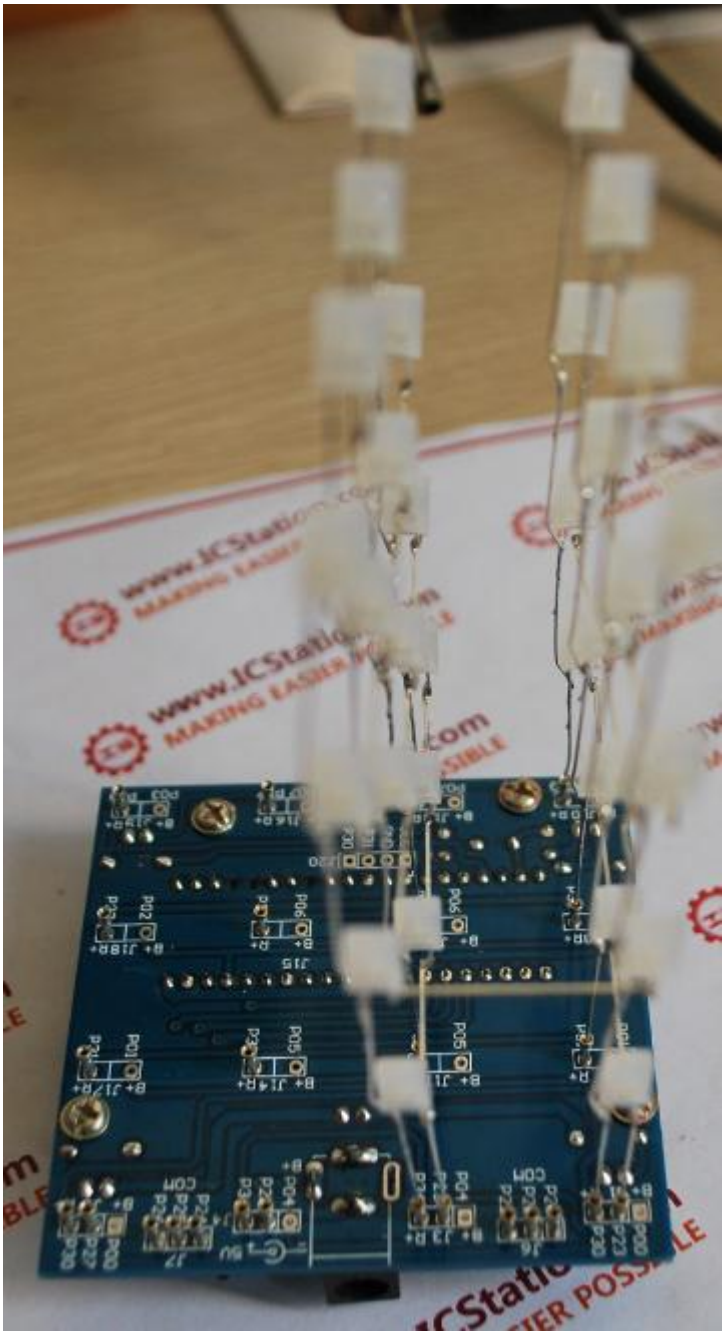


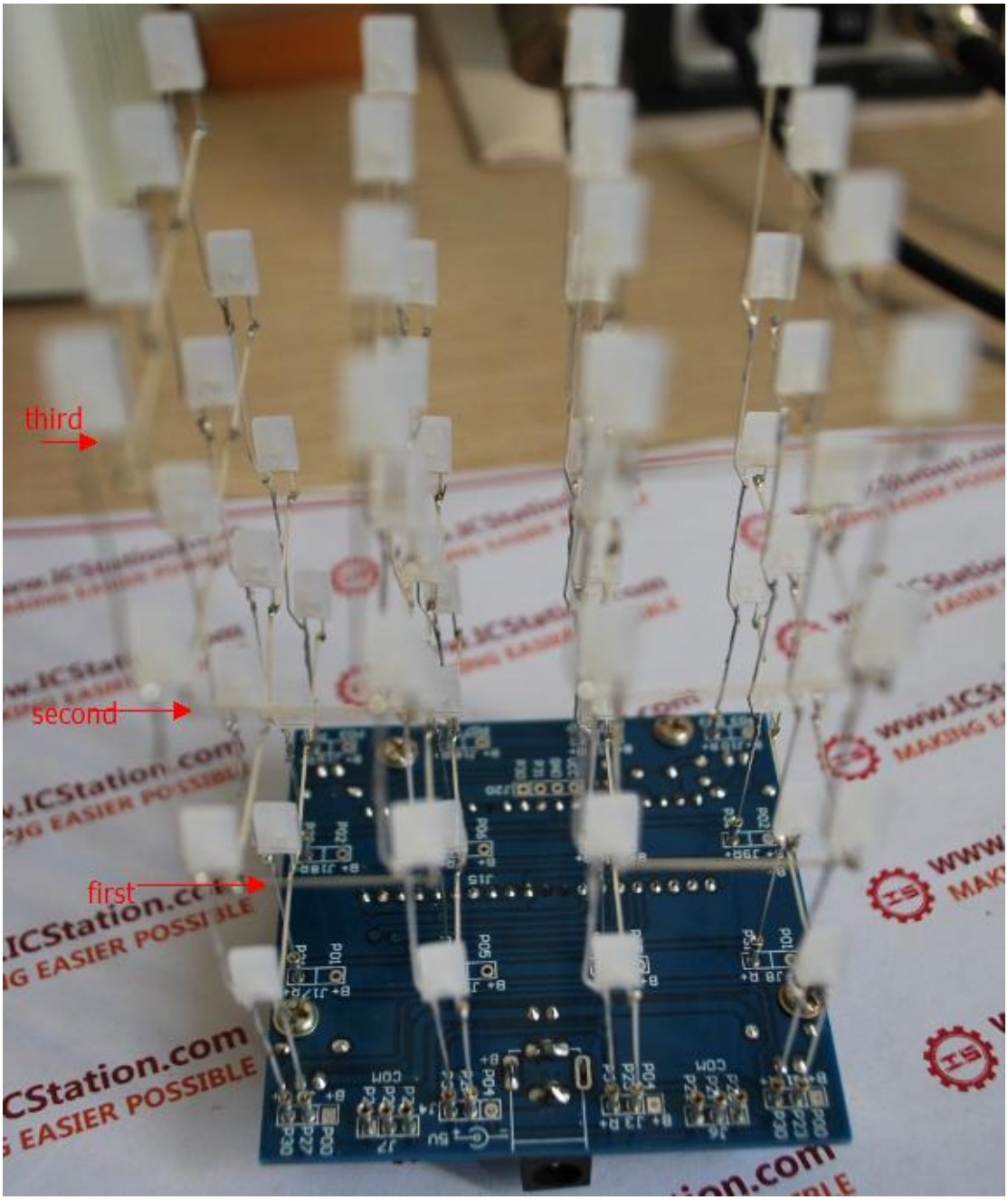
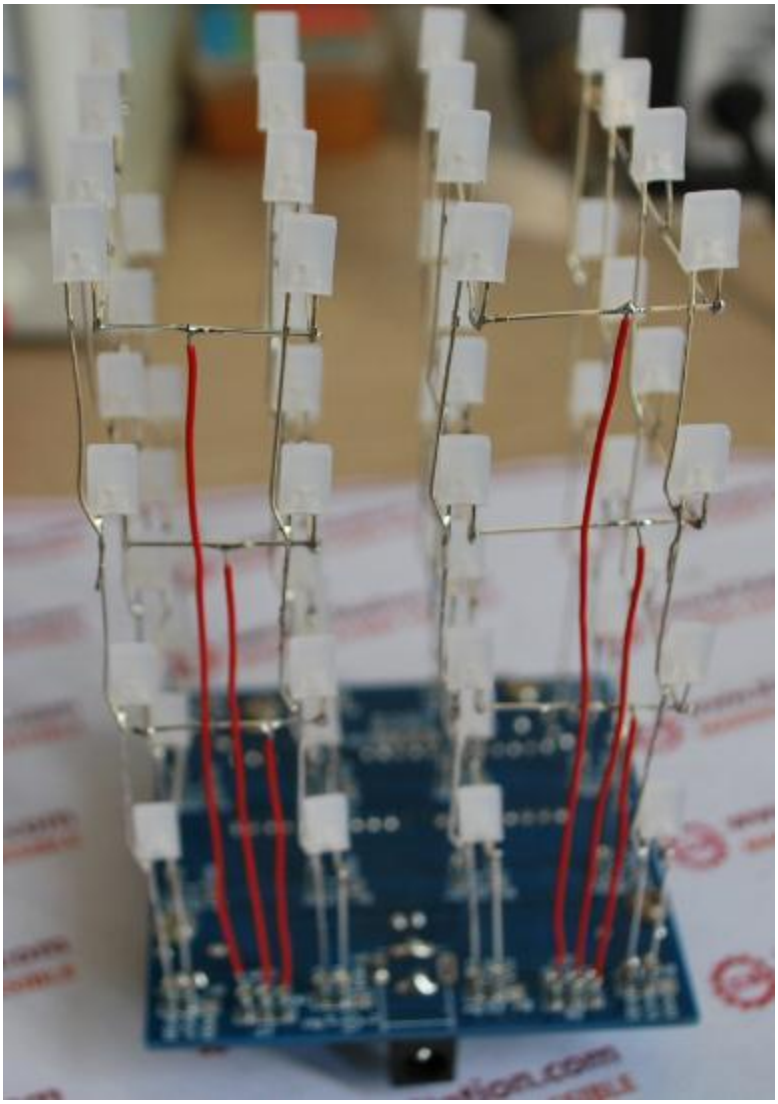




The negative pin cut in the bottom of the LED anode welding a pin, as shown in

Fixed to the PCB, and two LED cathode connection, as





Were using 50mm, 75mm, 102mm long single-oriented, the 1,2,3 layer connection, as