Electronic Calculator DIY Kit

Instruction Manual

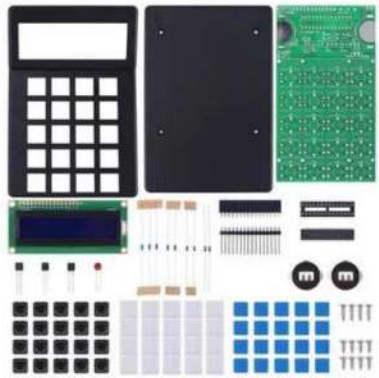
The ICStation Multi-functional Electronic Calculator Kit is designed to help you build a practical desktop calculator and elevate your soldering skills.

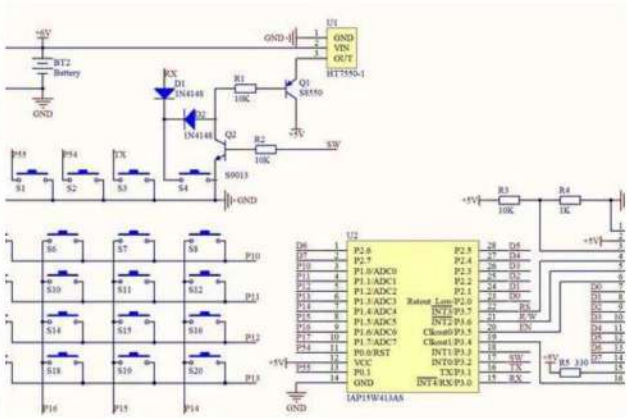
It is powered by two CR2032 button batteries, integrates five different computing functions, and uses a traditional LCD1602 display screen to display the calculation process and results in real-time.

Easy to build and the principle is simple. The connection was clearly mapped and labeled on the PCB board. Soldering time 2-3 hours, suitable for DIY electronics enthusiasts and can be used as school or family education practice kits. Now, let's start the building steps by steps!

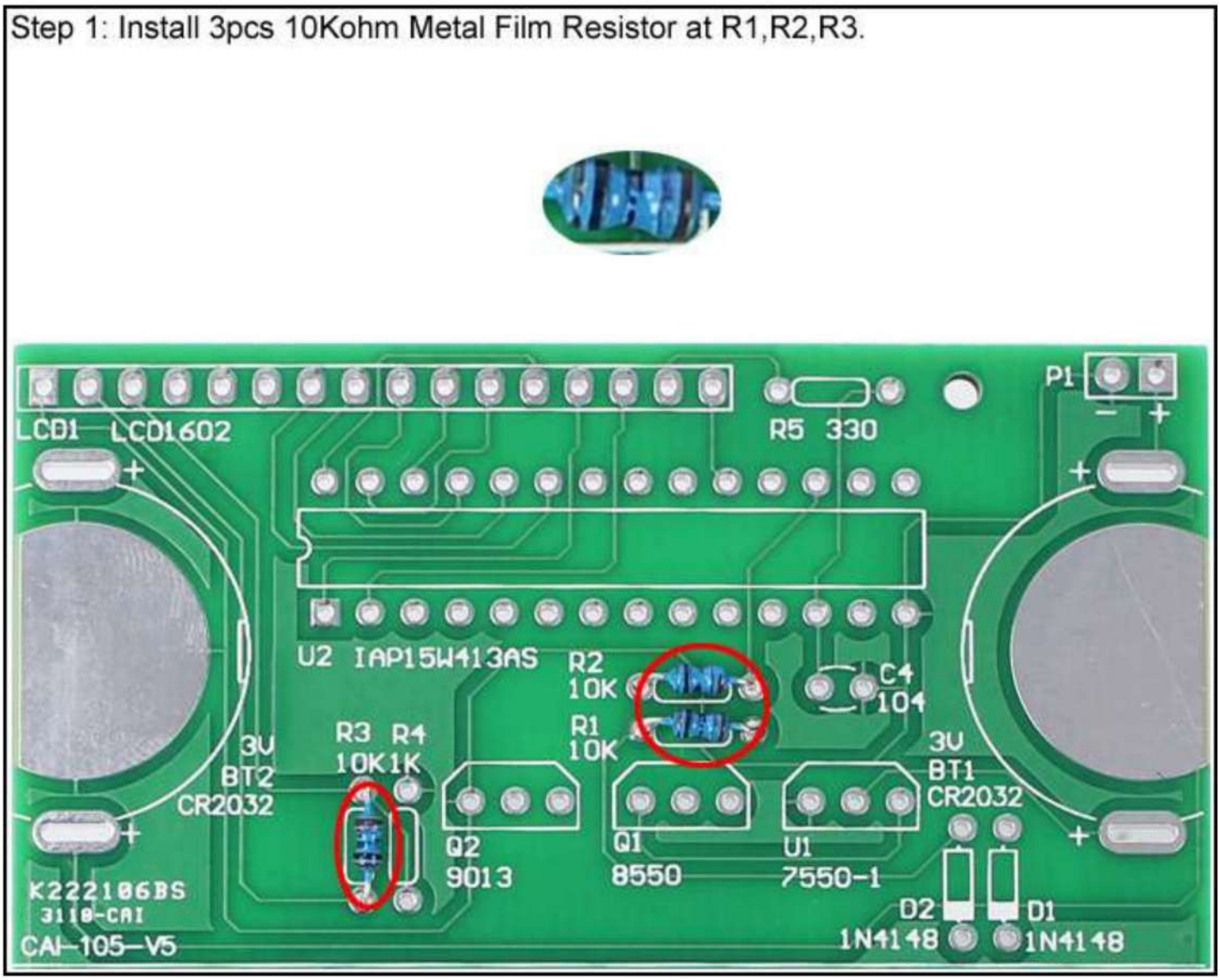
Supplies

Component Listing				
No.	Component Name	PCB Marker	Parameter	Quantity
1	IN4148 Diode	D1,D2	DO-35	2
2	Metal Film Resistor	R5	330ohm	1
3	Metal Film Resistor	R4	1Kohm	1
4	Metal Film Resistor	R1,R2,R3	10Kohm	3
5	16Pin Male Pin	LCD1602	19mm	1
6	16Pin Female Pin	LCD1602		1
7	Ceramic Capacitor	C4	0.1uF 104	1
8	7550A-1 Voltage Regulator	U1	TO-92	1
9	S8550 Transistor	Q1	TO-92	1
10	S9013 Transistor	Q2	TO-92	1
11	IAP15W413AS	U2	DIP-28	1
12	IC Socket	U2	DIP-28	1
13	CR2032 Battery Socket	BT2		2
14	Black Button	S1-S20	12*12mm	20
15	Blue Button Cap	S1-S20		20
16	Transparent Button Cap	S1-S20		20
17	Self Tapping Screw		8mm	4
18	Self Tapping Screw		7mm	8
19	LCD1602 Display Module	LCD1602		1
20	Black Shell			2
21	PCB Circuit Board		220*68mm	1
NOTE:Users can complete the installation according to the PCB silk screen and component list.				





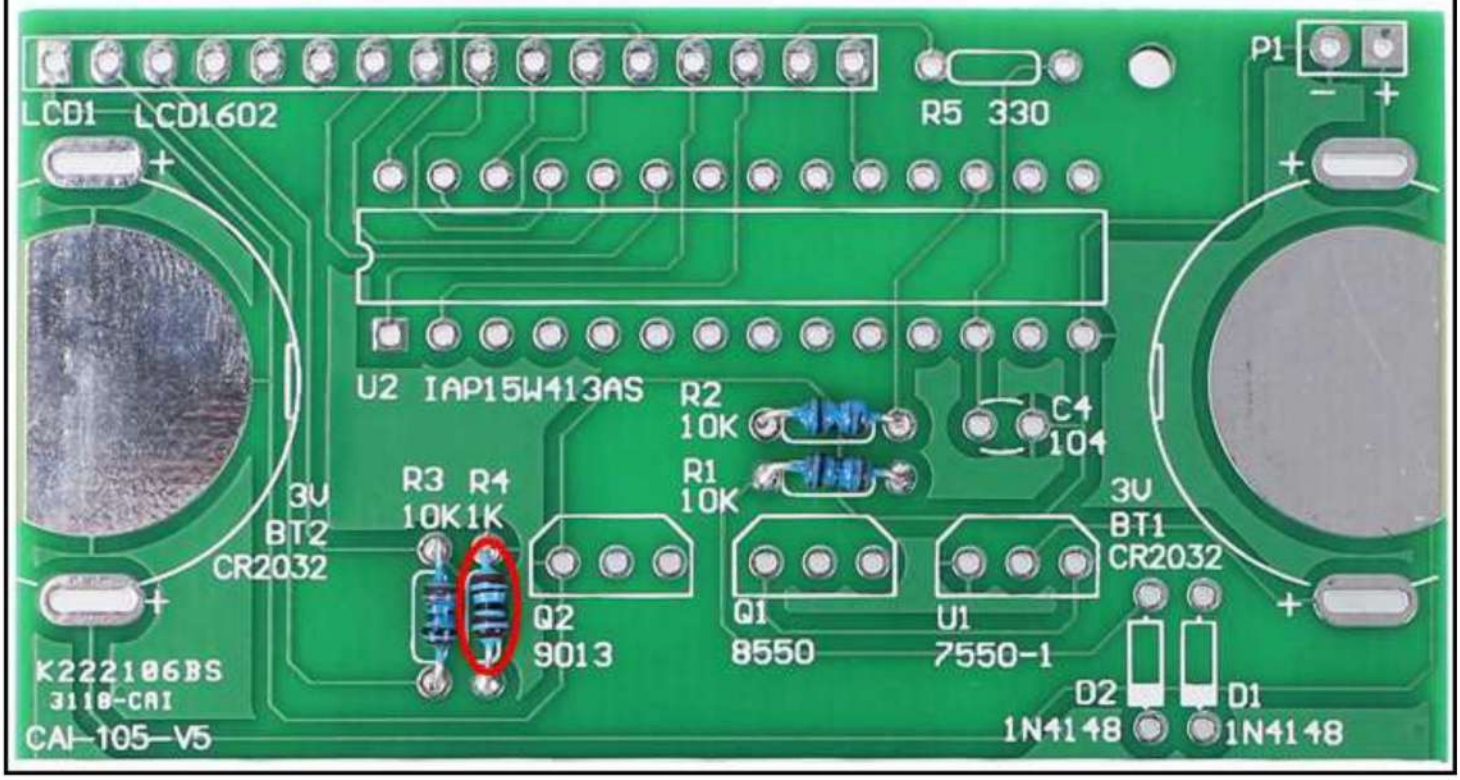
Step 1: Install 3pcs 10Kohm Resistor at R1, R2, R3



Install 3pcs 10Kohm Resistor At R1, R2, R3

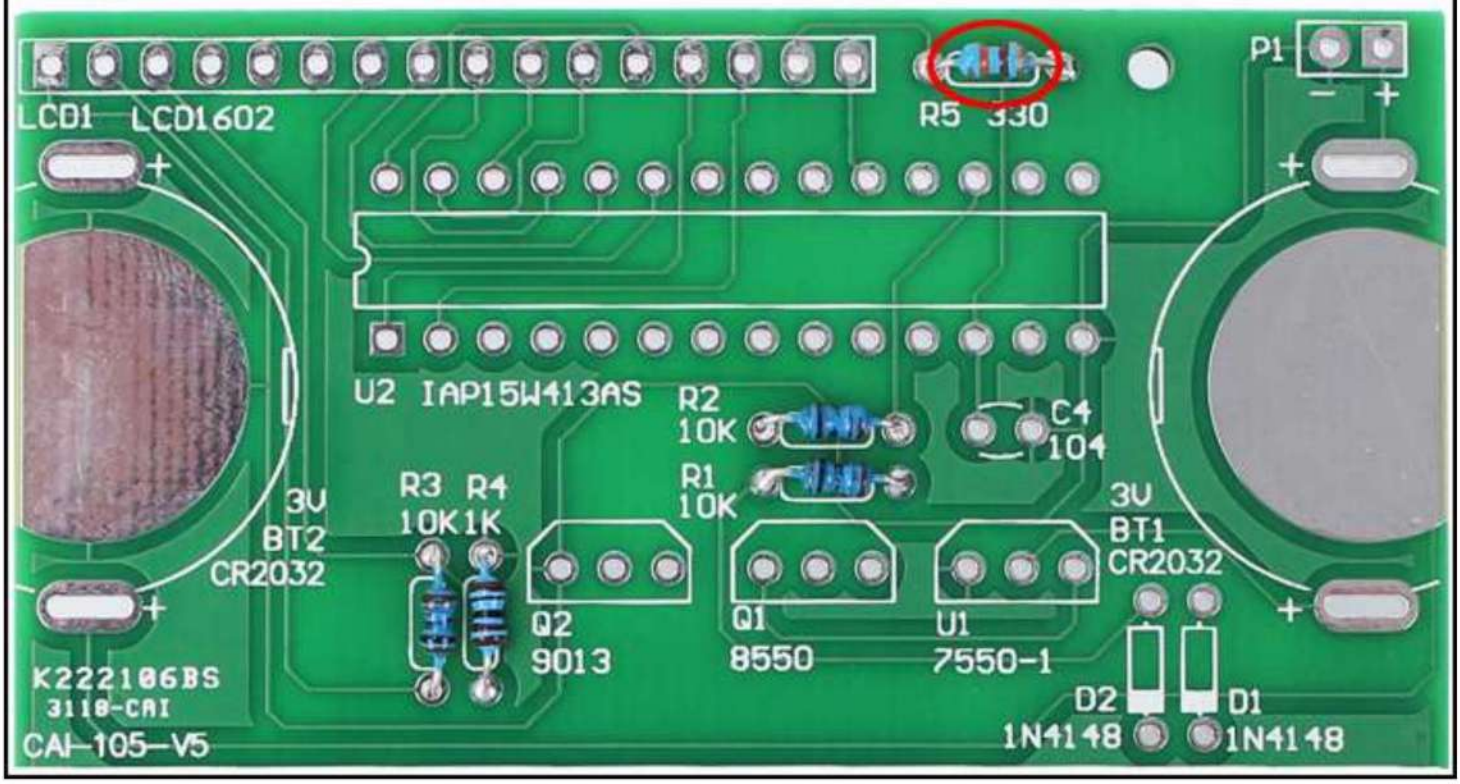
Step 2: Install 1pcs 1Kohm Resistor at R4

Step 2: Install 1pcs 1Kohm Metal Film Resistor at R4.

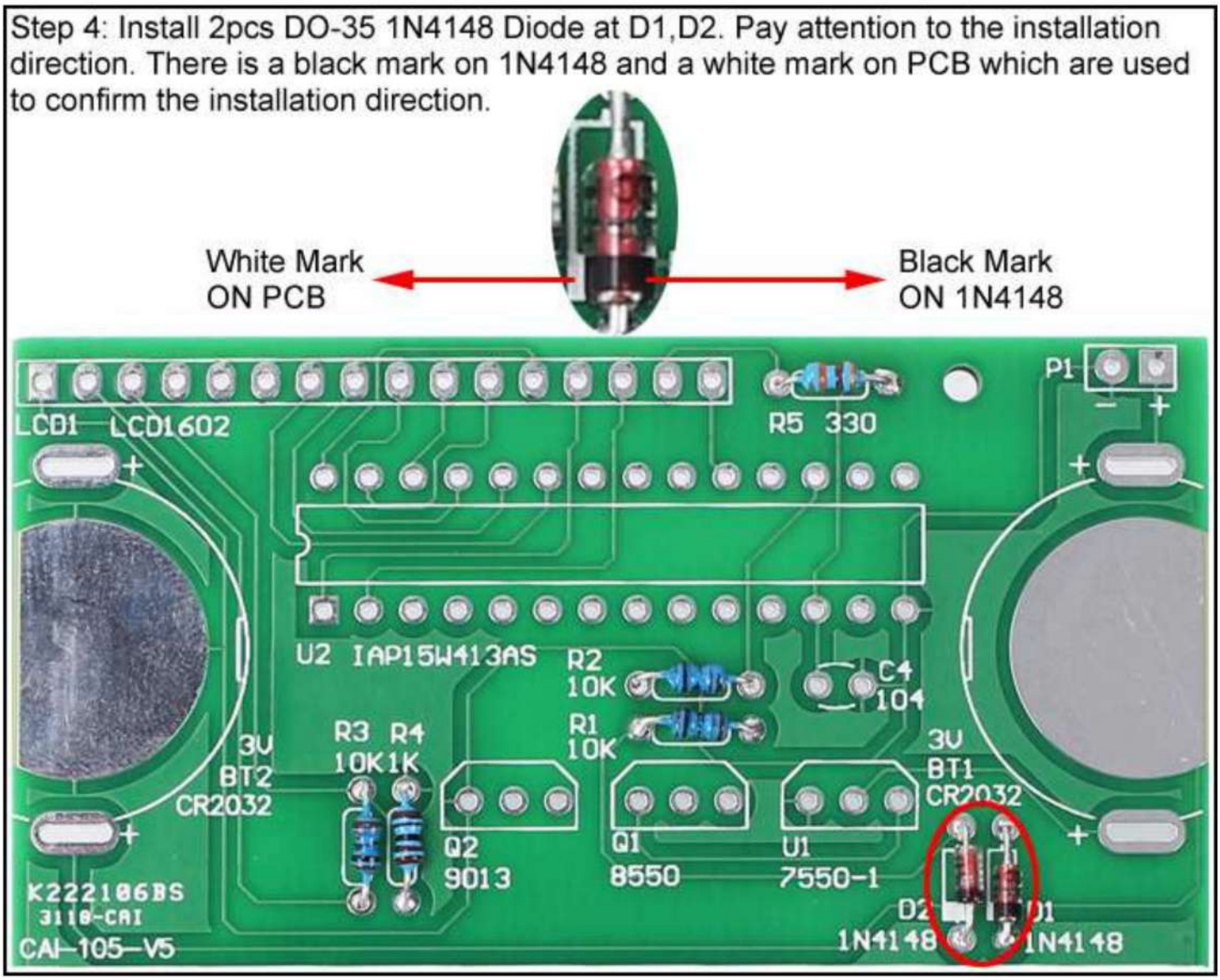


Step 3: Install 1pcs 330ohm Resistor at R5

Step 3: Install 1pcs 330ohm Metal Film Resistor at R5.

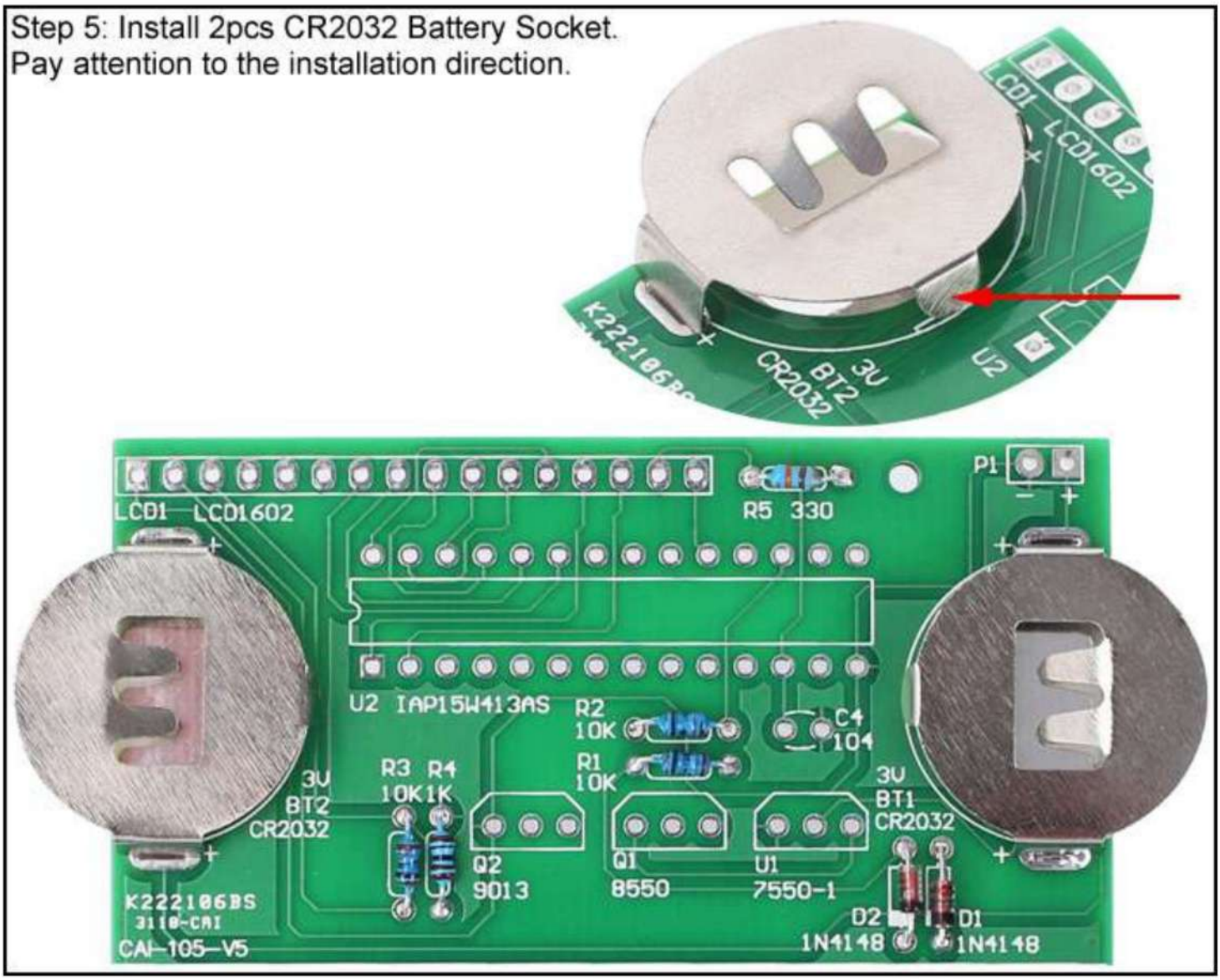


Step 4: Install 2pcs DO-35 1N4148 Diode at D1,D2



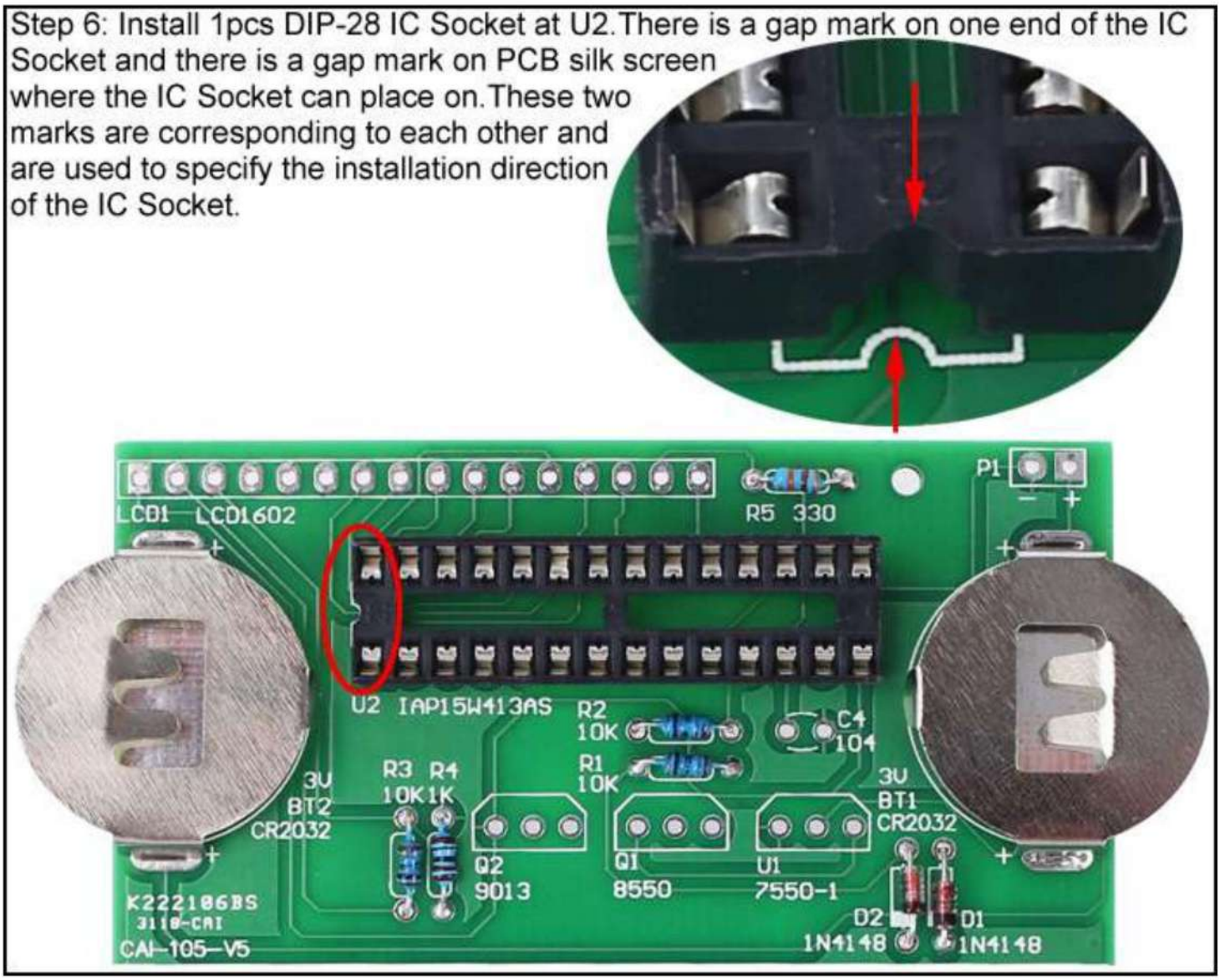
Please pay attention to the installation direction. There is a black mark on 1N4148 and a white mark on PCB which are used to confirm the installation direction.

Step 5: Install 2pcs CR2032 Battery Socket



Please pay attention to the installation direction.

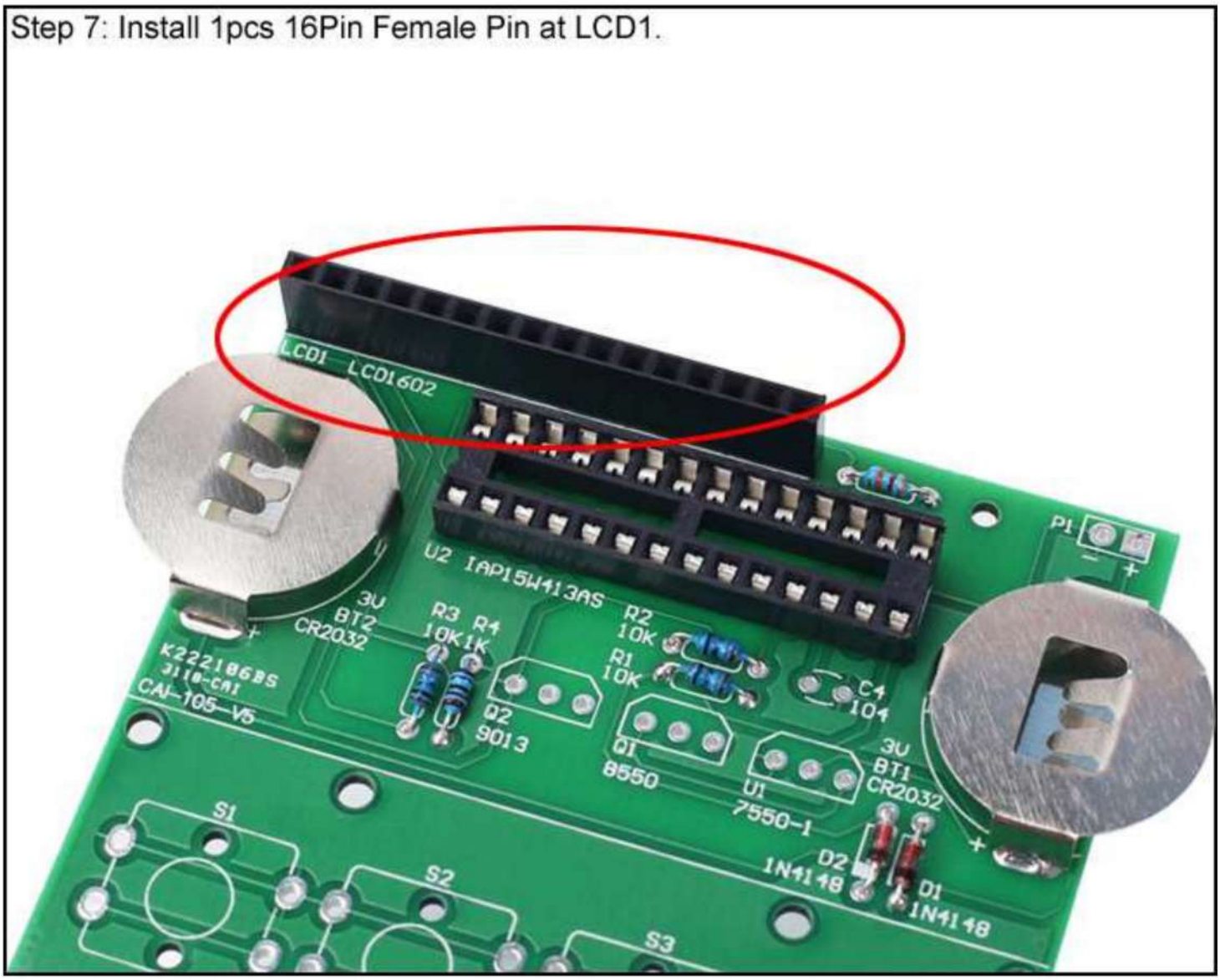
Step 6: Install 1pcs DIP-28 IC Socket at U2



There is a gap mark on one end of the IC Socket and there is a gap mark on PCB silk screen.

where the IC Socket can place on.These two marks are corresponding to each other and are used to specify the installation direction of the IC Socket.

Step 7: Install 1pcs 16Pin Female Pin at LCD1



Step 8: Install 1pcs 0.1uF 104 Ceramic Capacitor at C4

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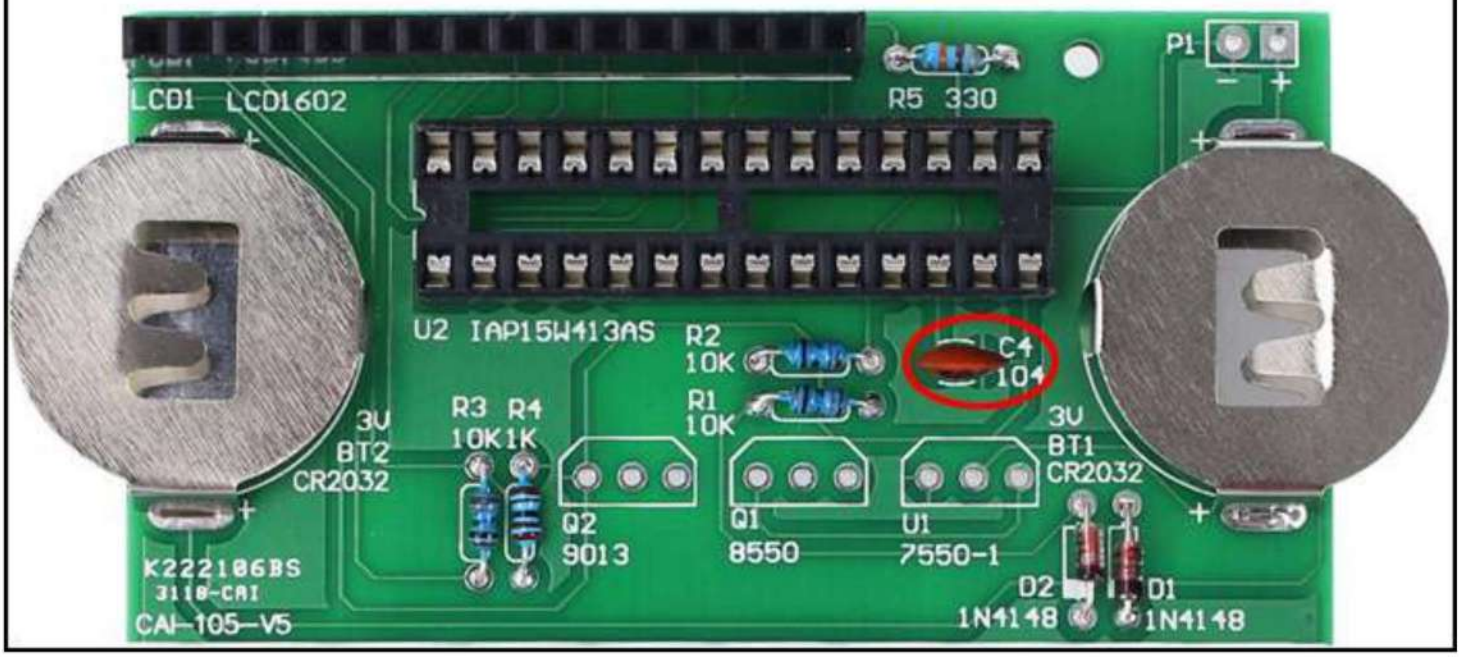
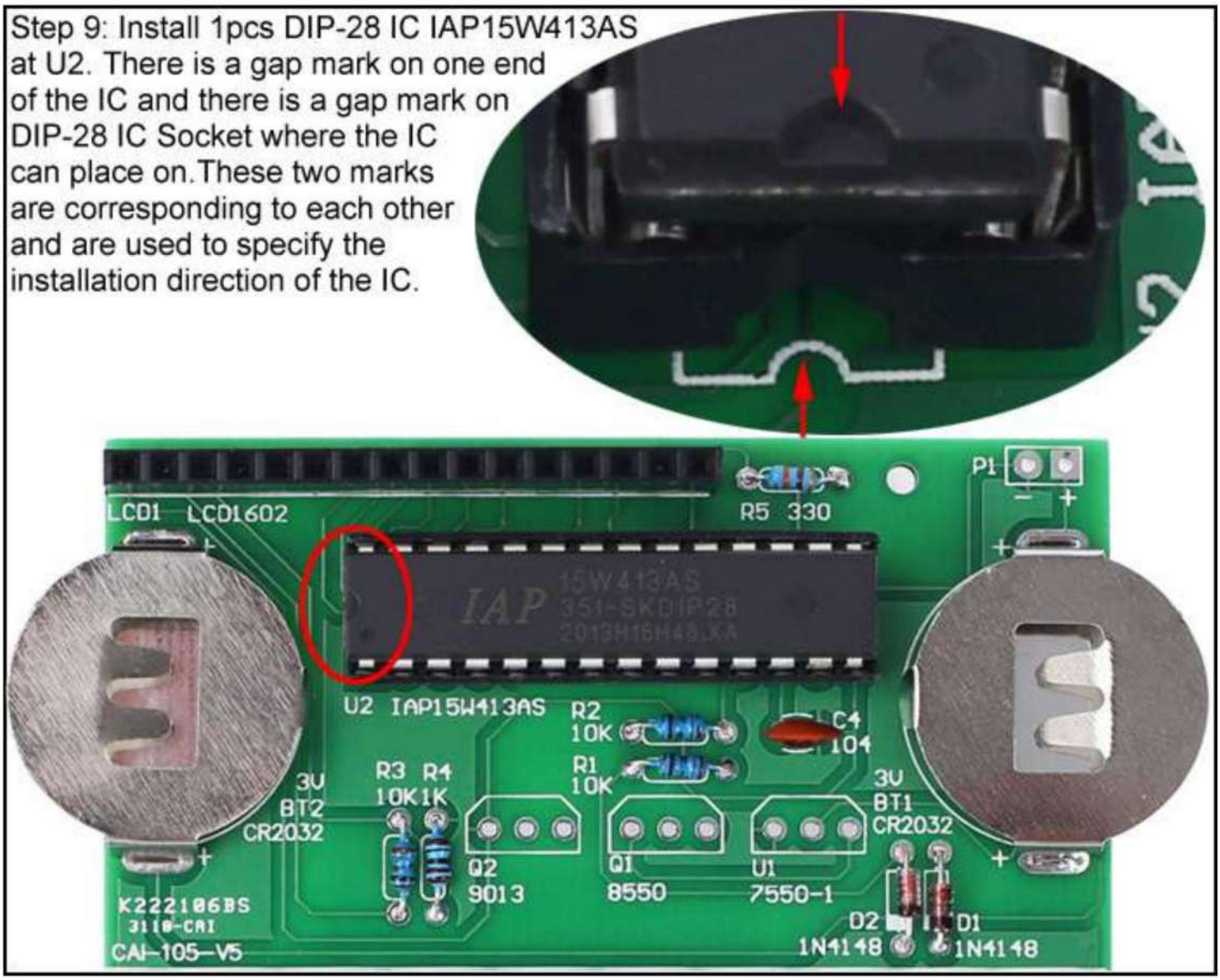
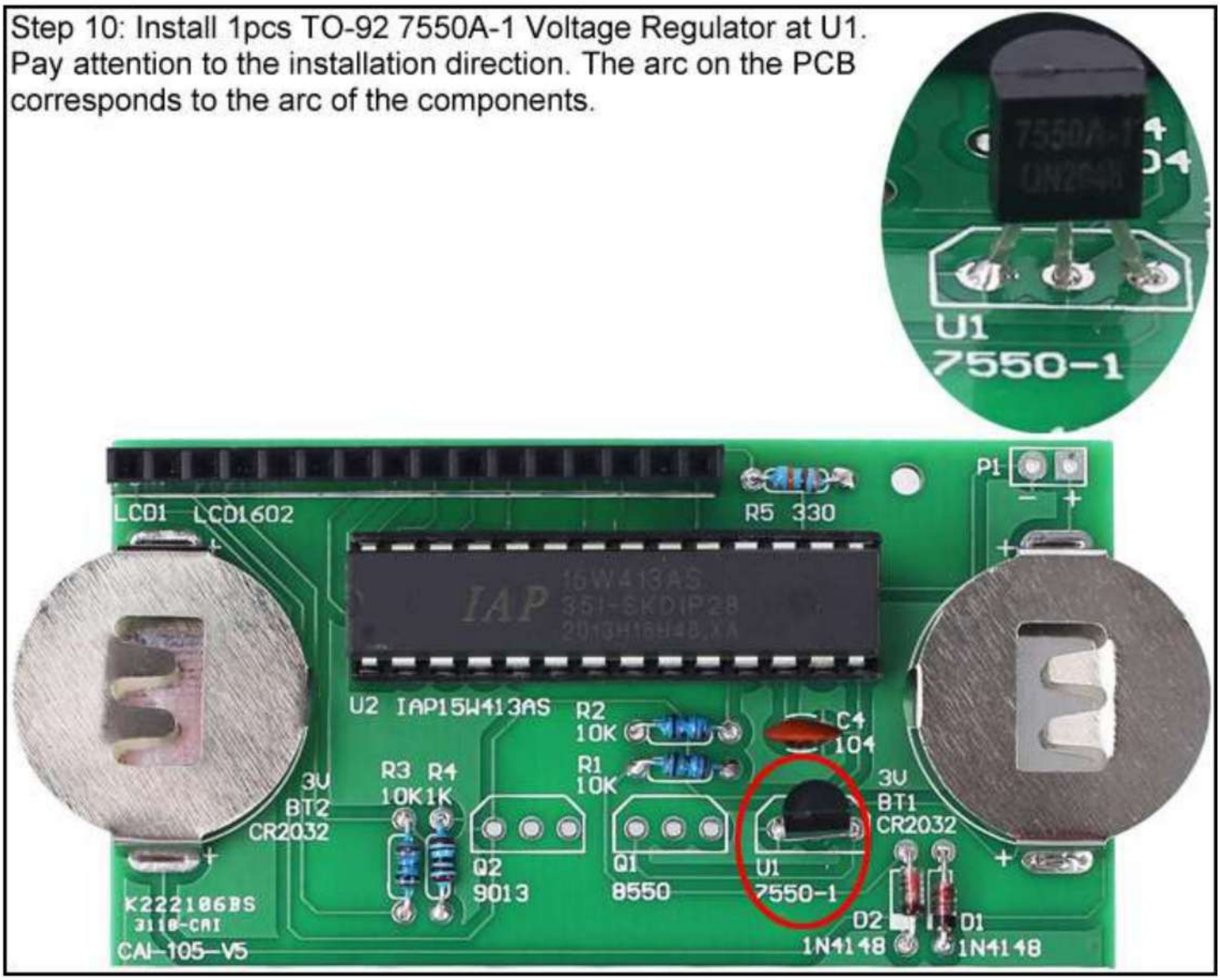


Step 9: Install 1pcs DIP-28 IC Chip at U2



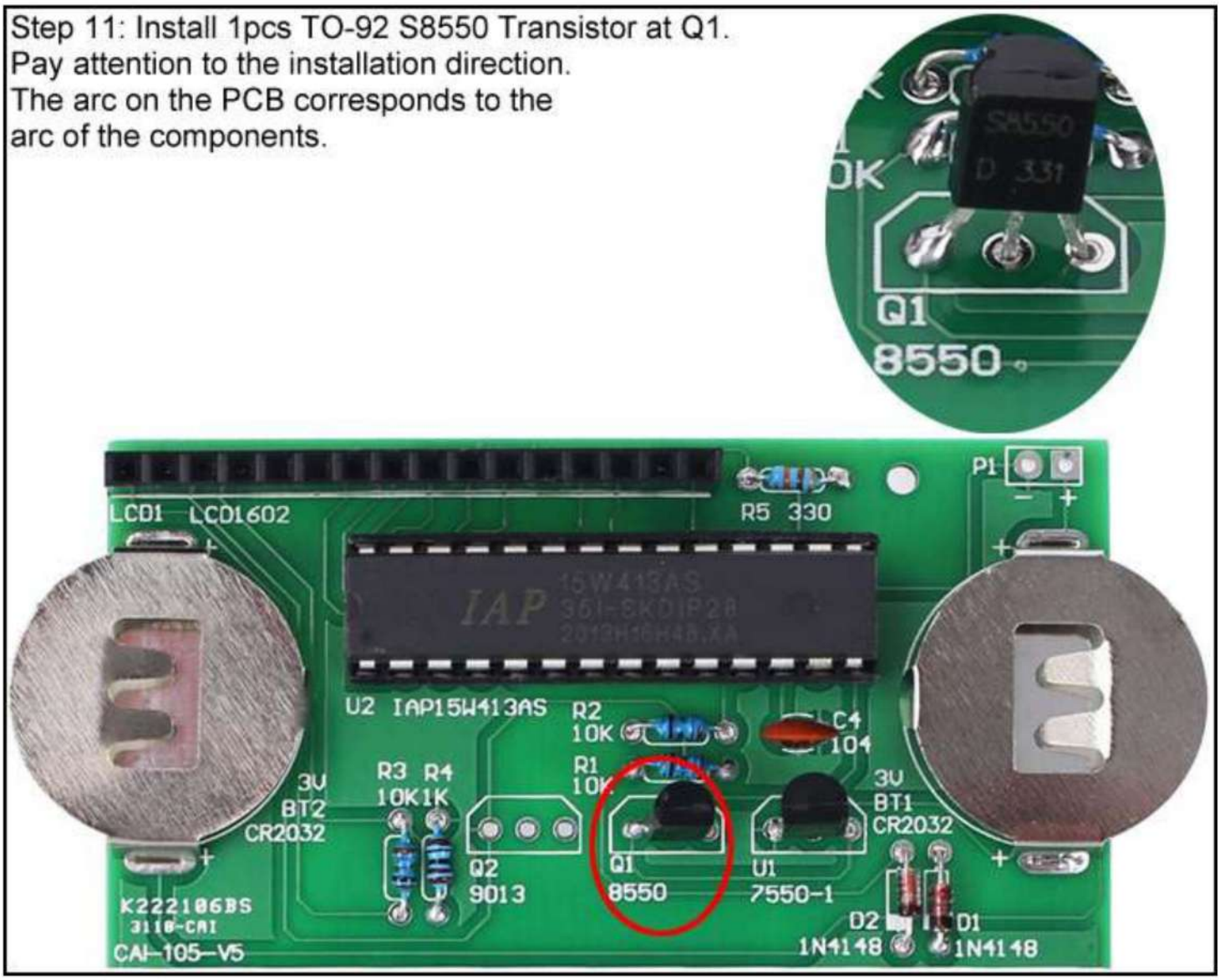
There is a gap mark on one end of the IC and there is a gap mark on DIP-28 IC Socket where the IC can place on.These two marks are corresponding to each other and are used to specify the installation direction of the IC.

Step 10: Install 1pcs TO-92 7550A-1 Voltage Regulator at U1



Please pay attention to the installation direction.The arc on the PCB corresponds to the arc of the components.

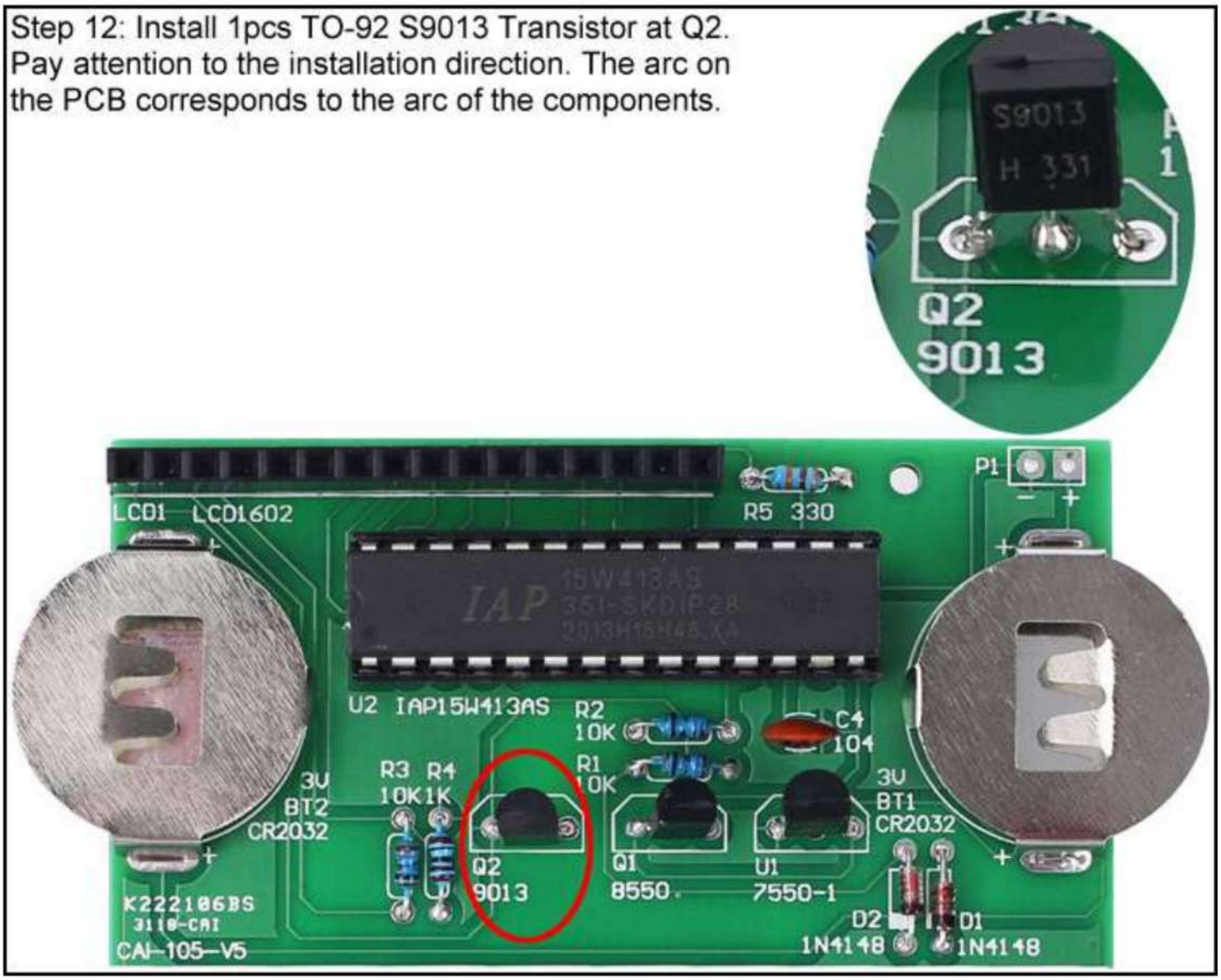
Step 11: Install 1pcs TO-92 S8550 Transistor at Q1



Please pay attention to the installation direction.

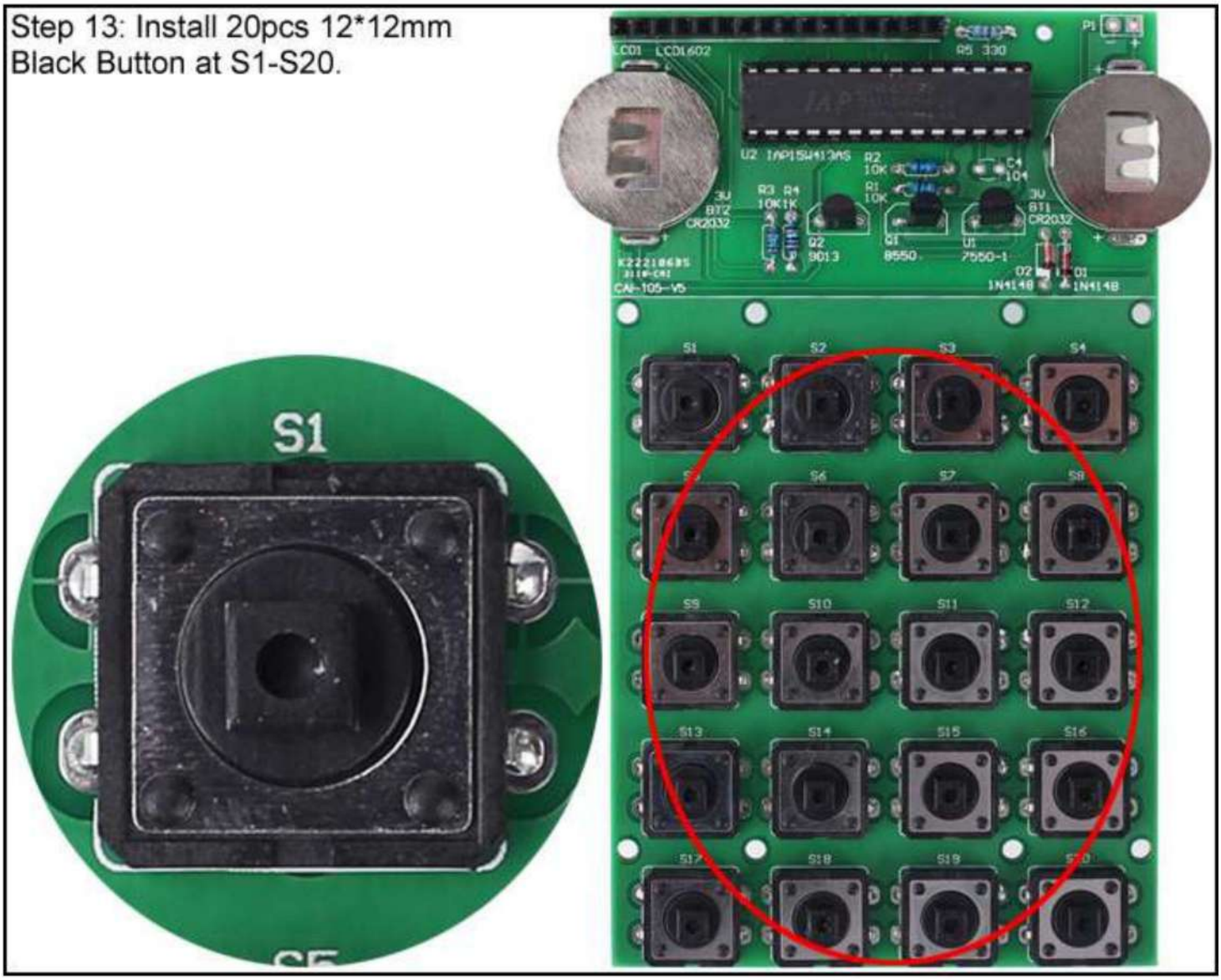
The arc on the PCB corresponds to the S8550 arc of the components.

Step 12: Install 1pcs TO-92 S9013 Transistor at Q2

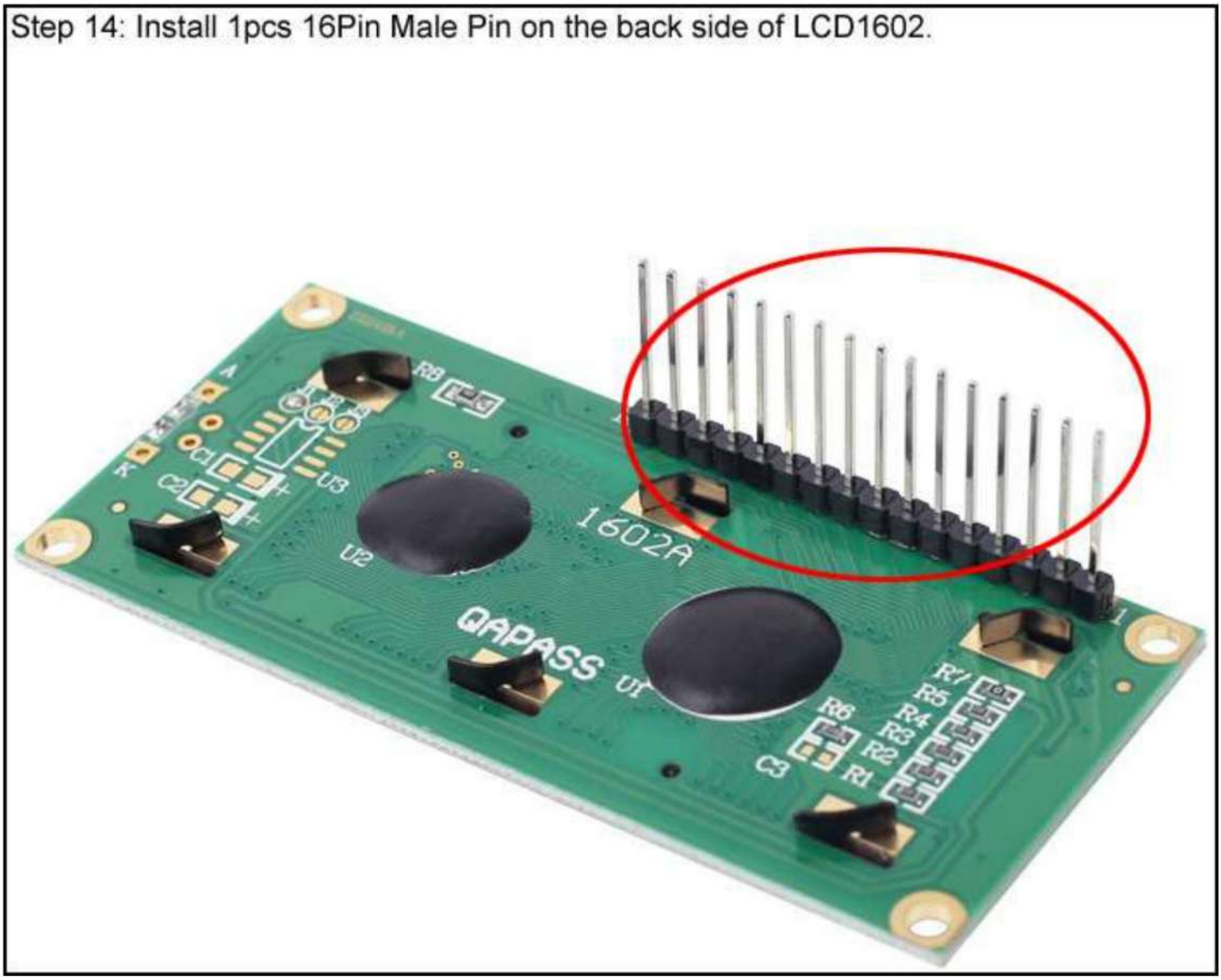


Please pay attention to the installation direction. The arc on the PCB corresponds to the arc of the components.

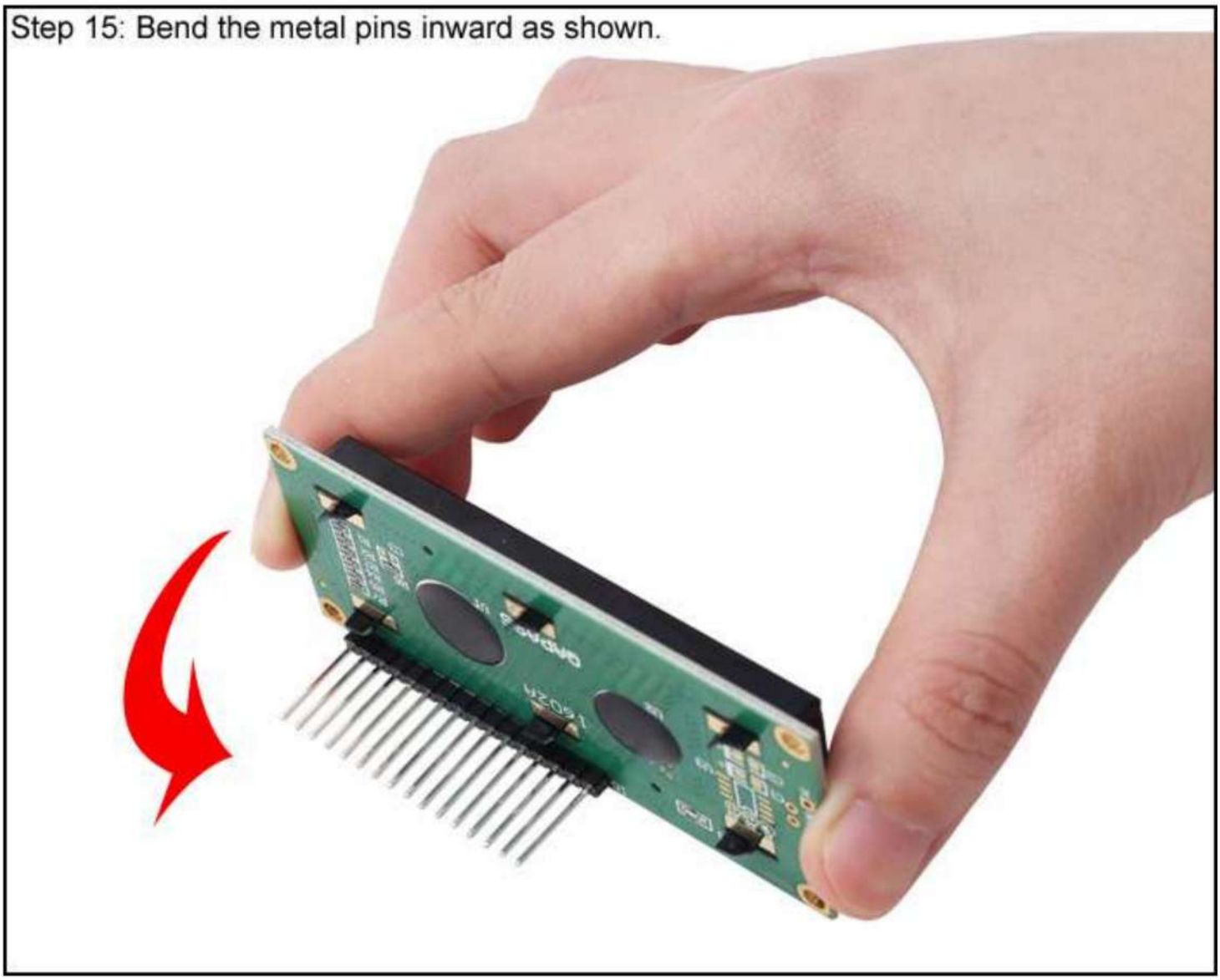
Step 13: Install 20pcs 12*12mm Black Button at S1-S20



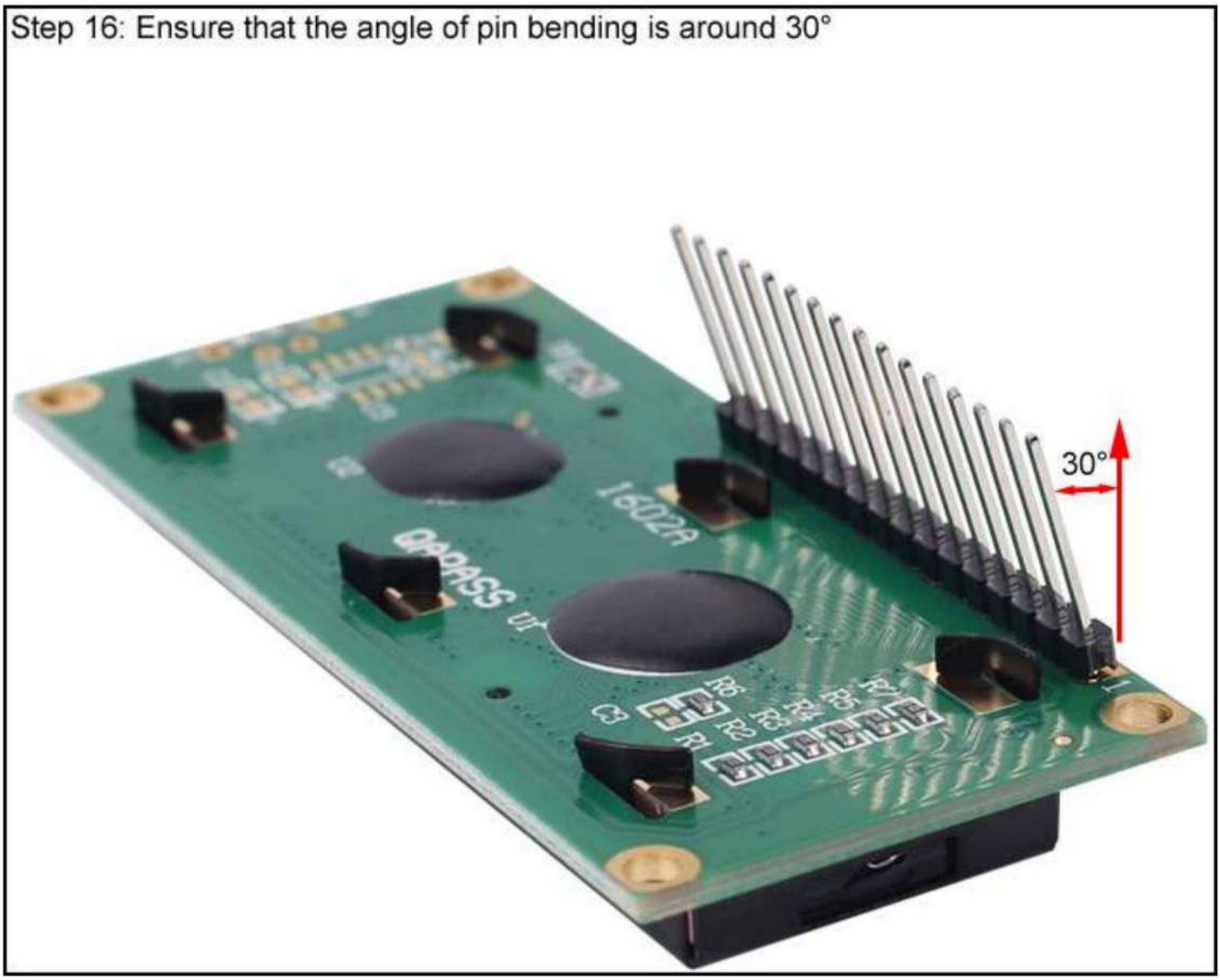
Step 14: Install 1pcs 16Pin Male Pin on the Back Side of LCD1602



Step 15: Bend the Metal Pins Inward As Shown.



Step 16: Ensure That the Angle of Pin Bending Is Around 30°

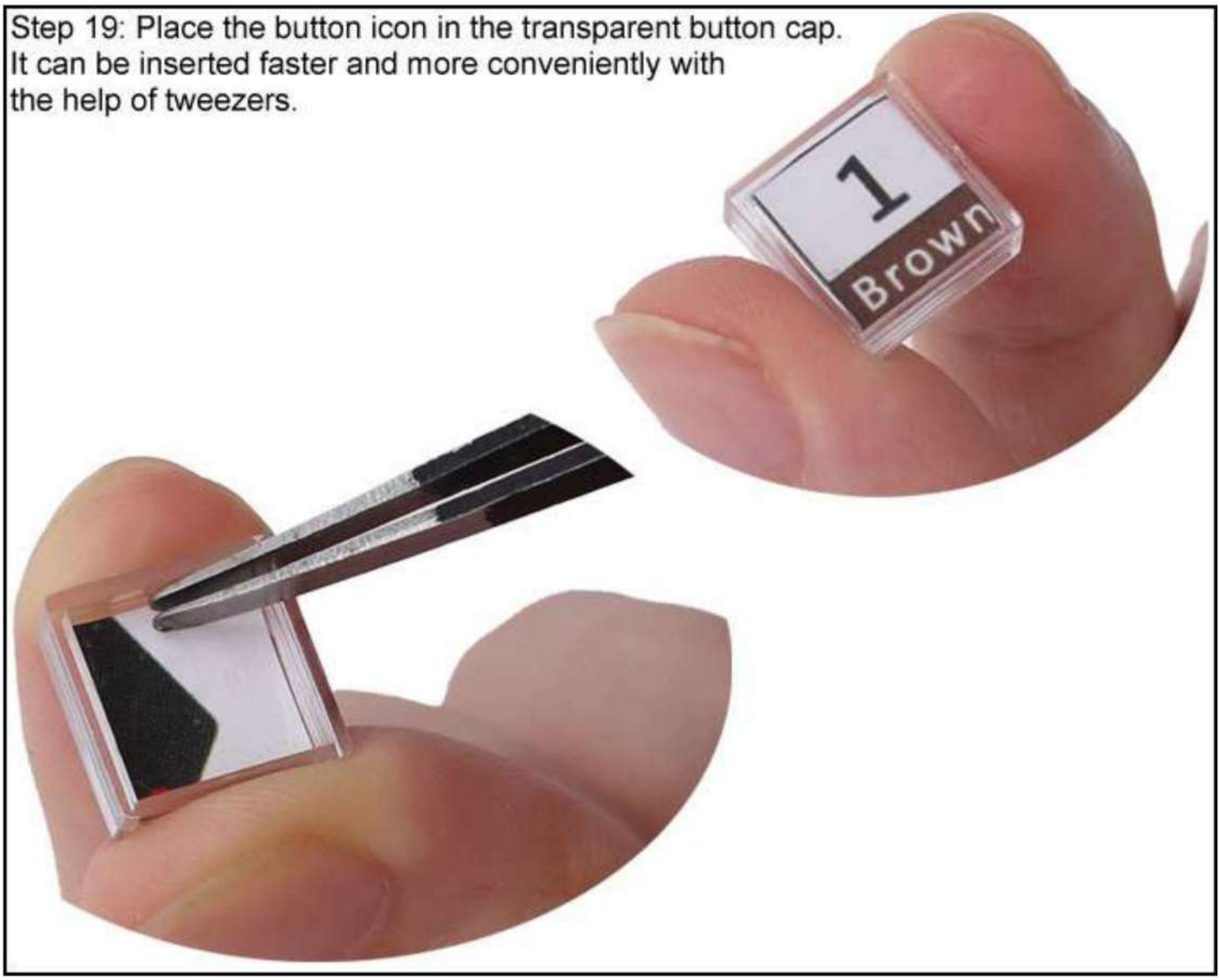


Step 17: Insert LCD1602 Screen Into the 16Pin Female Socket.

Step 17: Insert LCD1602 display screen into the 16Pin Female Socket.

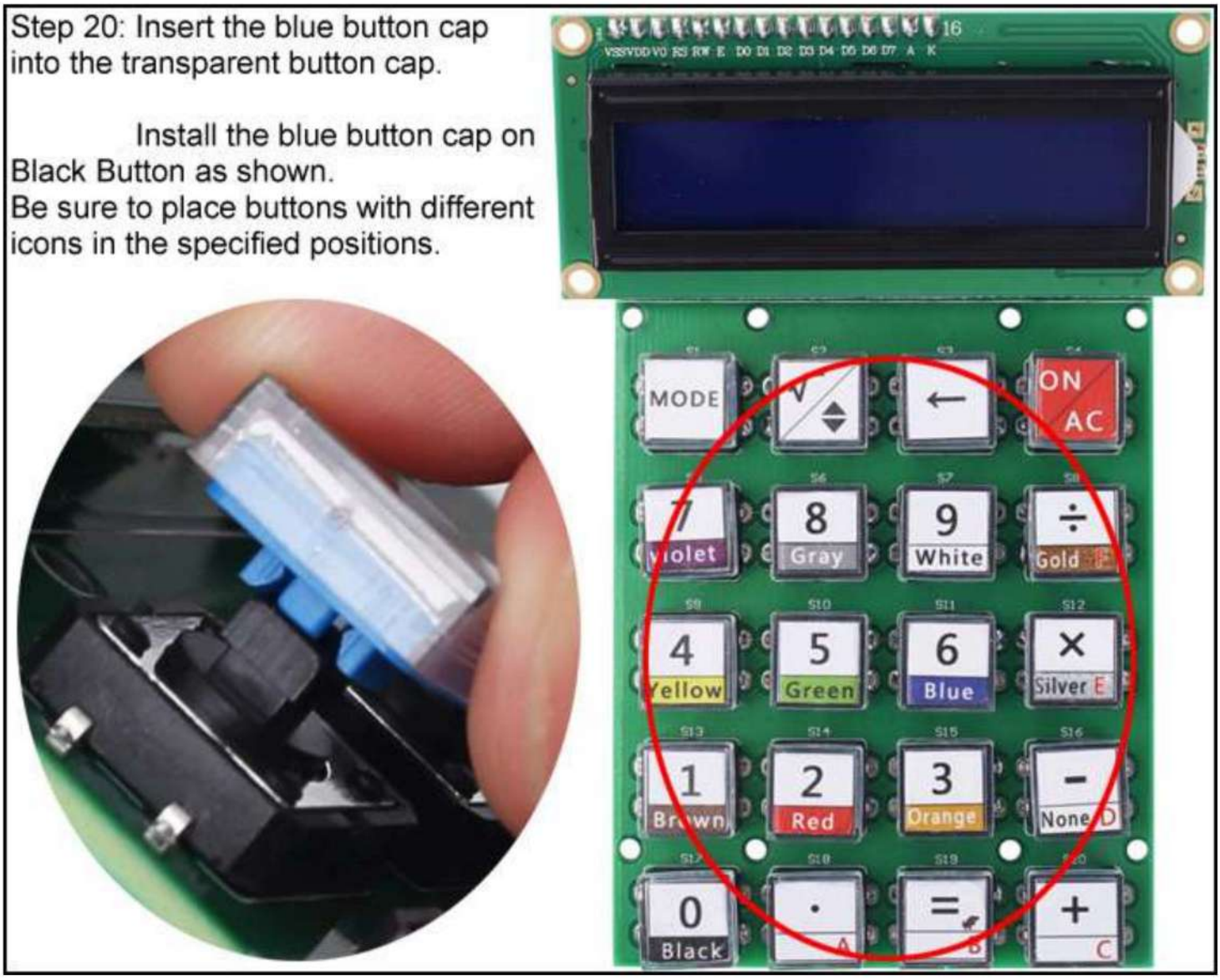
Step 18: Cut Button Icon From Paper Instruction Manual

Step 19: Place the Button Icon in the Transparent Button Cap



It can be inserted faster and more conveniently with the help of tweezers.

Step 20: Insert the Blue Button Cap Into the Transparent Button Cap

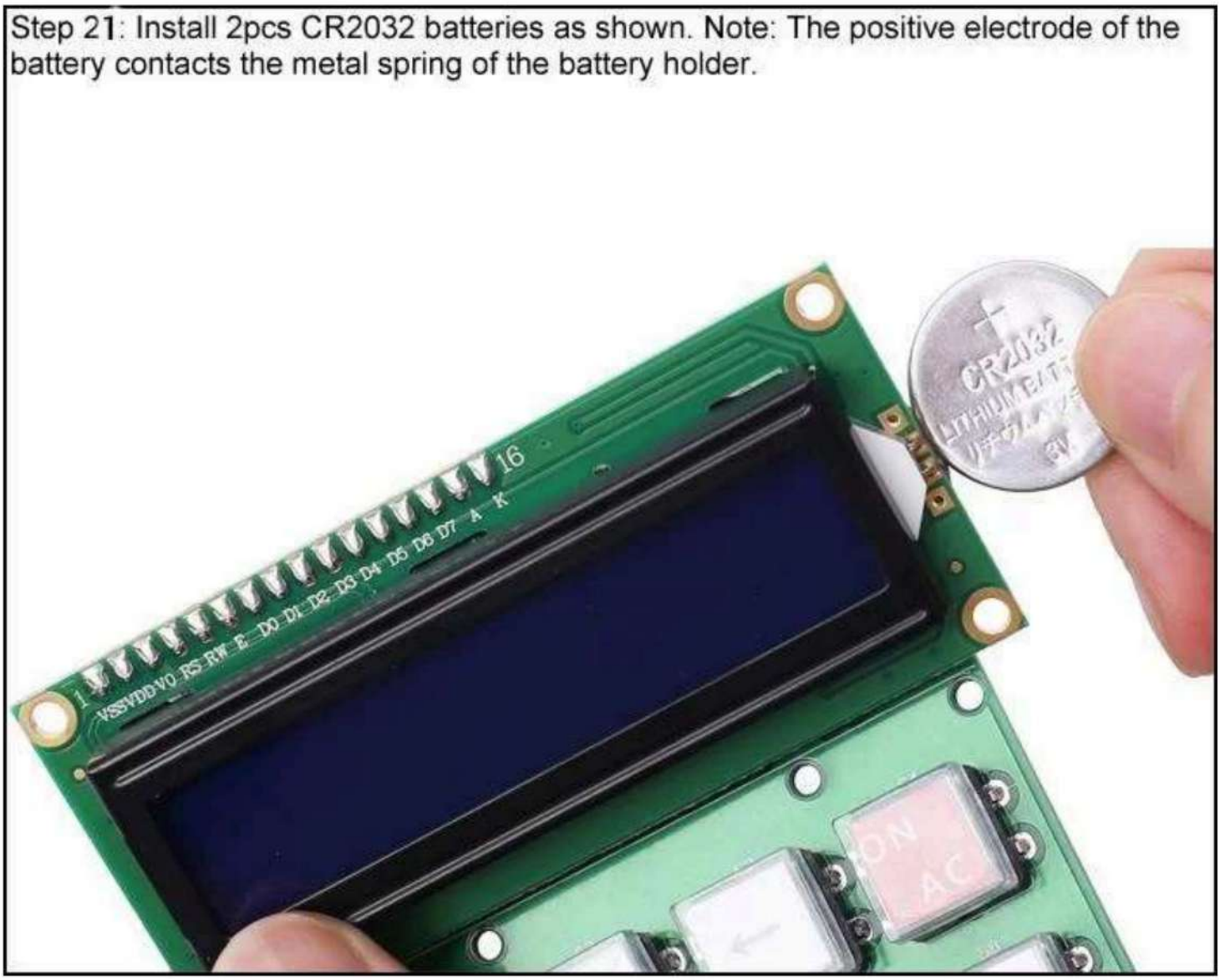


Insert the blue button cap into the transparent button cap.

Install the blue button cap on Black Button as shown.

Be sure to place buttons with different icons in the specified positions.

Step 21: Install 2pcs CR2032 Batteries As Shown



Note: The positive electrode of the battery contacts the metal spring of the battery holder.

Step 22: Place PCB on TOP Case and Adjusting the Position of the Buttons

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Note:Please patiently align the installation holes of each button and LCD1602.

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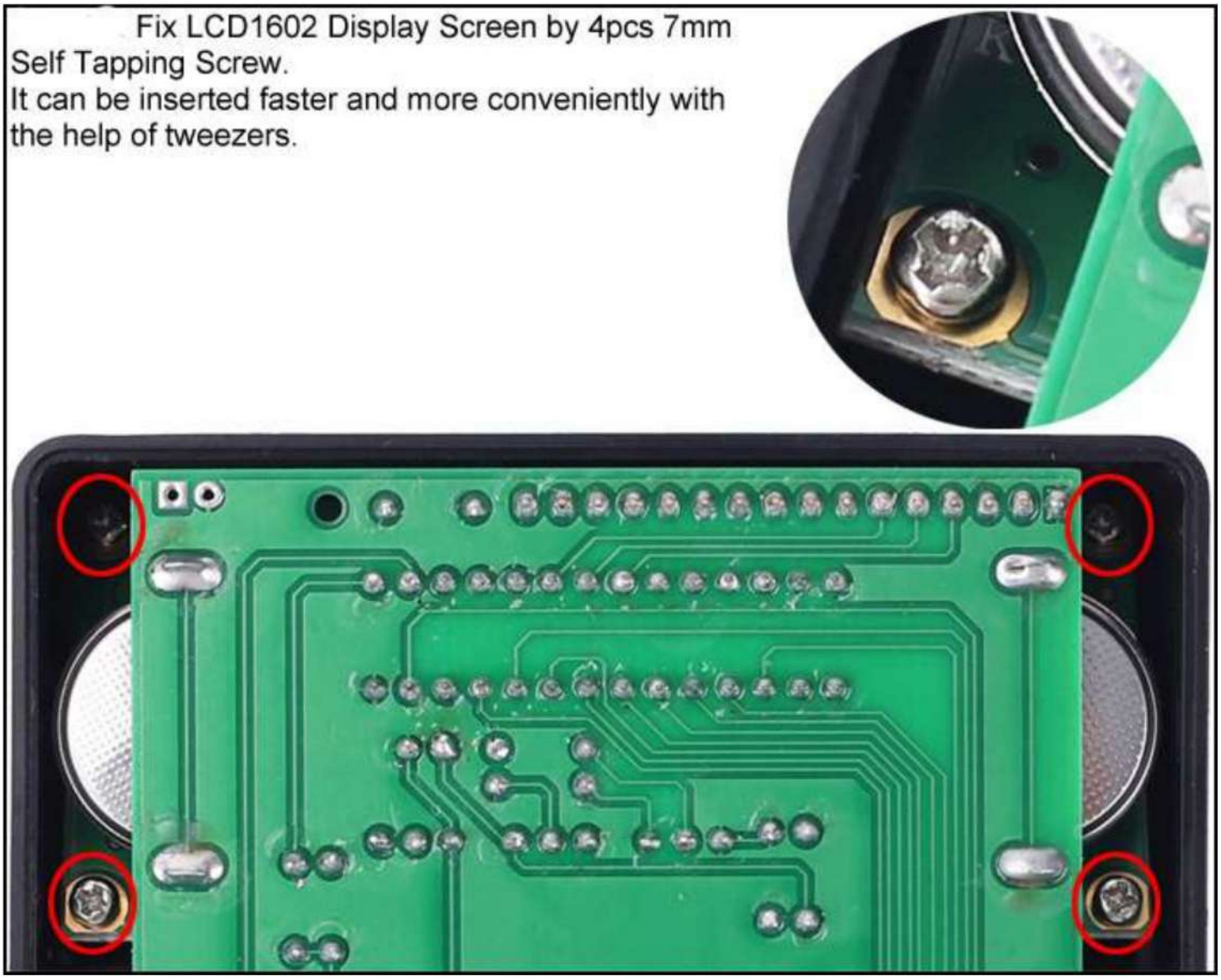
Step 23: Fix PCB by 4pcs 7mm Self Tapping Screw

Step 24: Fix LCD1602 Display Screen by 4pcs 7mm Self Tapping Screw



It can be inserted faster and more conveniently with the help of tweezers.

Step 25: Fix Bottom Case by 4pcs 8mm Self Tapping Screw