

IS Heart Shape LED Flashing Light Kit

IS Icstation Heart Shaped LED Flashing Light Soldering Practice Kit User Manual

Model: Heart Shape LED Flashing Light Kit

Brand: IS Icstation

INTRODUCTION

This manual provides comprehensive instructions for assembling and operating the IS Icstation Heart Shaped LED Flashing Light Soldering Practice Kit. Designed for electronics beginners and students, this DIY kit offers a practical way to learn soldering skills while creating a functional LED display. Please read all instructions carefully before beginning assembly.

SAFETY INFORMATION

- Always work in a well-ventilated area when soldering.
- Wear appropriate eye protection to shield against solder splashes and fumes.
- Use a soldering iron stand to prevent accidental burns.
- Ensure the soldering iron is properly grounded.
- Keep flammable materials away from the soldering area.
- Allow components to cool before handling.
- Keep out of reach of small children. Recommended age is 13 years and up.

PACKAGE CONTENTS

Verify that all components listed below are included in your kit:

- Heart-shaped PCB (Printed Circuit Board)
- 22 Red LEDs (Light Emitting Diodes) + extra LEDs
- Resistors (various values)
- Capacitor
- Potentiometer (variable resistor)
- Integrated Circuit (IC)

- Transistor
- Push Button Switch
- Power Connector Wires (Red and Black)

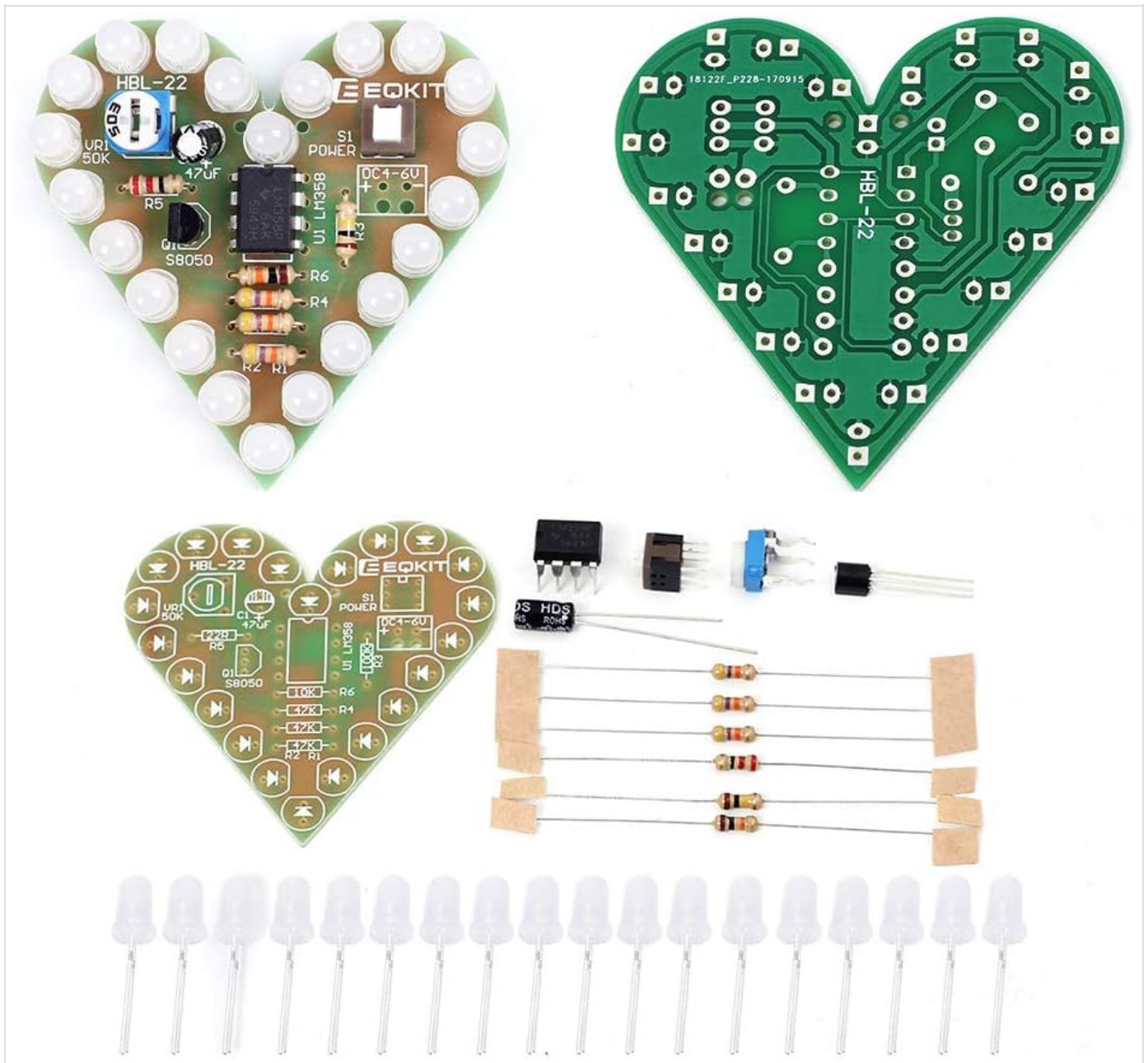


Image: All individual components of the soldering kit, including the heart-shaped PCB, resistors, LEDs, and other electronic parts, laid out for inspection.

REQUIRED TOOLS (NOT INCLUDED)

- Soldering Iron
- Solder Wire
- Solder Wick or Solder Pump (for desoldering errors)
- Wire Cutters/Strippers
- Needle-nose Pliers
- Multimeter (optional, for testing)
- DC 4-6V Power Supply or Battery (e.g., 3-4 AA/AAA batteries)

Electronics Practice Kit



Image: A person actively soldering, demonstrating the typical setup and tools required for this project.

ASSEMBLY INSTRUCTIONS

Follow these steps carefully to assemble your Heart Shaped LED Flashing Light Kit. The PCB is well-marked to guide component placement.

Step 1: Solder Resistors

Identify the resistors by their color bands and solder them into their corresponding positions on the PCB. The PCB silkscreen indicates the resistor values (e.g., R1, R2, R3, R4, R5, R6).



Suitable for beginners
Practice kid's soldering skill
Exercise hands-on ability

Technical Specification

[User Manual \[pdf\]](#)



We provide PDF instruction on this page.

[Click here to download it.](#)

Please feel free to contact us if you have any question.

Image: A partially assembled PCB showing resistors and other small components soldered onto the board.

Step 2: Solder Small Components (Capacitor, Transistor, Potentiometer)

Solder the capacitor, transistor (Q1 S8050), and potentiometer (VR1 50K) into their designated spots. Pay attention to the capacitor's polarity: the striped side of the capacitor corresponds to the shaded area on the PCB silkscreen. Ensure the potentiometer is fully seated before soldering.

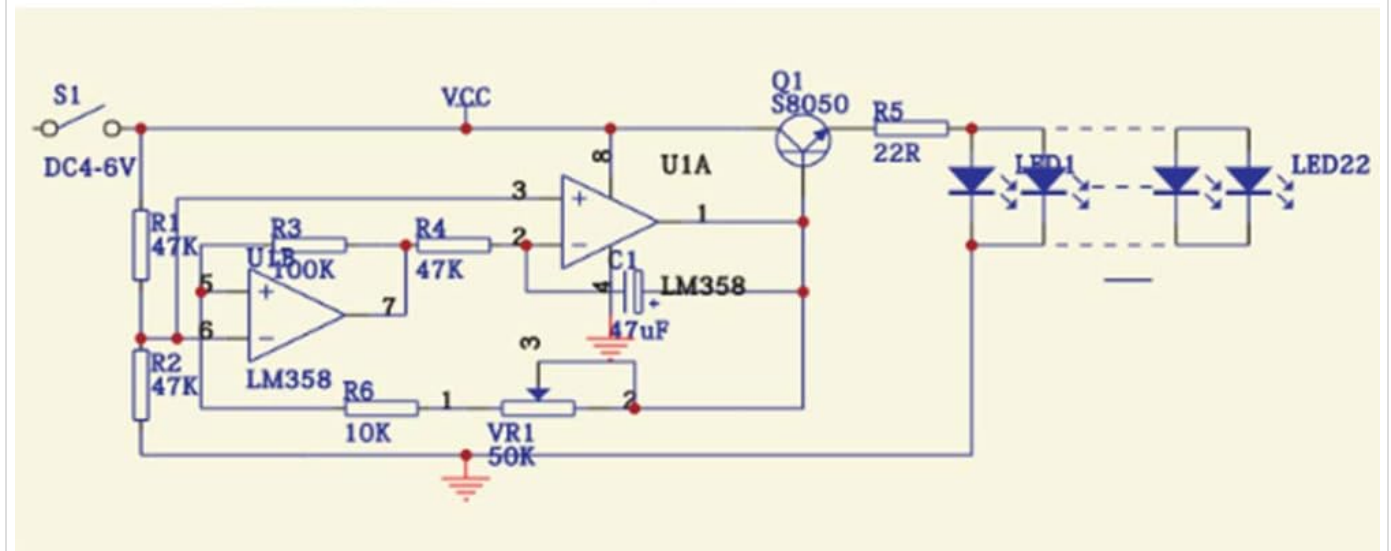


Image: A detailed view of the PCB with resistors, capacitor, and potentiometer correctly soldered.

Step 3: Solder Integrated Circuit (IC)

Carefully place the IC (U1 LM358) onto the PCB. Ensure the notch or dot on the IC aligns with the corresponding marking on the PCB silkscreen. Solder each pin securely.

Step 4: Solder Power Wires and Switch

Solder the power wires (red for positive, black for negative) to the DC 4-6V input pads. Ensure the insulated wire runs through the larger holes for strain relief. Solder the push button switch (S1 POWER) into its position.

Step 5: Solder LEDs

This kit includes 22 red LEDs. Solder them one by one into the heart-shaped pattern. **Important:** LEDs are polarized. The longer pin of the LED is positive (+), and the shorter pin is negative (-). On the PCB, the flat side of the LED corresponds to the flat marking on the silkscreen. Solder a few LEDs at a time, then trim their leads to avoid overcrowding.

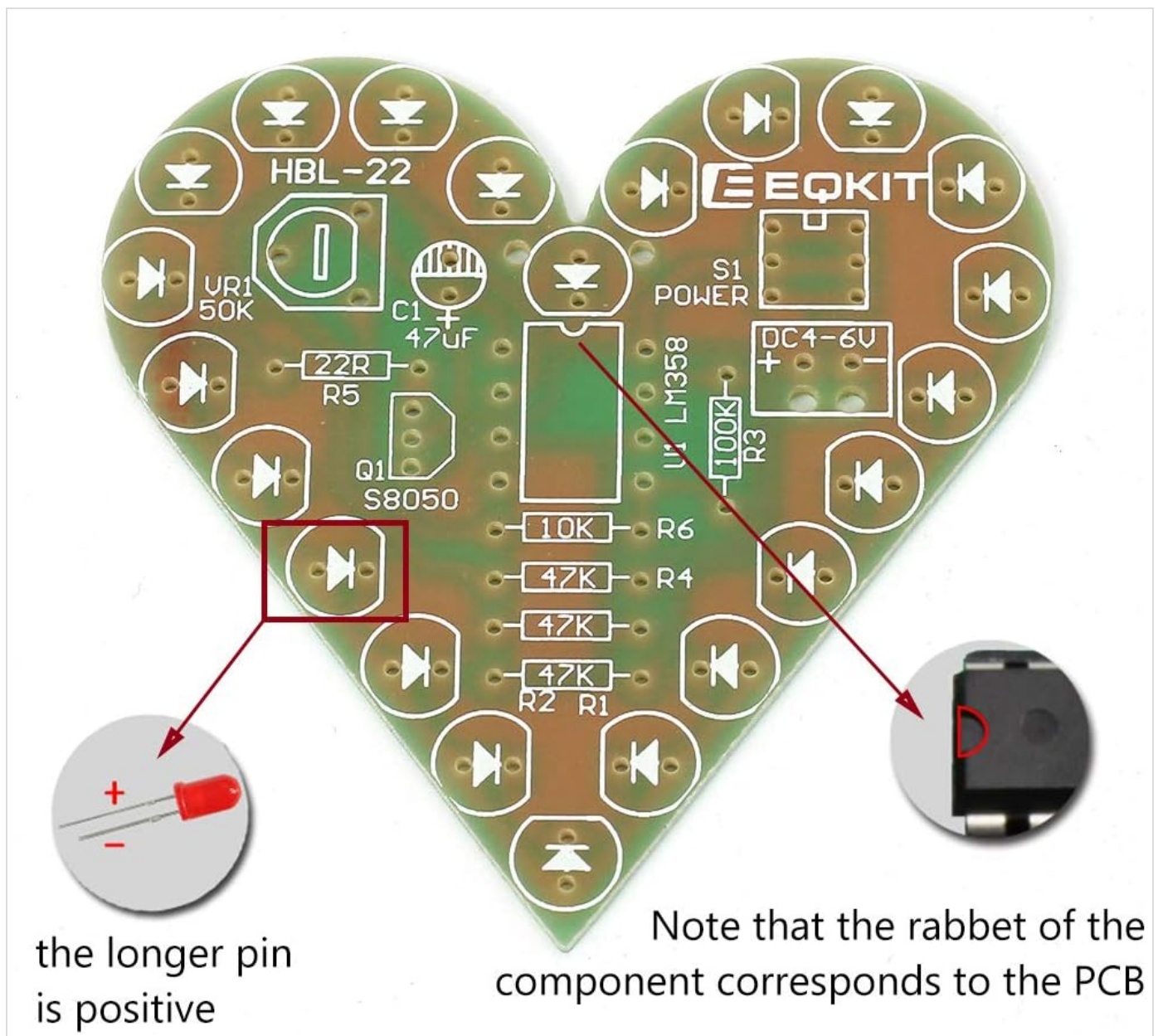


Image: Detailed diagram illustrating the correct polarity for LED placement on the PCB, showing the longer pin as positive and the flat side matching the PCB marking.

The kit provides extra LEDs in case of soldering errors. Do not worry if you make a mistake; you can desolder and replace them.

OPERATING INSTRUCTIONS

Once assembly is complete and all solder joints are secure:

1. Connect a DC 4-6V power supply or battery to the power wires.
2. Press the power button (S1) to turn on the LED display.
3. Adjust the potentiometer (VR1) to regulate the flashing frequency of the LEDs. The LEDs will flash in a breathing-like pattern.

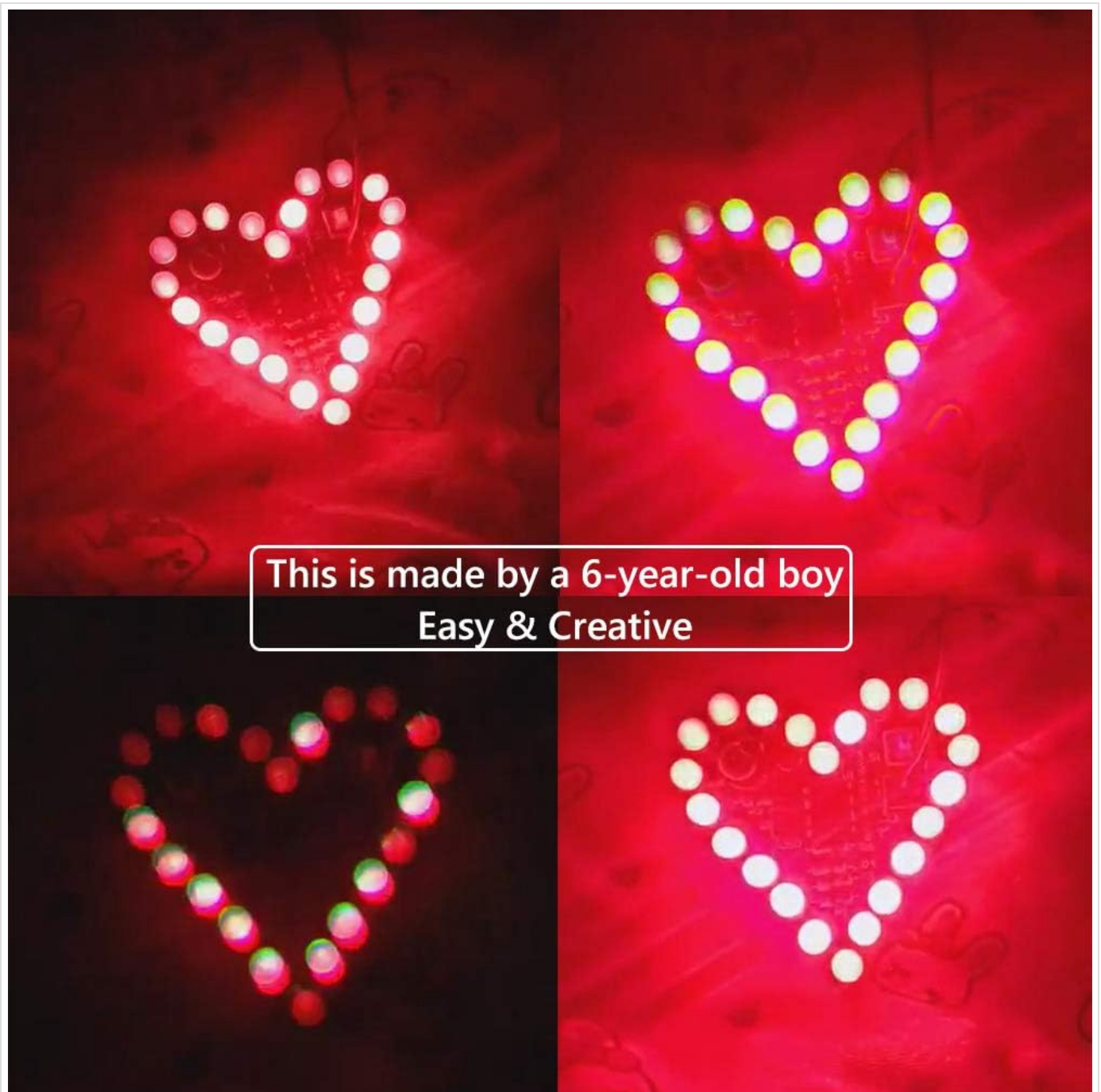


Image: Multiple assembled heart-shaped LED kits displaying their red flashing lights, showcasing the aesthetic outcome.

MAINTENANCE

The kit requires minimal maintenance. Keep the PCB clean and dry. Avoid exposing it to excessive moisture or extreme temperatures. If any LEDs stop working, they can be replaced by desoldering the faulty LED and soldering a new one in its place, ensuring correct polarity.

TROUBLESHOOTING

- **LEDs do not light up:**
 - Check power supply connection and ensure it provides 4-6V DC.
 - Verify all LEDs are soldered with correct polarity (longer pin positive, flat side matches PCB marking).
 - Inspect all solder joints for cold joints or bridges. Re-solder as necessary.
 - Ensure the IC is correctly oriented and soldered.

- Check the power switch for proper function.
- **Some LEDs do not light up:**
 - Check the polarity and solder joints of the specific non-working LEDs.
 - Replace faulty LEDs if necessary.
- **Flashing frequency is not adjustable:**
 - Ensure the potentiometer (VR1) is correctly soldered and functional.
 - Check the associated resistors and capacitor for proper connection.

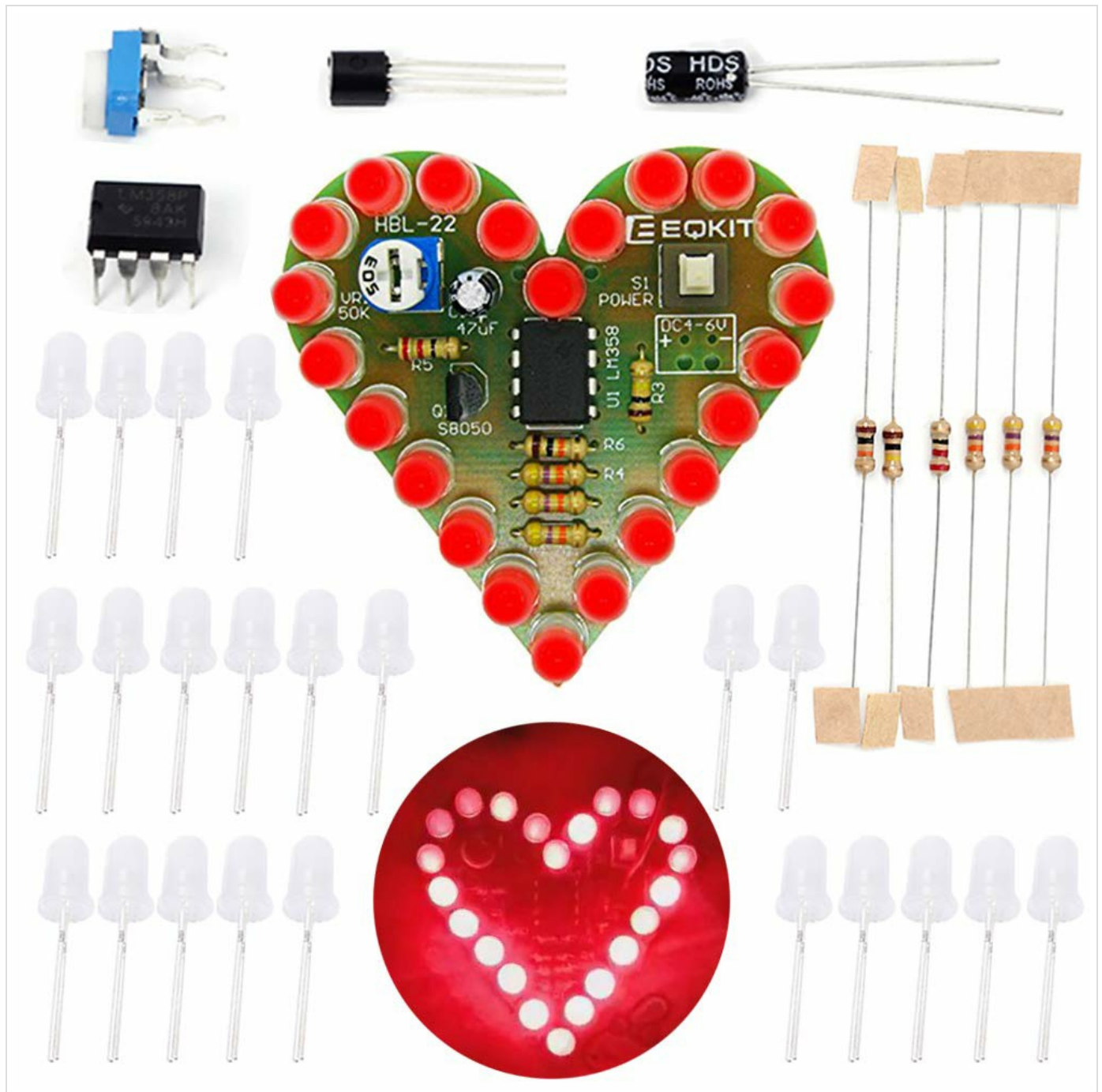


Image: A complete view of the assembled heart-shaped LED circuit board, showing all components and connections.

SPECIFICATIONS

Feature	Detail
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Product Dimensions	3.5 x 1.9 x 0.4 inches
Item Weight	0.48 ounces
Model Number	Heart Shape LED Flashing Light Kit
Power Supply	DC 4-6V (not included)
LED Quantity	22 Red LEDs
Manufacturer Recommended Age	13 years and up
ASIN	B0777H8S7M

SUPPORT AND WARRANTY

For detailed online instructions with full-color pictures, please refer to the PDF instruction manual available on the product page under the "Product information" section → "Technical Specification" → "User Manual [pdf]".

If you have any questions or require further assistance, please contact the manufacturer directly. Contact information is typically provided at the end of the official PDF instructions.

This product is designed as a practice kit, and extra LEDs are provided to accommodate learning and potential soldering errors. While specific warranty details are not provided, support for assembly guidance is available.

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

