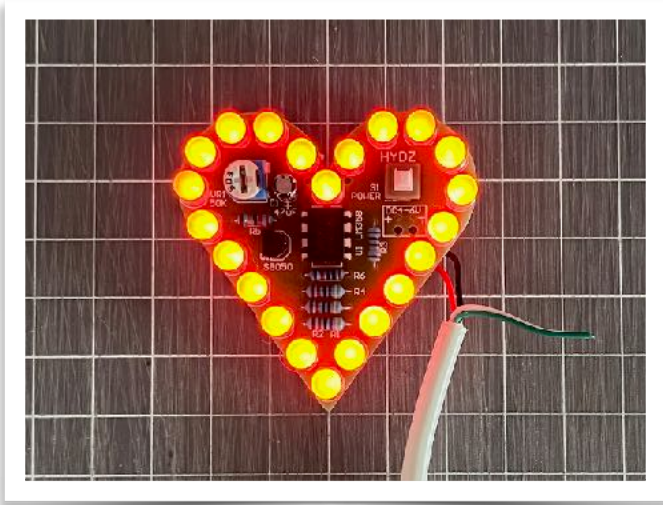# BREATHING LED EFFECT HEART PCB KIT

A moderate level learn to solder kit that includes an IC as well as standard components. The LEDs are red and have a 'breathing' light up effect.

SKU: PCB-HEART

Product link: https://k-retro.com/diy-pcb-kits/150-breathing-led-effect-heart-pcb-kit.html

We sell kits, replacement parts, tools and soldering consumables at our online store at k-retro.com

Kit Contents

1x	22Ω resistor
1x	100KΩ resistor
1x	10KΩ resistor
3x	47kΩ resistor
1x	variable resistor
1x	47uF capacitor

1x	S8050 transistor
1x	LM358 IC
22x	Red LED
1x	Switch
1x	Heart shaped PCB

Required Tools and Consumables

Soldering Iron, Side Cutters, Solder (with flux), USB cable or 3x AA battery holder.

Schematic
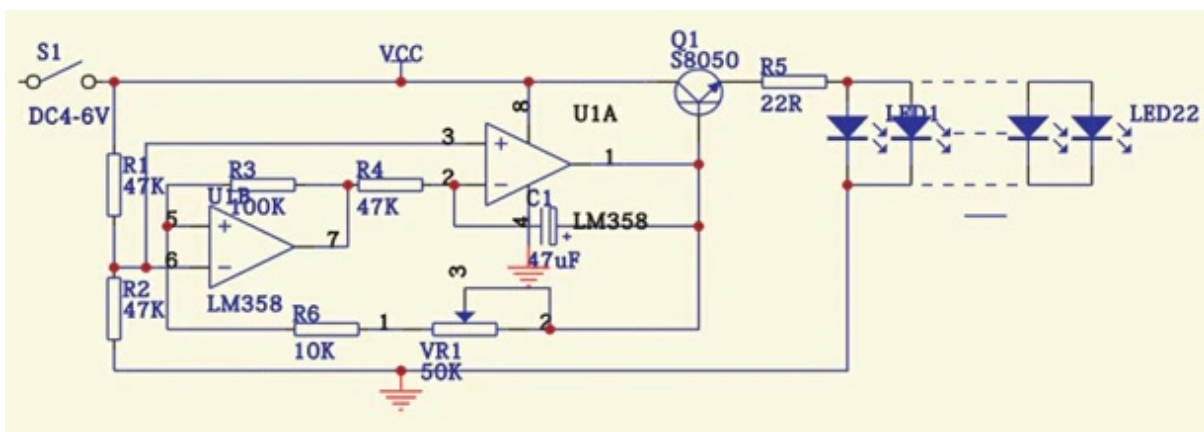
Assembly Instructions

1. Make sure you have all of the components listed in **Kit Contents**.

2. Solder in the resistors.
   Start by bending resistor legs at 90 degrees to the resistor and pushing them through the appropriate locations on the PCB.
   Bend the legs to secure the resistors in place.
   Solder the resistors on the bottom side of the PCB (where the legs are poking through).
   Cut excess legs off the resistors.
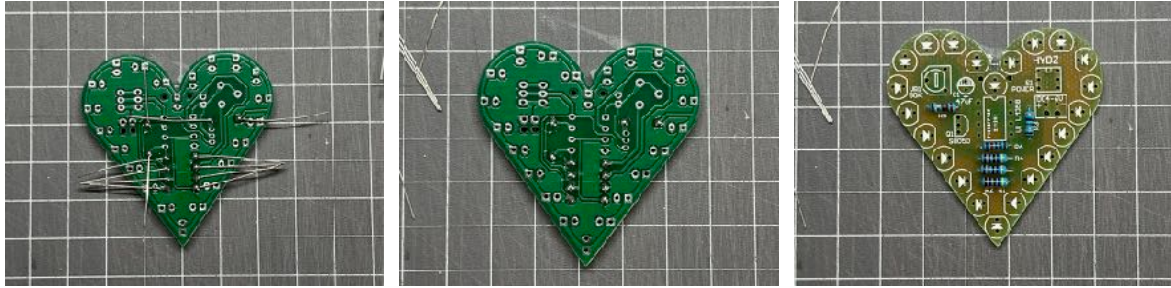
Hint - use a multimeter to check the value of the resistor first.
Hint - resistors can go into the board either way, there is no positive or negative side.

Resistor colour codes:
    22Ω resistor   - red, red, black, gold, brown
    100KΩ resistor   - brown, black, black, orange, brown
    10KΩ resistor   - brown, black, black, red, gold
    47kΩ resistor   - yellow, purple, black, red, brown

3. Solder in the variable resistor, capacitor, transistor and switch.
   The transistor and capacitor will need to have excess legs cut off.
   The switch and variable resistor's legs don't need to be cut.
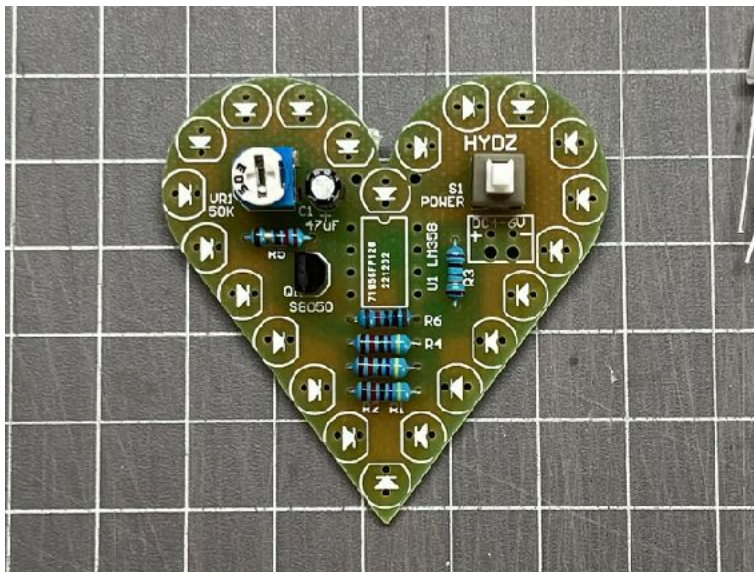
Hint - the capacitor orientation is important, make sure the stripe side of the capacitor lines up with the filled in part of the capacitor symbol side on the PCB. Alternatively look for the + sign on the PCB and align the side of the capacitor without the stripe to it.
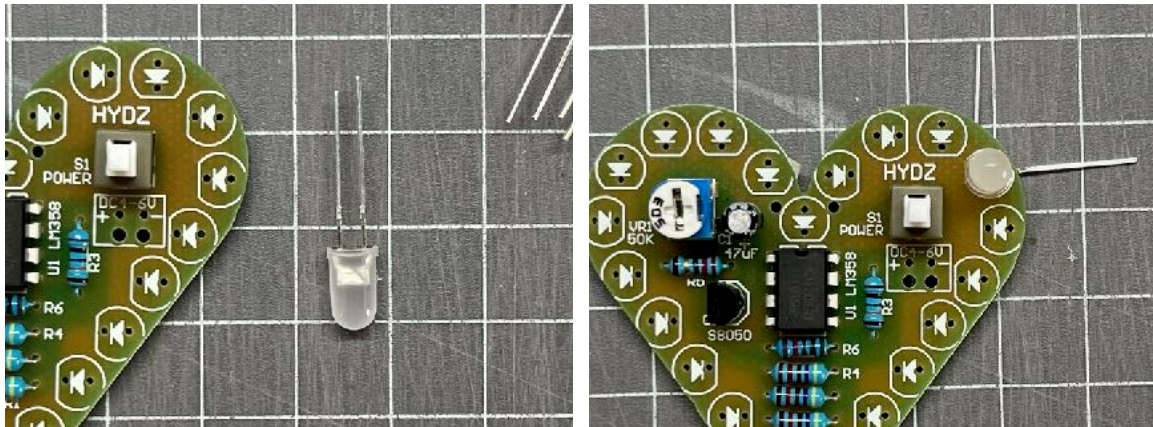
4. Solder in the IC.
    The legs on the IC will need to be bent slightly to fit into the holes on the PCB.
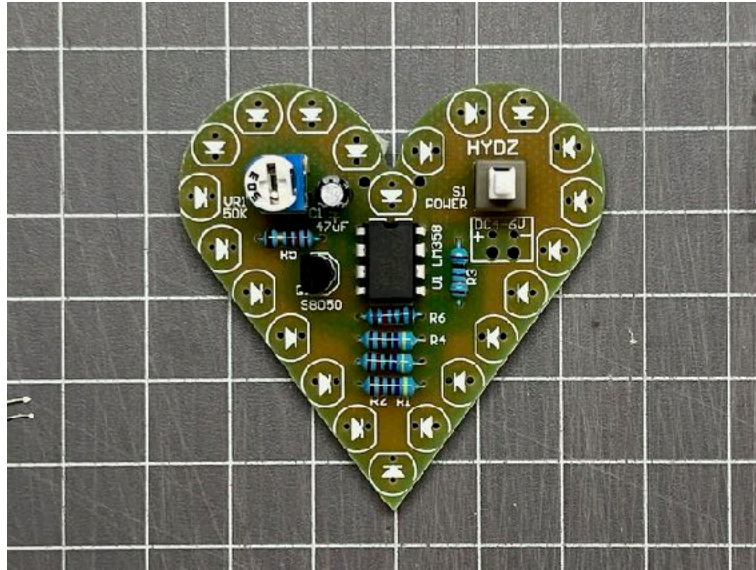
Hint - The notch on the IC must align with the notch on the IC symbol on the PCB.

5. Solder in the LEDs
    LEDs will need excess legs cut off.

Hint - LEDs must be oriented correctly. The short leg is the side that has the flat edge at the base of the LED. Line up the short leg with the side of the LED symbol that also has a flat edge.

6. Connect a voltage source to the + and - pads on the PCB.
    You can use an old USB cable or a 3x AA battery holder to provide power to your PCB.
    Connect the red wire to + and black wire to -.

Usage

To turn the PCB on, press the switch on the board.
You can also change the speed of the breathing effect by adjusting the variable resistor with a screwdriver.