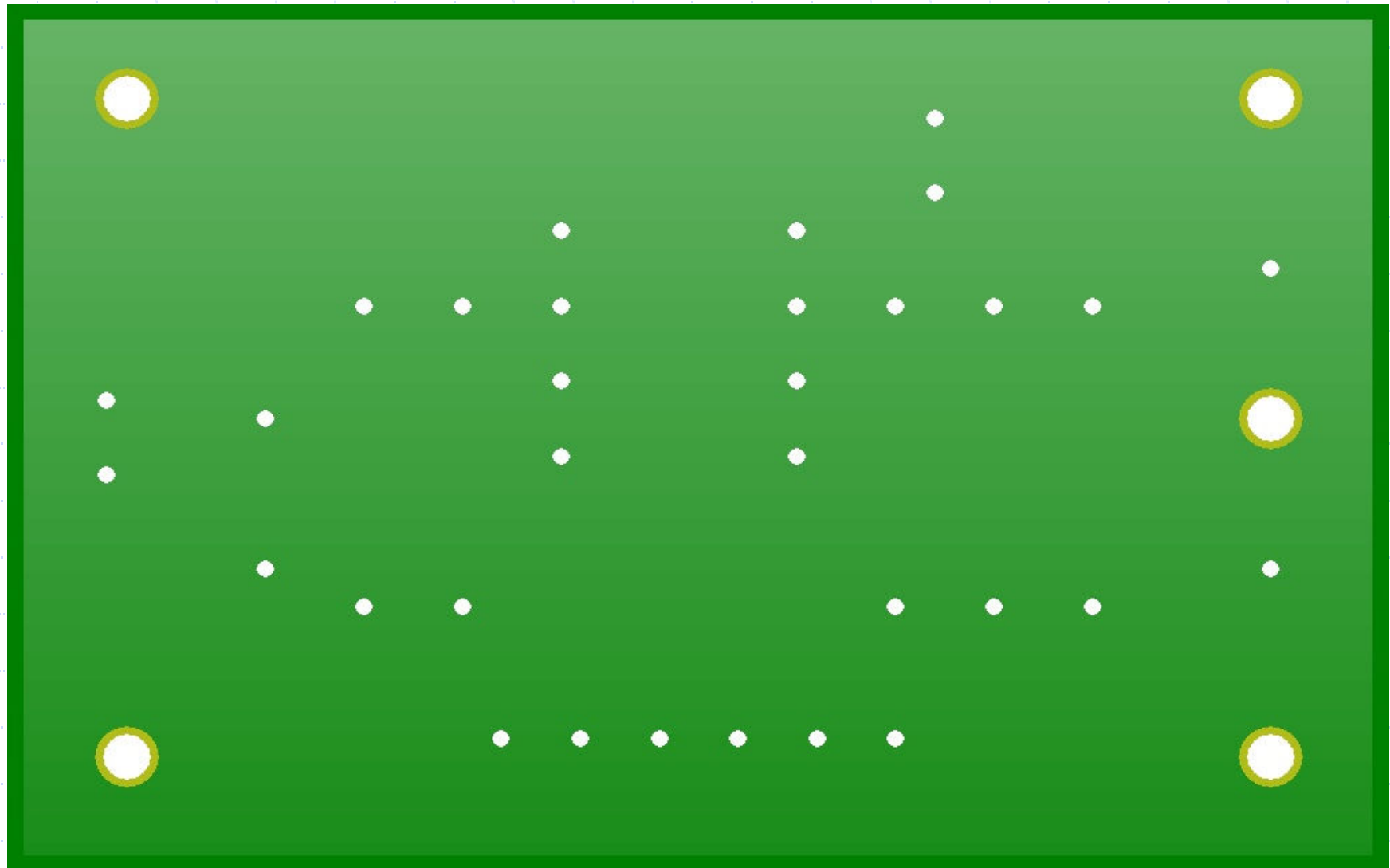


ASSEMBLING THE PCB

Hold up the PCB as shown below – locate the holes shown to ensure you know which is the top.

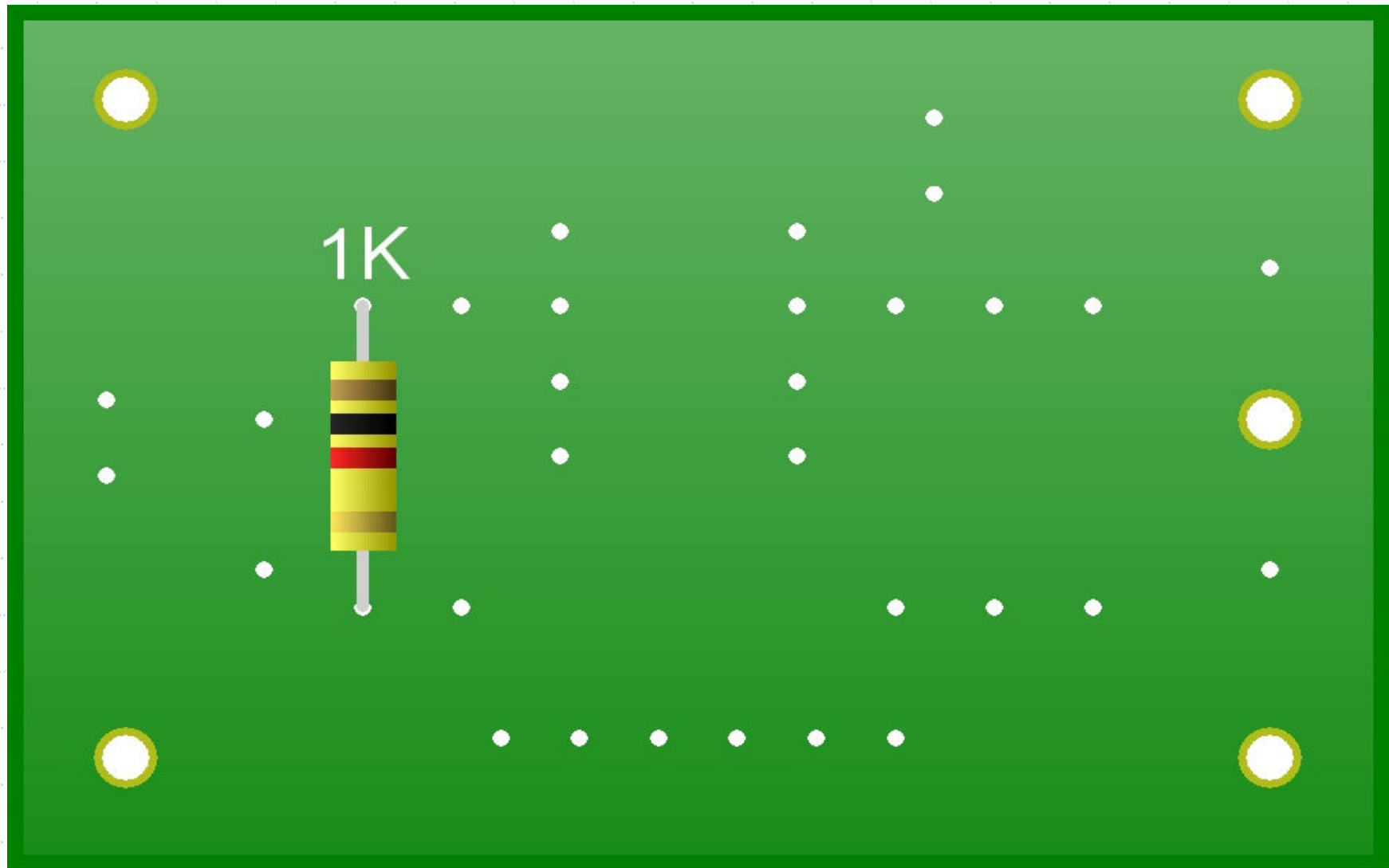


RESISTORS

The first component is a resistor value 1Kohm, (brown, black, red).

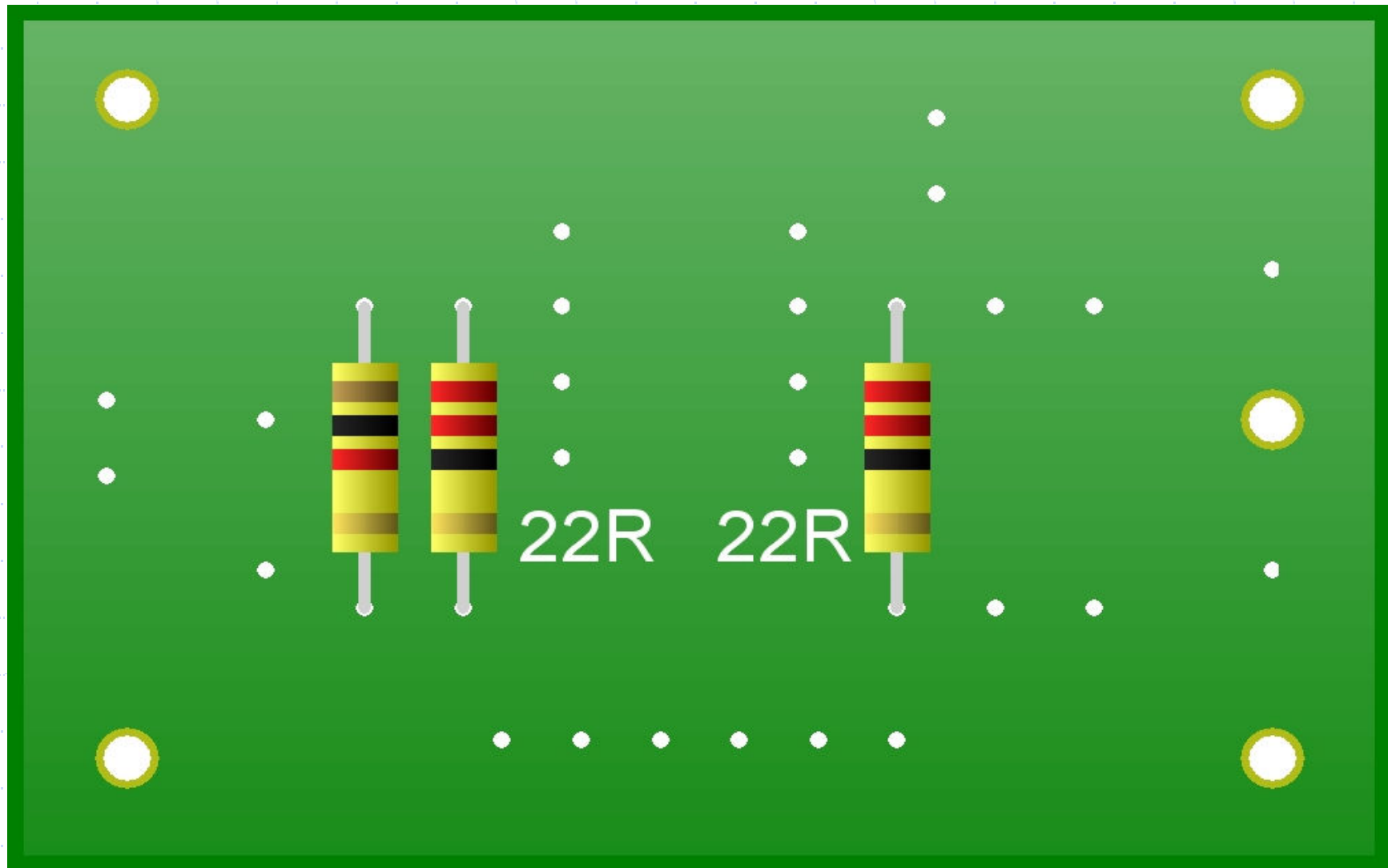
It is placed vertically as shown.

It is not important which way round it goes.



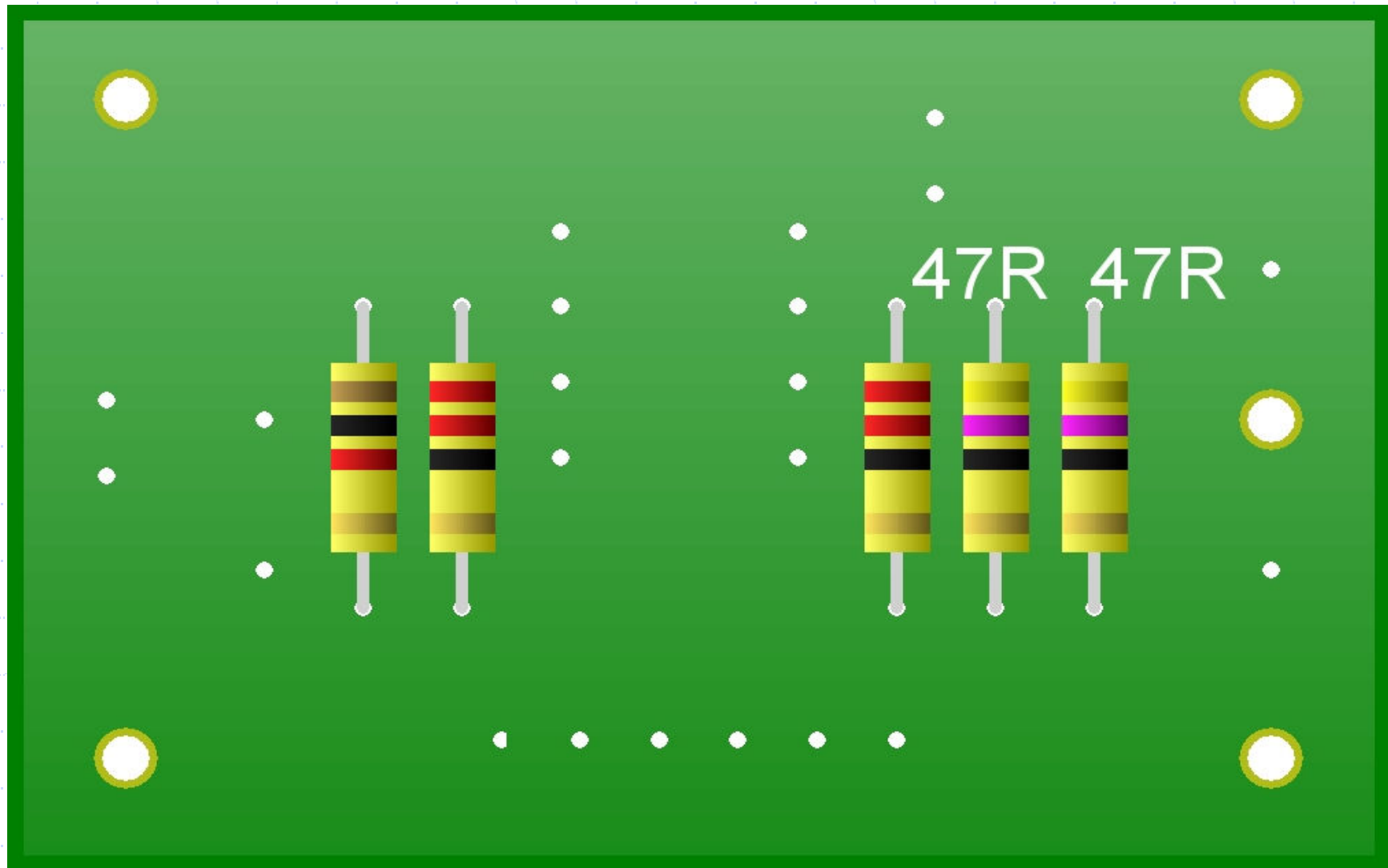
RESISTORS

The next 4 resistors are all 22 ohms, (red, red, black).
They are placed in parallel with the first one.



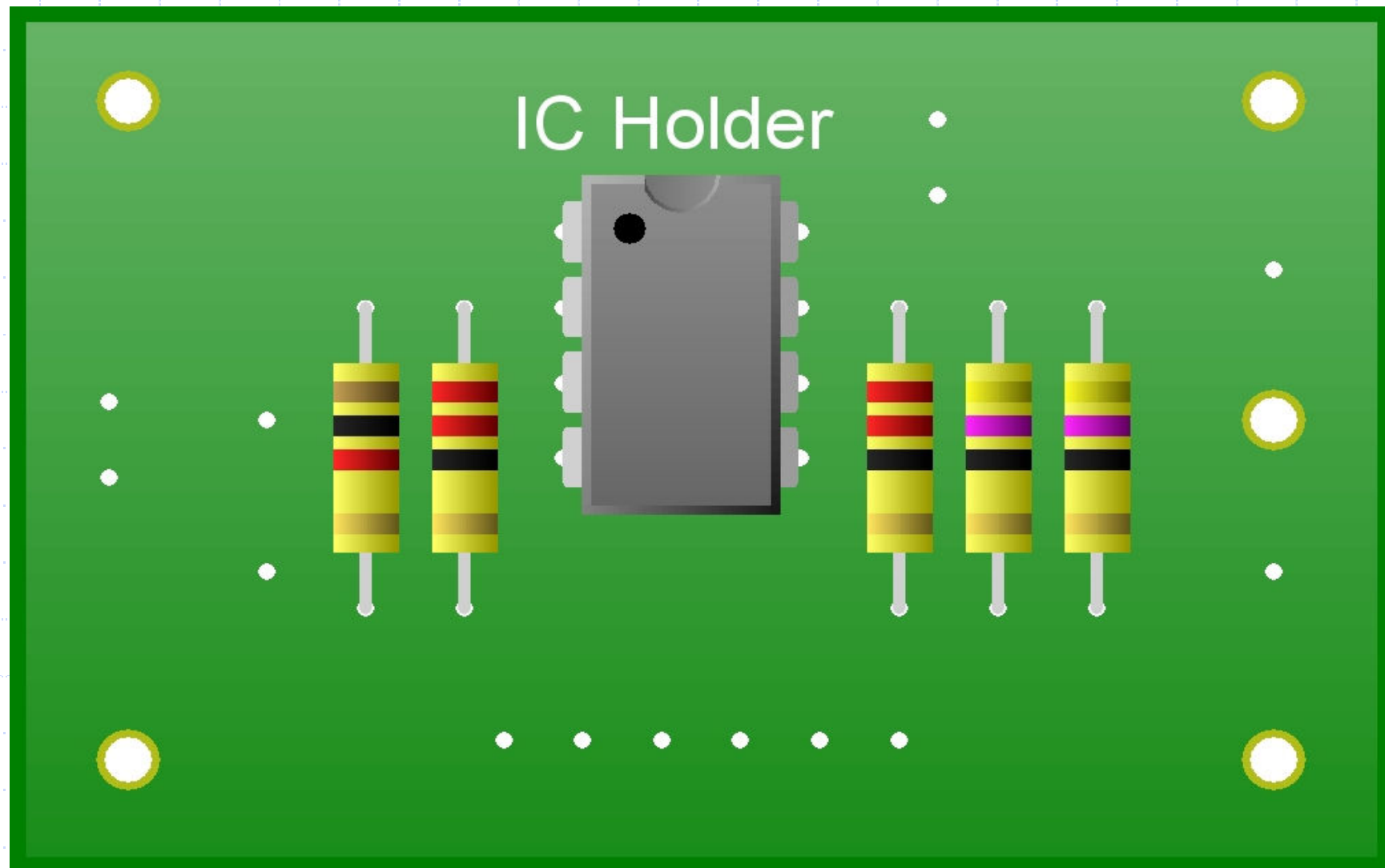
RESISTORS

The last 2 resistors are both 47 ohms, (yellow, violet, black).
They are placed in parallel with the others.



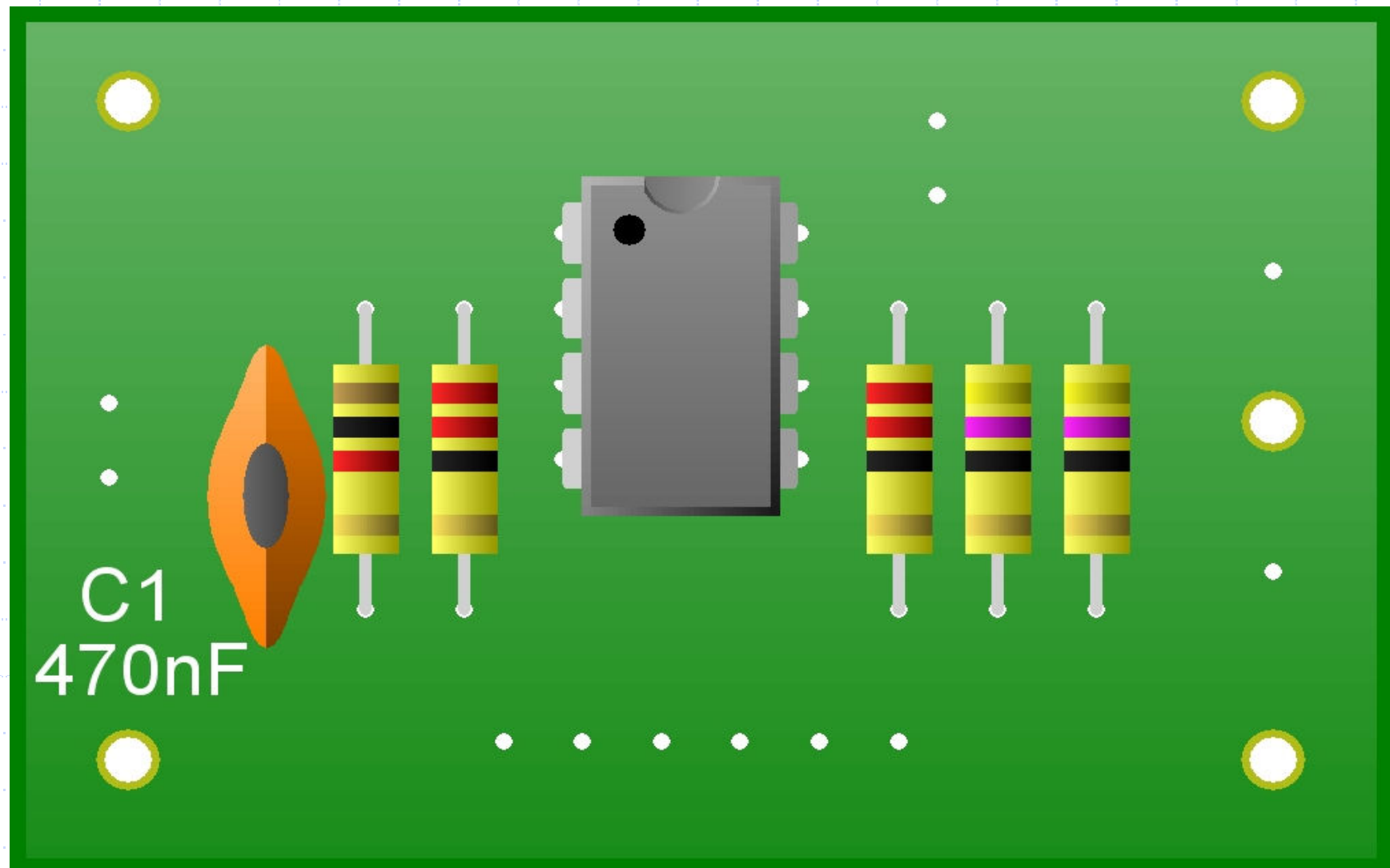
IC HOLDER

The IC holder means that the IC can be removed easily for programming. Insert it with the notch at the top as shown below.



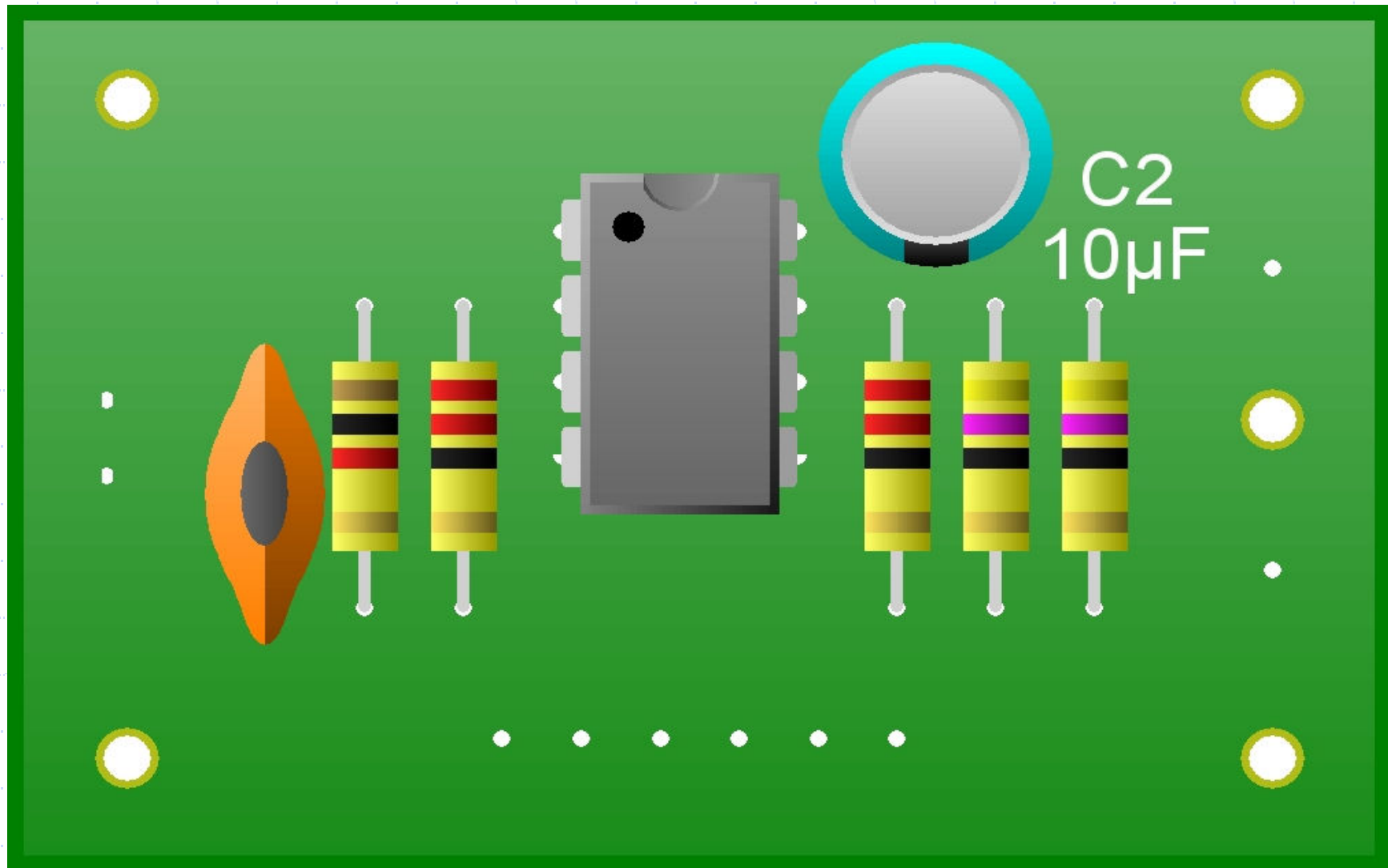
CAPACITOR

The first capacitor is 470nF in value and is non-polarised. This means that it can be inserted either way round.

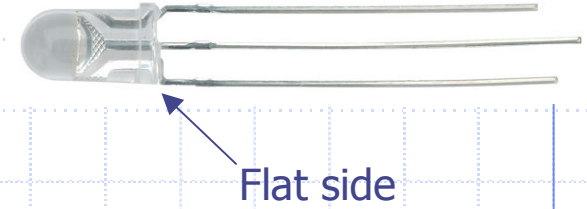


CAPACITOR

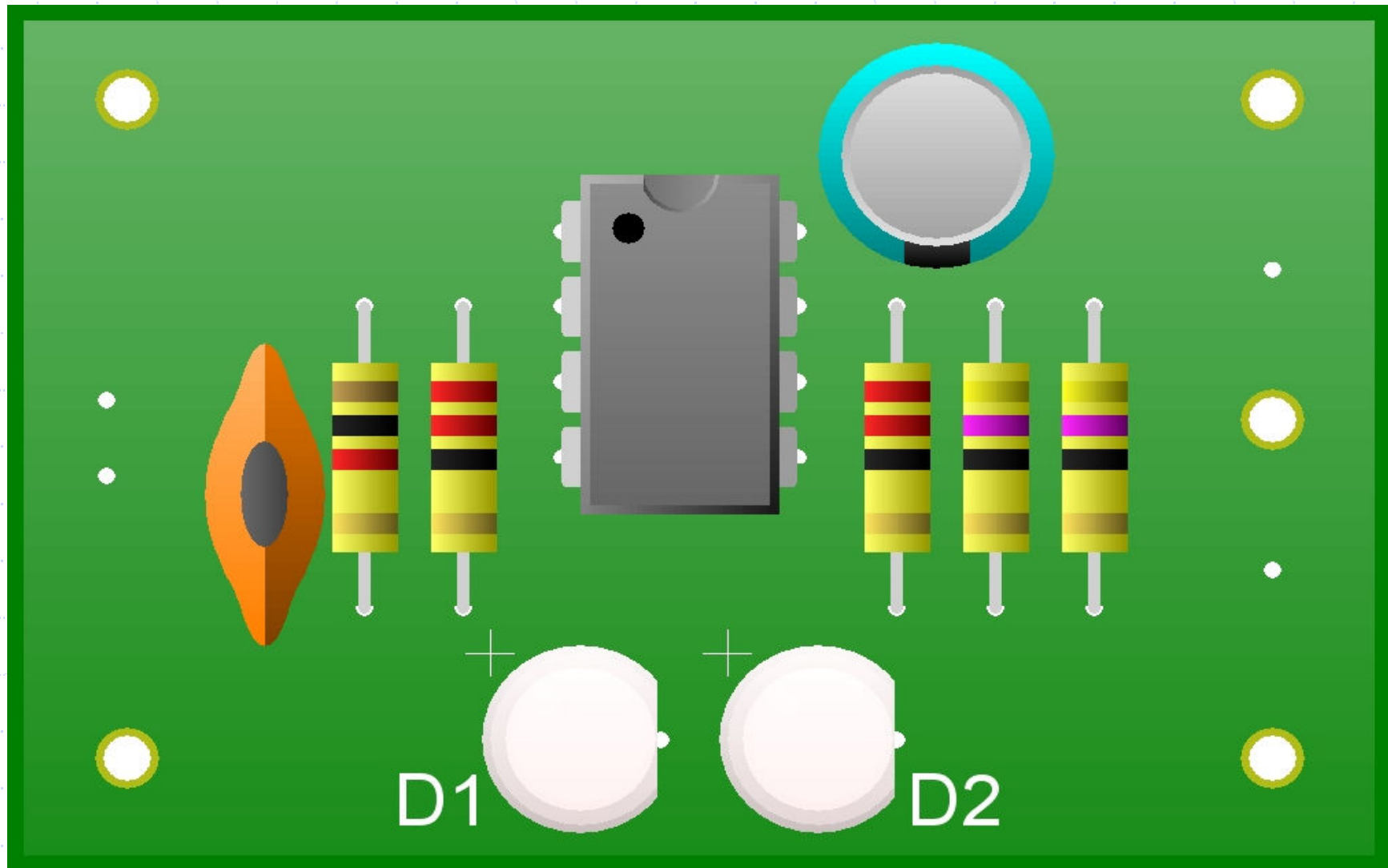
The second capacitor is 10uF in value and is polarised. This means that it must be inserted the correct way round. The longer lead of the capacitor is the positive one. Insert this wire into the top hole.



MULTICOLOUR LEDs

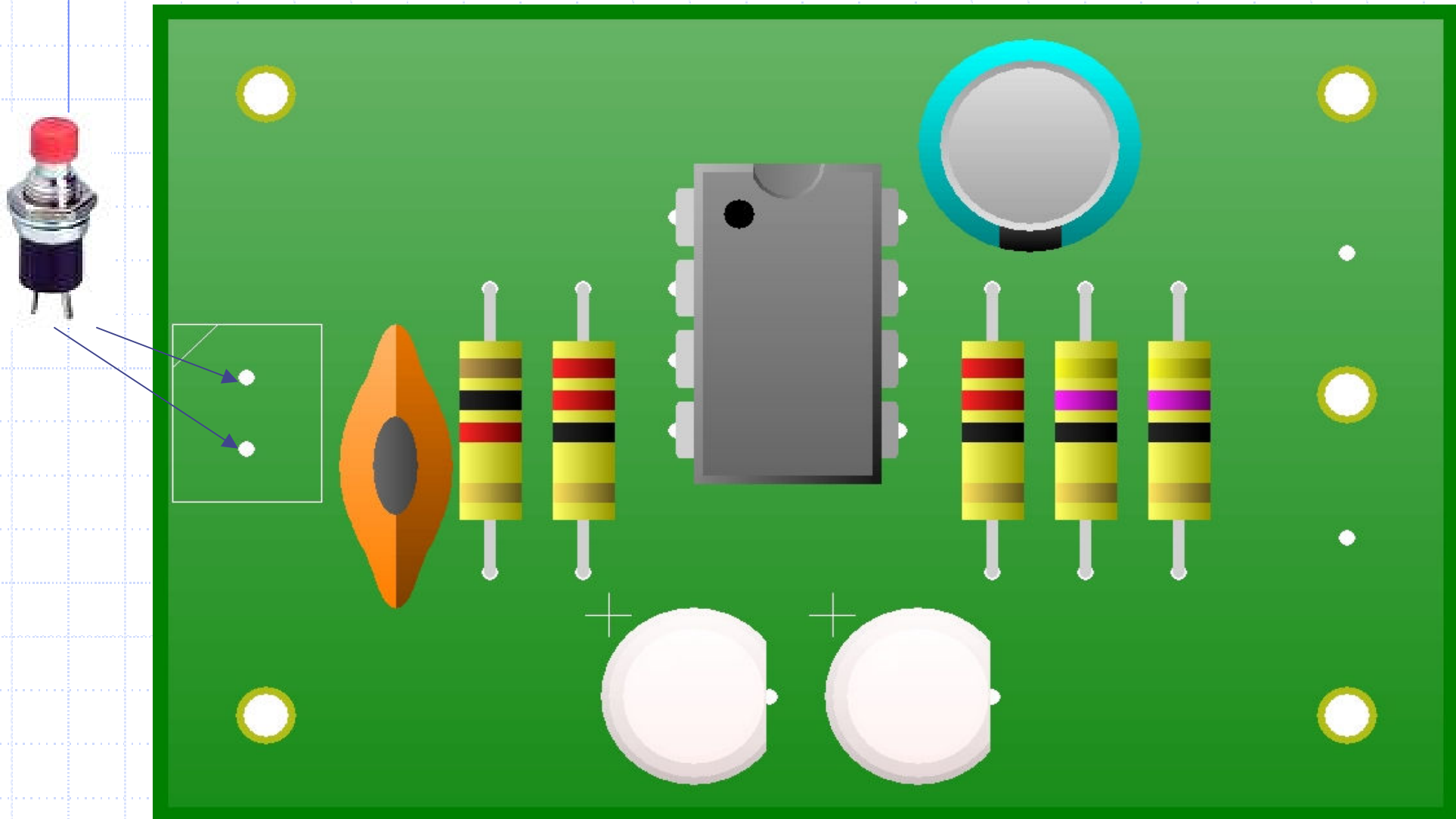


The two LEDs must be inserted with the flat section on the rim facing right as shown. In this case you can put either LED in either place, it just means the circuit will start up with a different colour.



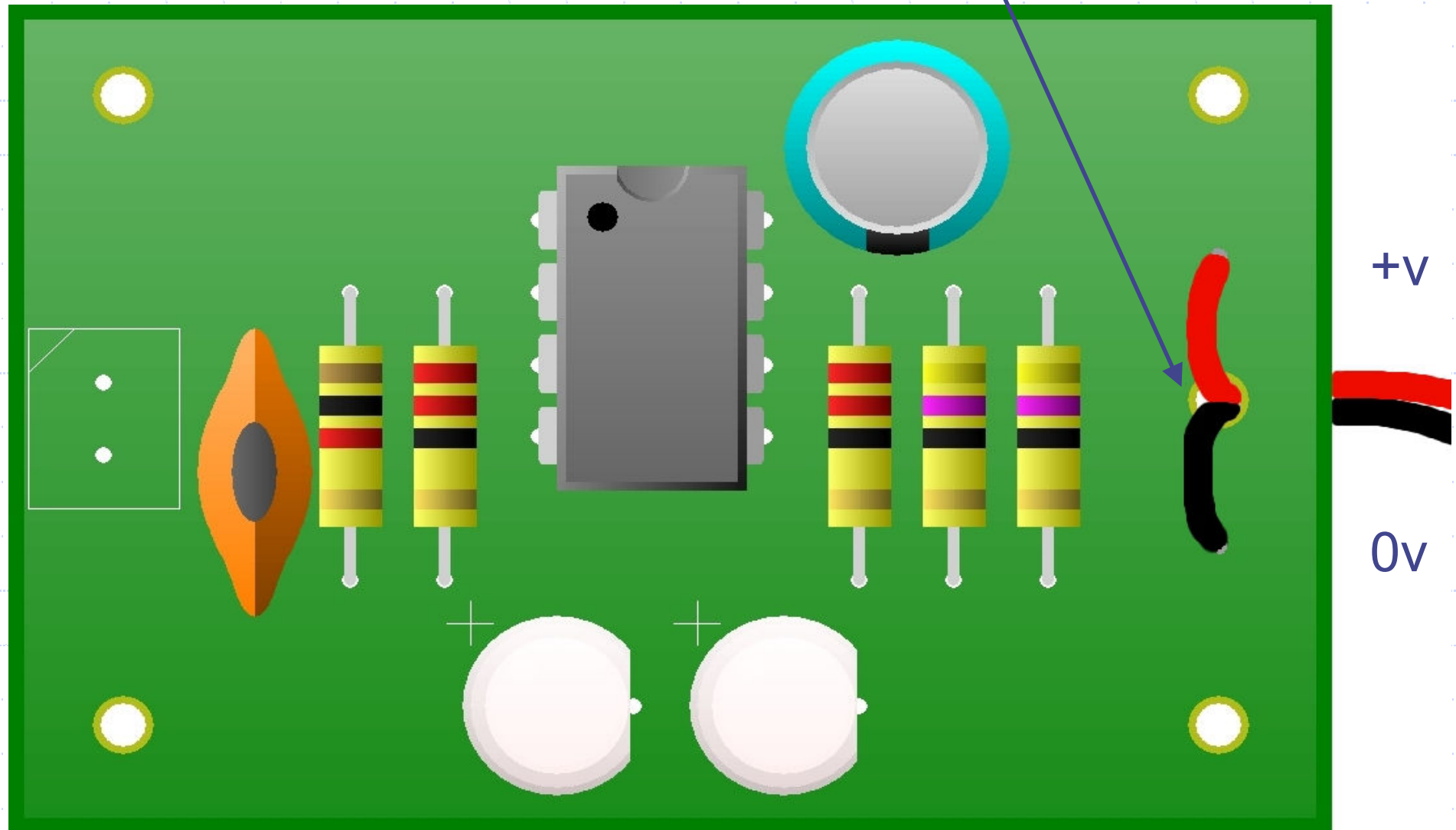
HOLD SWITCH OPTION

You also have the option to have a “hold” switch that will freeze at whatever colour it is at that moment, just press again to unfreeze. This needs to be a push-to-make switch and wired to the two holes on the left of the PCB.



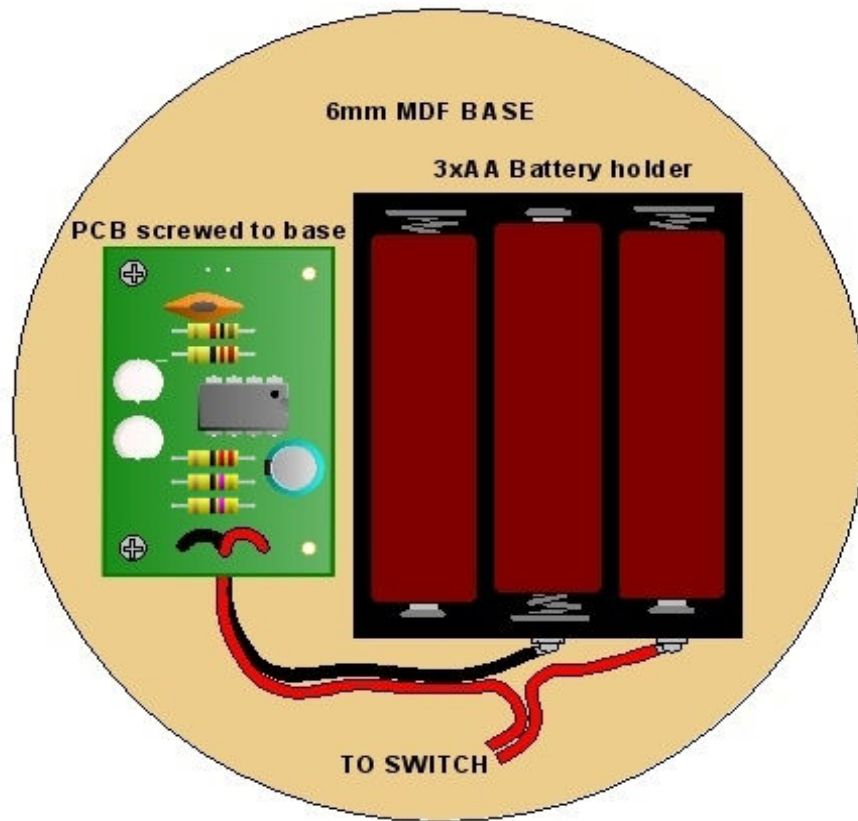
POWER LEADS

The top connection is the positive one and you should try to use red wire for this. The bottom one is the negative and usually black wire is used. After you have soldered them, feed them both back through the large hole in between them.



WIRING UP

Finally insert a programmed IC into the holder and connect to the battery holder via a switch to turn the power on and off.



It is important the PCB is placed accurately so the slot for the acrylic will line up correctly with the LEDs.

The PCB should be screwed to the MDF base loosely so that there is some adjustment when fitting the clear acrylic over the LEDs.



The battery holder is screwed to the base with countersunk screws

