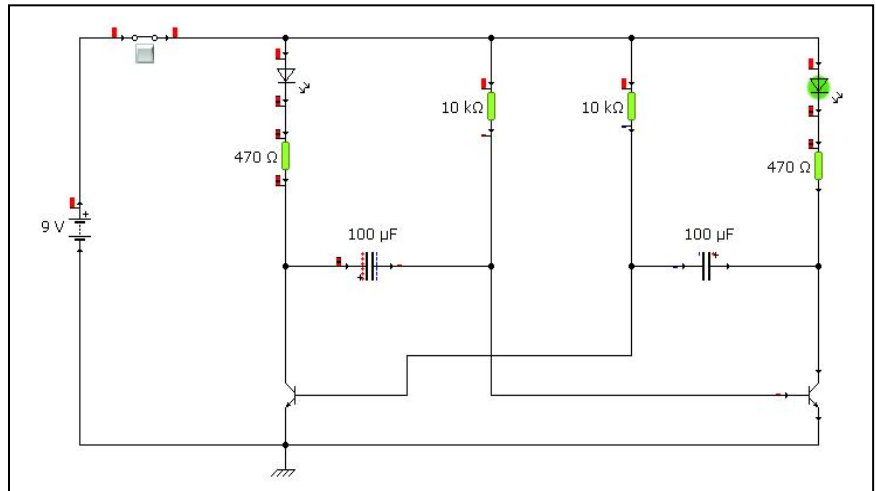


Circuit Construction – Transistor Astable

The circuit diagram on the right is the circuit for your project, it is called a transistor astable circuit, it is called astable as it does not have a stable state and constantly flashes or changes state, the transistors on either side switch on alternately and this switches the LEDs on and off.

The frequency of flashing can be varied by varying the timing components – the timing resistors and capacitors.

The PCB can accept upto 10 LEDs, 5 on each side.



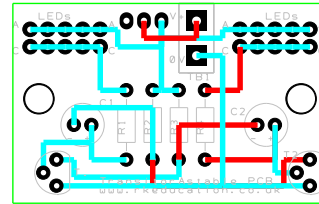
Circuit example, see below for a schematic

Construction of circuit

You will need to collect the following equipment before you start soldering your circuit:

- Soldering iron and stand
- Damp sponge
- Solder wire
- Side cutters
- Pliers
- Components:

T1, T2 – BC182L transistor
 R1, R4 – 470R resistor (yellow, violet, brown)
 R2, R3 – 10K resistor (brown, black, orange)*
 C1, C2 – 100uF capacitor*
 SW1 – Power switch
 Battery – Battery clip
 LEDs* – The LEDs used will depend on your project outcome



* Can be varied

Procedure for construction

1. Solder the resistors into your PCB, take care to insert the correct resistor into the correct place, if in doubt ask your teacher. When soldering be sure to heat the area sufficiently but not too much as it will damage the PCB.
2. Solder your power switch in place
3. Solder the transistors in place, be careful as the transistor legs are close together, be sure not to connect the legs together as this will stop the circuit working. When inserting it do not force it down too far.
4. Solder the capacitors in place, watch the long leg...
5. Solder your battery clip in place
6. Solder your LEDs into the PCB, if you have attached flying leads insert these, be sure to get the LED the correct way around, remember the long and short legs...

Test your circuit

Transistor Astable Project Schematic - www.rkeducation.co.uk

