FUTURE KIT

HIGH QUALITY ELECTRONIC KITS

LED FLASHER 2 COLOUR 2 DOT
CODE 135

LEVEL 1

This is a LED flasher 2 colour 2 dot circuit that used rectangular tri-colour LEDs type. This rectangular tri-colour LED can indicate 2 states (red on, green on). It needs to connect at each opposite side to make different type of flash light.

Technical specifications:

- power supply: 9-12VDC.
- consumption: 20-30mA max.
- PCB dimensions : 1.27 x 1.20 inch.

How to works:

TR1 and TR2 are connecting as multi-vibrator frequency generator. Each TRs will alternatively works the collector of both TRs connected R 680 ohms to ground. If LED is placed oppositely, both red and green LEDs will display when TR works, so that TR1 works, LED1 will display is red colour, LED2 will display is green colour. But TR2 works, LED1 will display is green colour, LED2 will display is red colour. For frequency of the circuit is depending on R3, R4, C1 and C2.
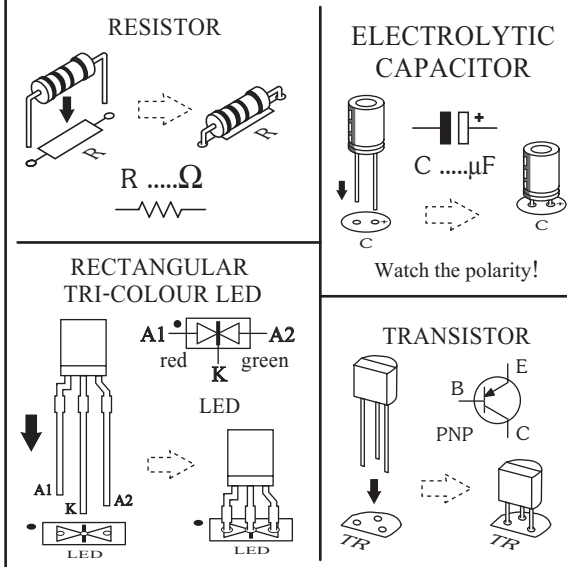
PCB assembly:

Shown in Figture 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. All components with axial leads should be carefully bent to fit the position on the PCB and then soldered into place. Make sure that the electrolytic capacitors are inserted the correct way around. The LED has a flat spot on the body which lines up with the line on the overlay. Now check that you really did mount them all the right way round!

Testing:

Connect 9-volt battery to circuit. With the positive pole is connected to "+" point and the negative pole is connected to "-" point. Both LEDs will alternately light on. If you want to increase or decrease of blinking LEDs can be adjusted by altering the values of capacitor C1 and C2. Increasing the capacitance will slow blinking. Decreasing the capacitance will quick blinking.

Figure 1. Installing the componants

RESISTOR

$R .....\Omega$

ELECTROLYTIC CAPACITOR

$C .....\mu F$

Watch the polarity!

RECTANGULAR TRI-COLOUR LED

A1 — red — A2 — green — K

LED

A1 K A2

TRANSISTOR

B, E, PNP, C

Troubleshooting:

The most problem like the fault soldering. Check all the soldering joint suspicious. If you discover the short track or the short soldering joint, re-solder at that point and check other the soldering joint. Check the position of all component on the PCB. See that there are no components missing or inserted in the wrong places. Make sure that all the polarised components have been soldered the right way round.
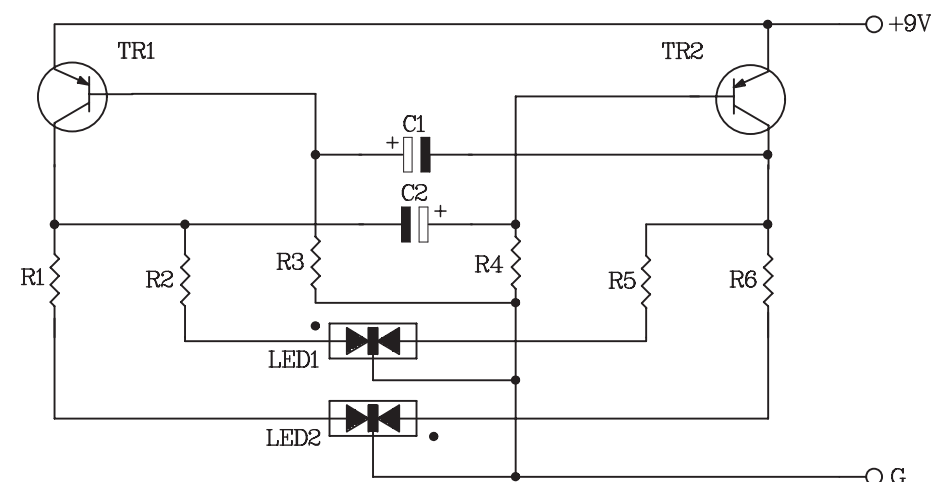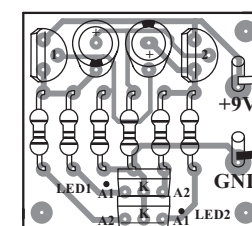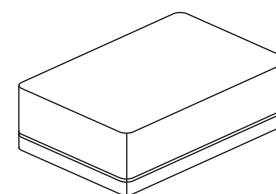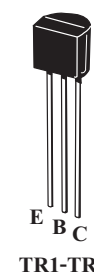

Figture 2. LED flasher 2 colour 2 dot circuit

Figture 3. Connections

FK135-1

RED +

BLACK -

+9V

GND

POWER SOURCE 9V

9V

E B C

TR1-TR2

NOTE:

FUTURE BOX FB03 is suitable for this kit.