



SOLAR FLASHER 2 LED
CODE 1005

LEVEL 1

A basic solar blinking light circuit that suits those who are interested in electronics. Easy to assemble and to understand with few components and low cost. Two LEDs of the circuit will alternatively blink and the blinking speed is adjustable.

Technical specifications:

- Power supply from solar panel.
- Power of solar panel : 4VDC. 60mA.
- Solar panel dimensions : 6 x 6 cm.
- Adjust flashing speed with trimmer potentiometer.
- PCB dimensions : 1.39 x 1.27 in.

How to work:

When solar panel facing sunlight, it will convert sunlight energy to DC voltage for feeding the circuit. The circuit starts working when getting enough voltage.

The circuit will start working from TR1 and TR2 are being assembled in the form of multivibrator frequency circuit. TR1 and TR2 will alternatively work. When TR1 works, LED1 will be lit up and LED2 is off. And when TR2 works, LED2 will be lit up and LED1 is off. The LED blinking speed depends upon VR, R2, R3, C1 and C2. R1 and R4 will act as a voltage reducer for LED.

Circuit connecting:

External connecting and fitting of components are shown in figure 3. It is recommended to assemble the circuit starting with a less height component i.e. diodes, resistor, electrolyte capacitors and transistors etc. Be careful while assembling and check for the matching of PCB poles and components before soldering as shown in Figure 1. Use a max. 40W. solder and soldering lead with a tin and lead ratio of 60/40 together with a joint solution inside. Recheck the assembled circuit for your own confidence. Better using a lead sucker or a lead wire absorber in case of misplacing component to protect PCB damage.

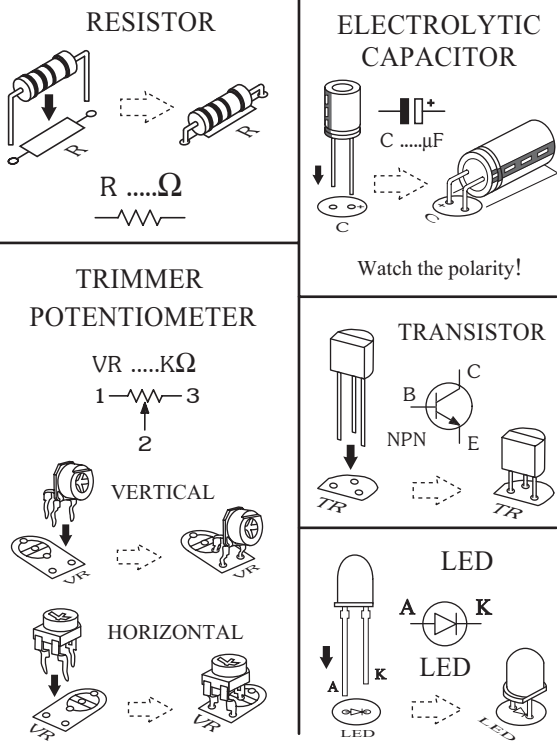
Testing:

Turn solar panel facing sunlight. LED1 and LED2 will work alternatively when getting enough sunlight energy. Try to adjust the trimmer potentiometer VR1 10K, blinking speed will be varied according to the adjustment. Those above two results will show that the circuit is workable.

NOTE: The solar panel can not convert fluorescent light to DC voltage.

CAUTION: Whenever using solar panel, be careful not to short circuit the positive and negative poles. The short circuit will damage the solar panel.

Figure 1. Components installation



Troubleshooting:

As the circuit has only a few components, the main cause of troubles will come from misplacing component and defaulted soldering. When found out that the circuit does not work, check the placing component and various soldering points.

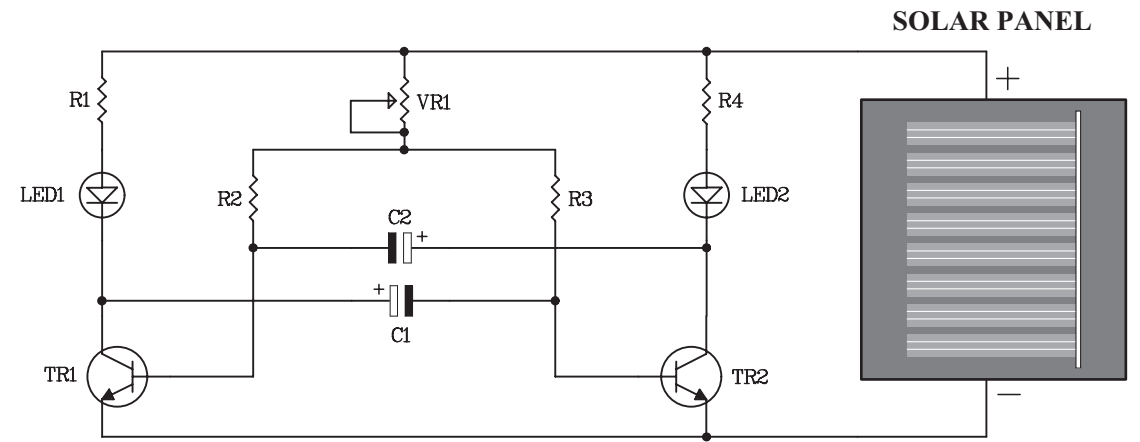
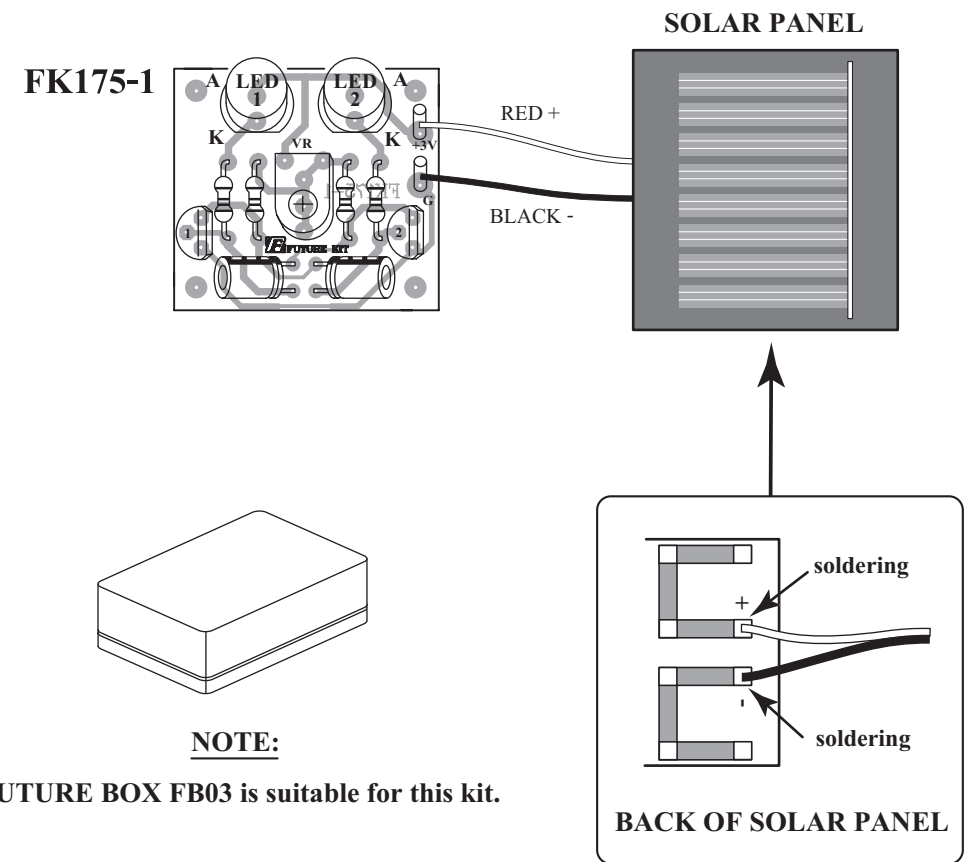


Figure 2. SOLAR FLASHER 2 LED circuit

Figure 3. Circuit connecting



NOTE:

FUTURE BOX FB03 is suitable for this kit.