

Solar Flasher Model GSK-1005

This is a blinking light circuit powered by the energy of the sun. Utilizing a solar panel to convert the sun's energy, two LEDs will alternatively blink and the blinking speed may be adjusted.

Technical Specifications

- Power Source: Solar panel
- Solar panel: 4 VDC, 60 mA
- Adjust flashing speed with potentiometer
- PCB dimensions: 1.39 x 1.27 inches

Operating Principles

TR1 and TR2 form a multi-vibration frequency circuit when assembled and work in conjunction with LED1 and LED2 to alternatively turn the LEDs on and off. When TR1 is powered, LED1 will light and LED2 is off. When TR2 is powered, LED2 will light and LED1 is off. The blinking speed is controlled through VR10K, R2, R3, C1 and C2. R1 and R4 act to reduce voltage to the LED.

Circuit Assembly

Please refer to Figures 1, 2, and 3 for aid in component placement. It is recommended to start with lower components i.e. diodes, resistors, electrolyte capacitors, and transistors. Be careful to check polarity with Figure 3 before soldering. If a problem is detected it is best to use a desoldering pump or desoldering braids to remove component. This will minimize potential damage to the printed circuit board.

Note

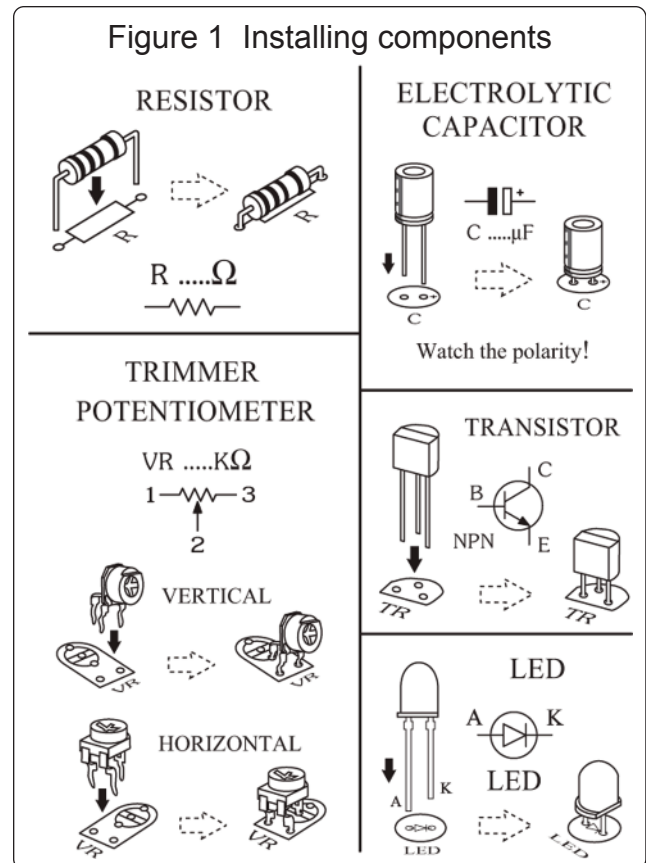
This solar panel will not convert fluorescent light to DC voltage.

Special handling instruction

Extra care must be taken to ensure proper installation of solar panel to PCB. Severe damage may occur to the solar panel if the positive and negative poles are short-circuited when soldering.

Testing

Turn the solar panel to receive the maximum sunlight. The LED1 and LED2 will work alternatively providing the solar panel is receiving sufficient sunlight. Adjust the trimmer potentiometer VR10K; blinking speed should vary according to adjustment.



Troubleshooting

This circuit has only a few components. The main cause of problems comes from misplaced components or faulty soldering. Utilize Figure 3 to ensure proper placement/polarity and then check solder points for connectivity.

Figure 2 LED flasher 2 dot circuit

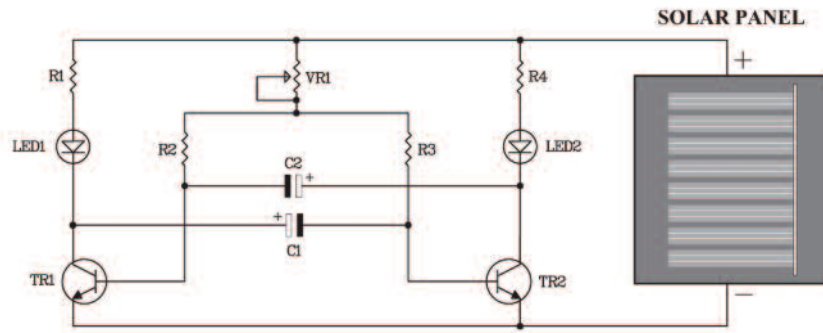


Figure 3 Connecting circuits

