

FEELING FLASHER 14 LED
CODE 161 **LEVEL 1**

This is a feeling LED flasher which is a small side. The shape of this circuit is the same smile and sad of face. Idel for decorations in party or room etc.

Technical specifications:

- power supply : 9-12VDC.
- consumption : 30mA max.@ 9VDC.
- display : 14 LED's (12LED's@ 3 mm., 2 tri-color LED's@ 5 mm.)
- PCB dimensions : 1.88 x 2.66 inches.

How to works:

Multi-vibrator (TR1 and TR2) is configured as frequency generator. TR1 and TR2 will alternately one by one. When TR1 works, LED6 to LED12 will be light on and LED1 to LED7 will be light off. But if TR2 works, LED6 to LED12 will be light off and LED1 to LED7 will be light on. Speed of LED blinking is depending on R4, R7, C1, C2. For LED13 and LED14 is light on continuously.

PCB assembly:

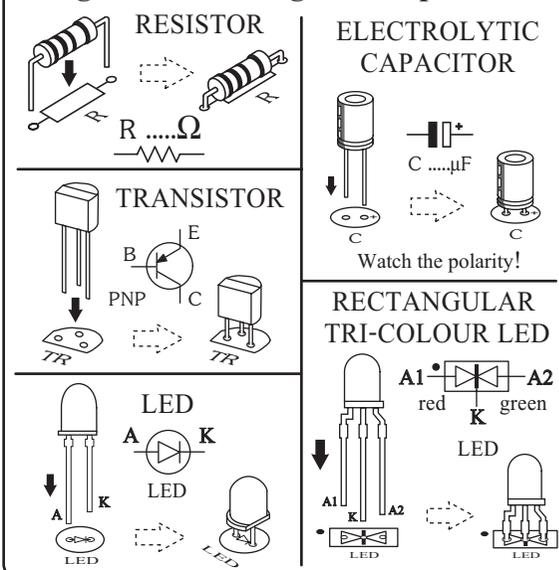
Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. If the pins will not enter the holes with ease, use a small drill to slightly enlarge the opening. 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. Some components are particularly sensitive to heat (ie: Transistors, IC's, diodes etc.) extra care must be taken to only apply the iron for as little time as possible, using a pair of pliers to grip the leads will help conduct heat away. Trim components leads with wire

cutters to prevent excess lengths causing a short circuit. Now check that you really did mount them all the right way round!

Testing:

Apply 9-volt battery to circuit. With the positive pole is connected to "+" point and the negative pole is connected to "-" point. All 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



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.

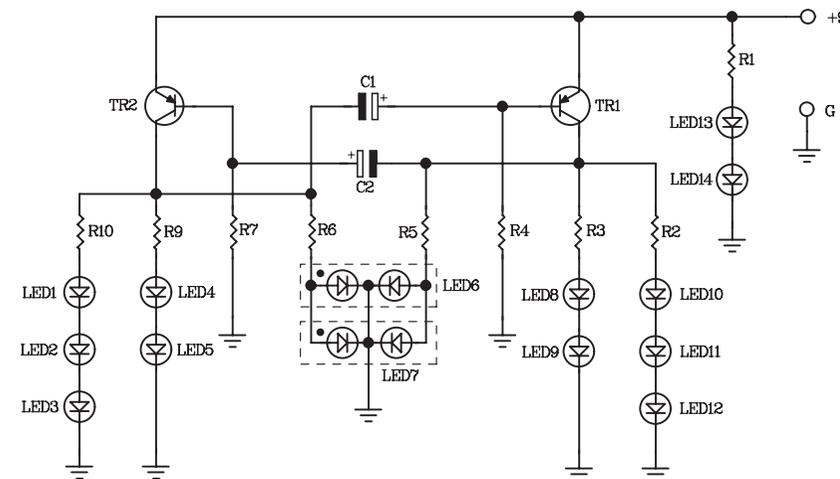


Figure 2. The feeling flasher 14 LED circuit

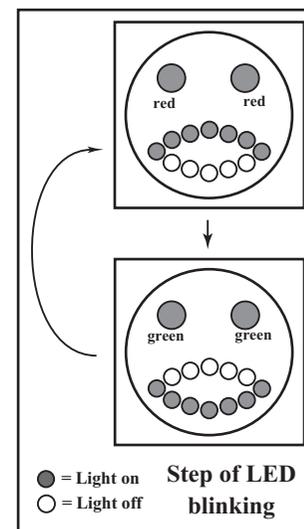
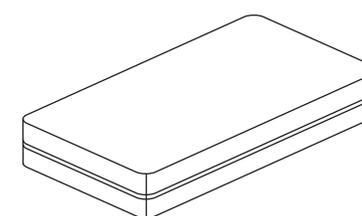
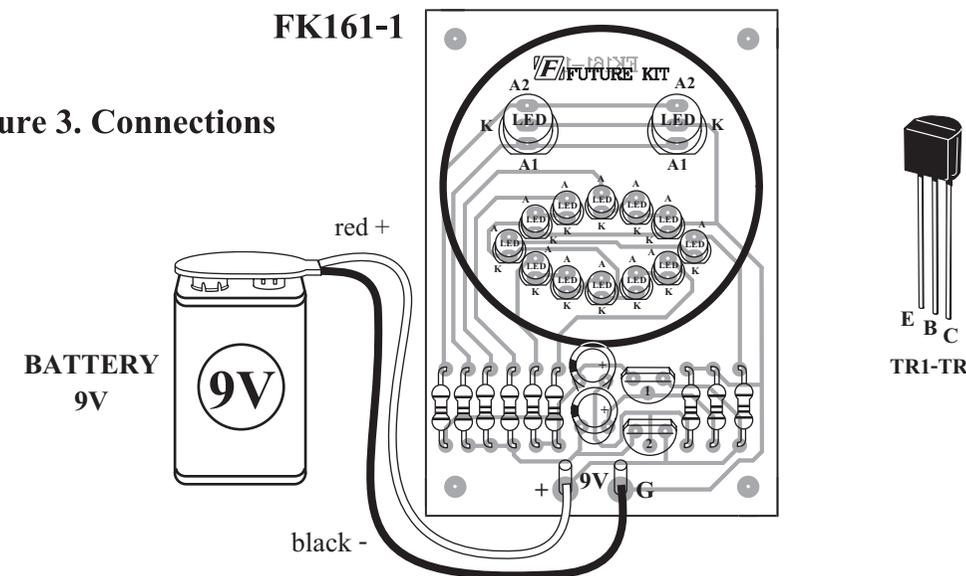


Figure 3. Connections



NOTE:

FUTURE BOX FB17 is suitable for this kit.

NEW KIT SET

CODE FK	DESCRIPTION	POWER
161	FEELING FLASHER 14 LED	9-12VDC
162	SATURN'S RING FLASHER 31 LED	9-12VDC
163	UNIVERSAL FLASHER 10 LED	9VDC
164	XENON TUBE FLASHER (STRAIGHT TYPE)	220VAC
165	SOUND ACTIVATED XENON FLASHER (STRAIGHT TYPE)	220VAC
166	LIGHT ACTIVATED XENON FLASHER (STRAIGHT TYPE)	220VAC