

IN CIRCUIT T.R. CHECKER
CODE 907

LEVEL 1

The in circuit TR checker device can examine both NPN and PNP TR to check that whether it is practical or not.

Technical specifications:

- power supply : 9VDC.
- consumption : 85mA max.
- PCB dimensions : 2.57 x 1.21 inches.

How to works:

TR1 and TR2 are connected to generate a low square frequency. The frequency is transmitted to TR3 to be amplified. Supposing TR3 function, TR4 will work and LED1 will light but LED2 will be unlighted. At the second step, TR3 stop distribution resulting TR5 to work and LED2 to light but LED1 be unlighted. Finally, TR3 returns to function. Therefore LED1 and LED2 blink, be lighted and unlighted alternatively. LED1 is PNP LED and LED2 is NPN LED.

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:

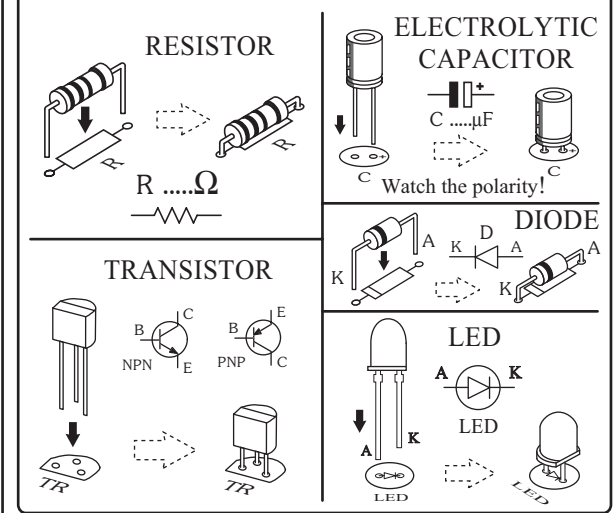
Connecting the power supply 9 volts into the circuit. LED1 and LED2 blink, be lighted and unlight alternatively. Connect the transistor to the "B, C, E" points accurately.

*** NPN LED blinks and PNP LED is unlighted, this indicates that TR is NPN and practical.

*** PNP LED blinks and NPN is unlighted, this proves that TR is PNP and practical.

*** Both PNP and NPN LED blink, be unlighted or light, this indicates that TR is unpractical.

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.

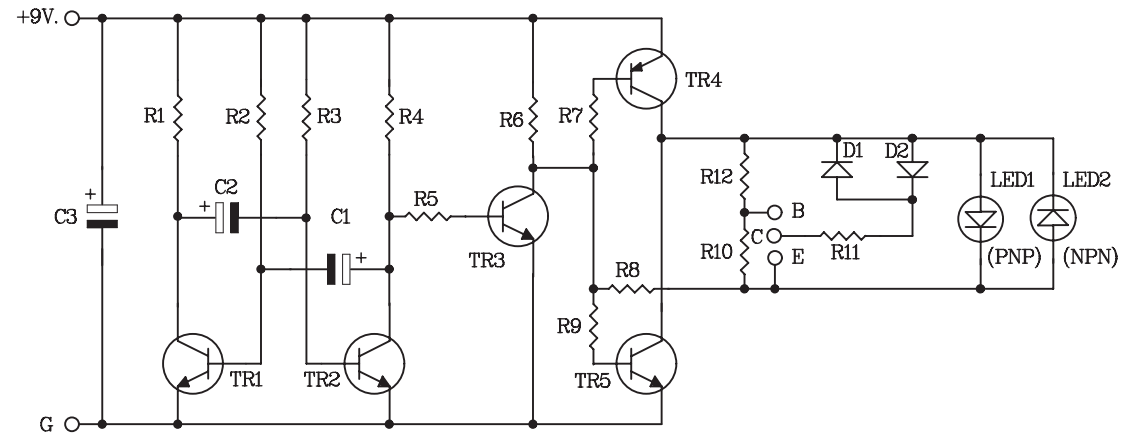
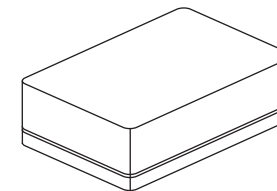
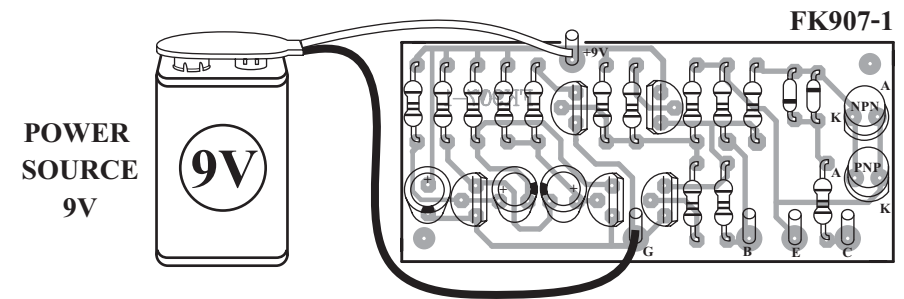


Figure 2. The in circuit TR checker circuit

Figure 3. Connections



NOTE:

FUTURE BOX FB03 is suitable for this kit.

NEW KIT SET

CODE FK	DESCRIPTION	POWER
168	NO SMOKING FLASHER 46 LED	9-12VDC.
169	DANCING ROBOT FLASHER 33 LED	9-12VDC.
170	DANGER FLASHER 42 LED	9-12VDC.
171	TWO LAMP FLASHER	3VDC.
172	THREE STEP FLASHER 19 LED	9-12VDC.
173	HALLOWEEN PUMPKIN FLASHER 23 LED	9-12VDC.
174	5x7 ANIMATED LED SIGNBOARD	3-5VDC.
816	VARIABLE REGULATOR 0-50V. 3A.	50VDC.
817	TRANSFORMERLESS POWER SUPPLY 6-9-12V 50mA	220-240VAC.