

ZENON TUBE FLASHER (FOR CAR)
CODE 124 **LEVEL 2**

This circuit requires direct voltage (DC) instead of alternating voltage (AC). The advantage of DC over AC is more safety and application to automobile battery. Its disadvantage is higher investment required for adaptor. If the cost is not concerned, it is suggested to use 12 volts flasher.

Technical specifications:

- power supply: 9-12VDC.
- consumption: 150mA max.
- dimensions of PCB : 2.22 x 1.68 inch.

How to works:

TR1, R1, R2, R3, D1 and output oscillate high frequency to adapt 12VDC to AC and adapt 12VAC for higher voltage by using diode D2 to charge AC to DC again. C1 is filter and R4 charges voltage to C2. When C2 is charged about 80 volts, at the cathode of zener diode (D3) will have over 12 volts. Zener diode D3 has current to trick the gate of SCR to short charged voltage to ground. Coil will have pulse for a while the high voltage at "H" point will trick the flash bulb and makes inside gas dispersed and transferred the current further. Accumulated current in C1 will be totally transferred to the flash bulb and makes it start lighting 1 time then stop. Afterward C1 and C2 recharges till C2 has high voltage then D3 and SCR will transfer voltage to the flash bulb again.

PCB assembly:

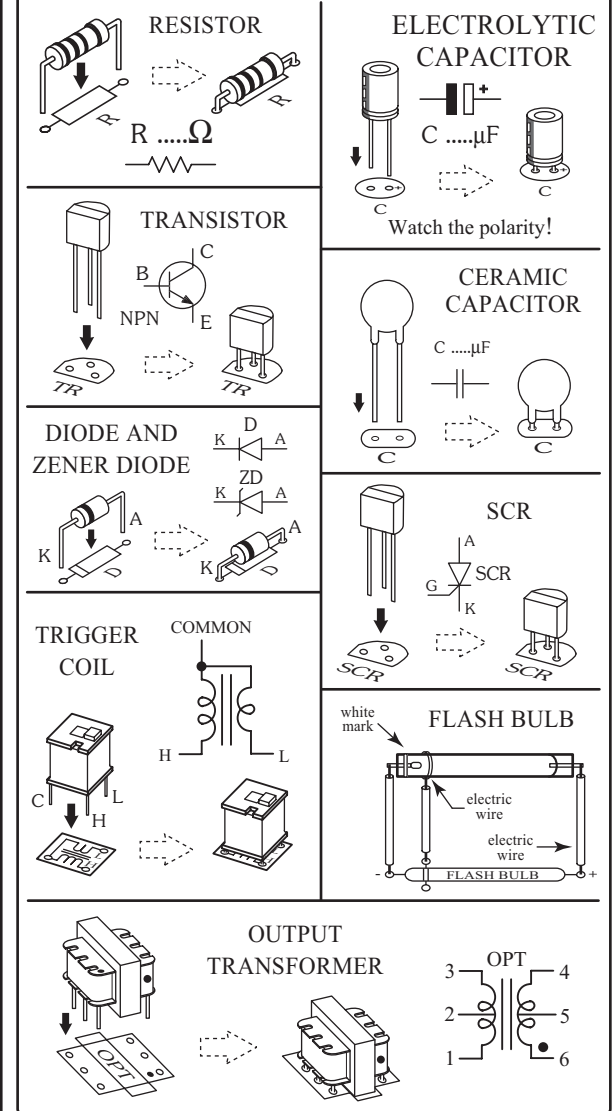
Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. All components with axial leads should be carefully 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:

This kit has an operating voltage range of 9-12 VDC. Connect the power supply to the circuit. With the positive

pole is connected to "+" point and the negative pole is connected to "-" point. Flash bulb will be flashing but you use the power supply 9VDC, the flash bulb will be flashing slower result and you use the power supply 12VDC, flasher bulb will be flashing faster result. This circuit can be used our kit FK801 power supply 6-9-12V. 300mA.

Figure 1. Installing the components



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.

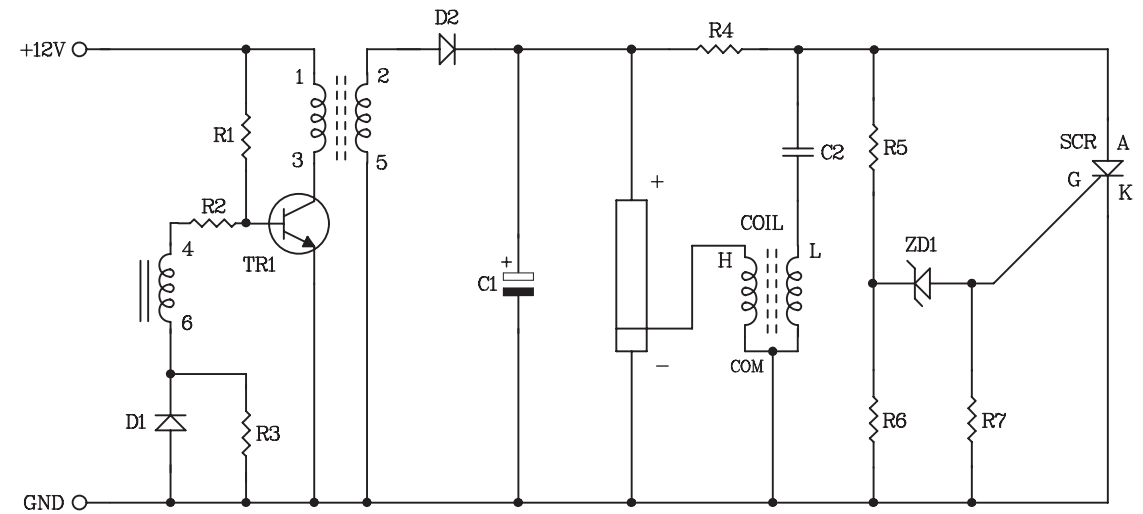


Figure 2. The zenon tube flasher circuit

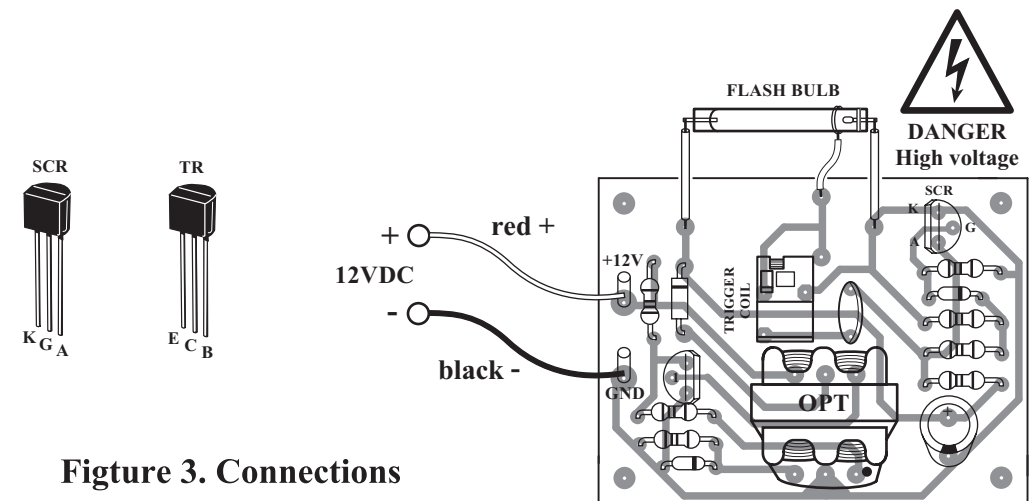
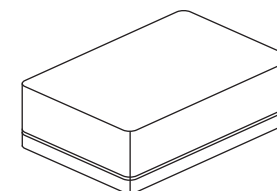


Figure 3. Connections



NOTE:

FUTURE BOX FB03 is suitable for this kit.

NEW KIT SET

CODE FK	DESCRIPTION	POWER
271	LIGHT ACTIVATE ALARM (COCK VOICE) WITH SPEAKER	3VDC
272	SPACE GUN 3 TONE WITH SPEAKER	9VDC