FUTURE KIT

HIGH QUALITY ELECTRONIC KITS

FUTURE KIT

MINI EMERGENCY LIGHT
CODE 802

LEVEL 1

This emergency light circuit is very useful when AC failure to prevent accident or damage from walking in the darkness. When AC failure, emergency light will open automatically. This circuit can be installed for many points and mostly not consume current.

Technical specifications:

- power supply : 220-240VAC.
- PCB dimensions : 1.60x1.19 inches.

How to works:

Connecting IN with 220VAC. Under normal condition, current transfers through D1 will convert AC to DC through R1, R2 to complete the circuit at opposite pole. C1 acts as filter. Voltage acrosses R2 about 7 volts. This circuit needs 6VDC. At the emitter of TR1 will be lesser than acrossed voltage at R2, so than TR1 does not work, the collector of TR1 has no voltage as the base causes TR2 does not work too and LAMP does not display. If AC failure, R2 does not have acrossed voltage, current will transfer from 6 volts supply to the base of TR1 to D2, R2 to ground. So there is current at the collector and LED will then display and TR2 conducts current from the collector to ground. Lamp at LOAD will display. This circuit needs UM1 battery.

PCB assembly:

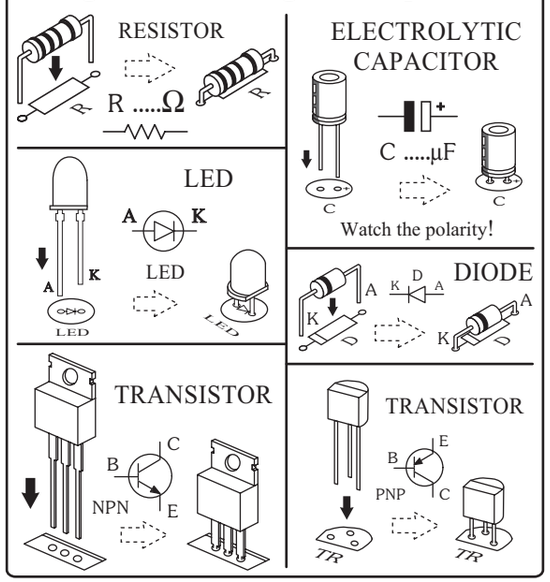
Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. All components with axial leads should be carefully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

CAUTION: Carefully putting D1 diode at the right pole, if not C1 may explode.

Testing:

Connecting the battery 6 volts at "6V" point. Lamp will be lighted on. Connect the 220VAC voltage to "AC 220V" point and then the lamp is light off. If disconnect 220VAC or AC failure, the lamp is light on again.

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.

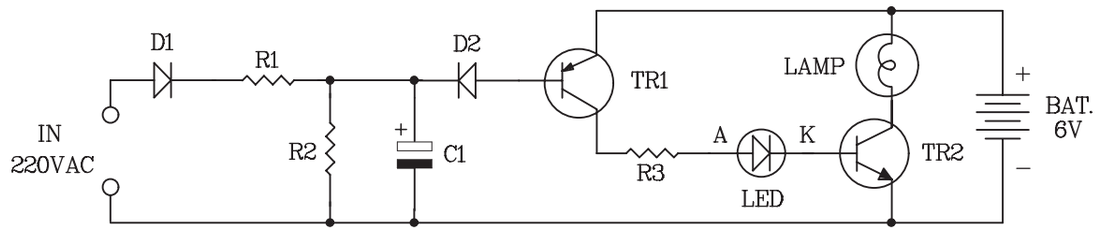


Figure 2. The mini emergency light circuit

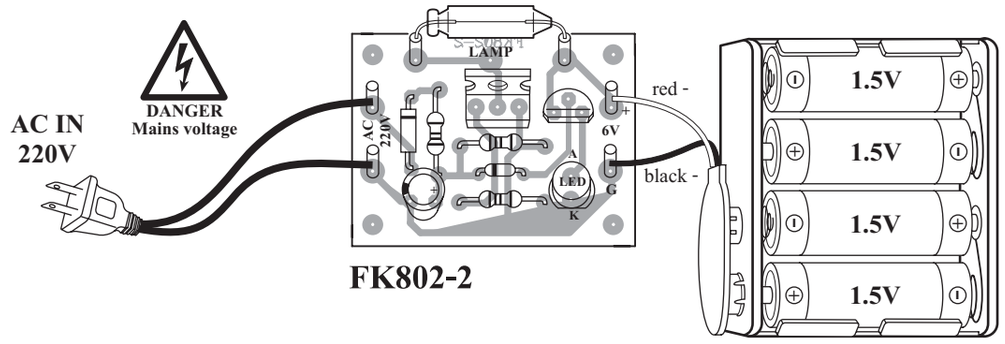
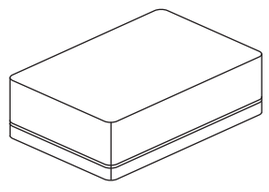


Figure 3. Connections



NOTE:

FUTURE BOX FB03 is suitable for this kit.

NEW KIT SET NEW

CODE FK	DESCRIPTION	POWER
168	NO SMOKING FLASHER 46 LED	9-12VDC
170	DANGER FLASHER 42 LED	9-12VDC
172	THREE STEP FLASHER 19 LED	9-12VDC