FUTURE KIT

HIGH QUALITY ELECTRONIC KITS

FUTURE KIT

DC REGULATOR 0-12V
CODE 807

LEVEL 1

This DC regulator 0-12V circuit is a regulated circuit that is easy for using and save cost. It can be connected to power supply e.g. battery or transformer in order to adjust input voltage. If giving current at rectifier from 12VAC, output can be adjusted between 0-12 volts. This circuit can use either variable resistance or volume spindle.

Technical specifications:

- power supply : 12-15VDC.
- voltage output : 0-12VDC (adjustable)
- power maximum : 1A. (input 1.5A.)
- PCB dimensions : 1.28x1.22 inches.

How to works:

Giving supply over 12 volts to "IN12V" point to the collector of TR1. R1 and VR1 are connecting as voltage divider and C1 is a filter. VR1 can change from 0-10 volts according to are adjustment. Connecting this current with TR2 and TR1 to increase current to 1A. TR1 should be attached heatsink. The increased voltage will be transferred to the collector of TR1 which will get 0-12 volts adjusted voltage by having C2 as a filter.

PCB assembly:

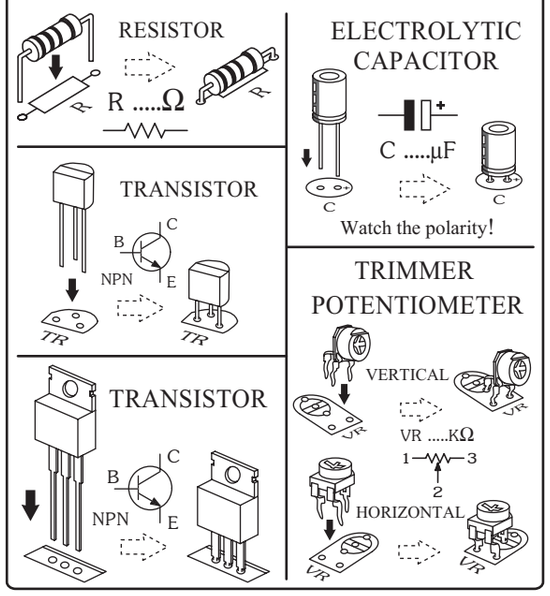
Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. All components with axial leads should be carefully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

Giving power supply to 12-16 volts at "IN12V" point and adjusting VR1 by using voltmeter measure the voltage at "OUT" point should have 0 volt to actual given value.

NOTE: If you want to use the current over 500mA, you have to put the heatsink with TR1.

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.

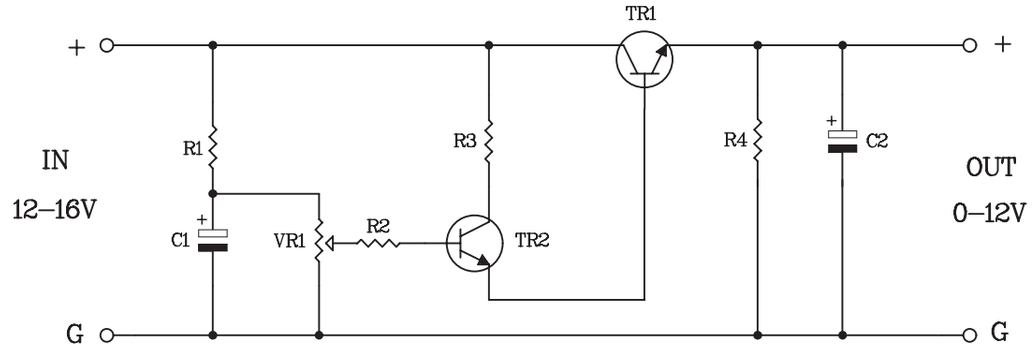
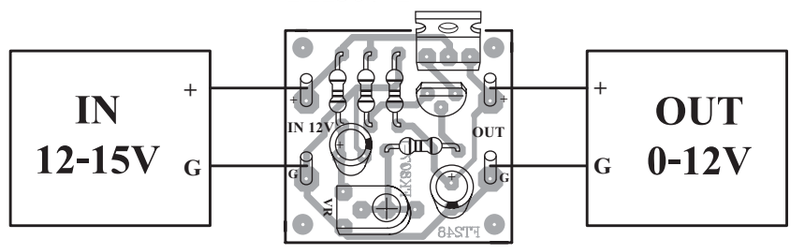
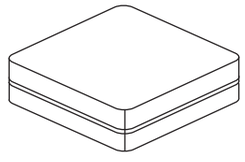


Figure 2. The DC regulator 0-12V circuit

Figure 3. Connections





NOTE:

FUTURE BOX FB01 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