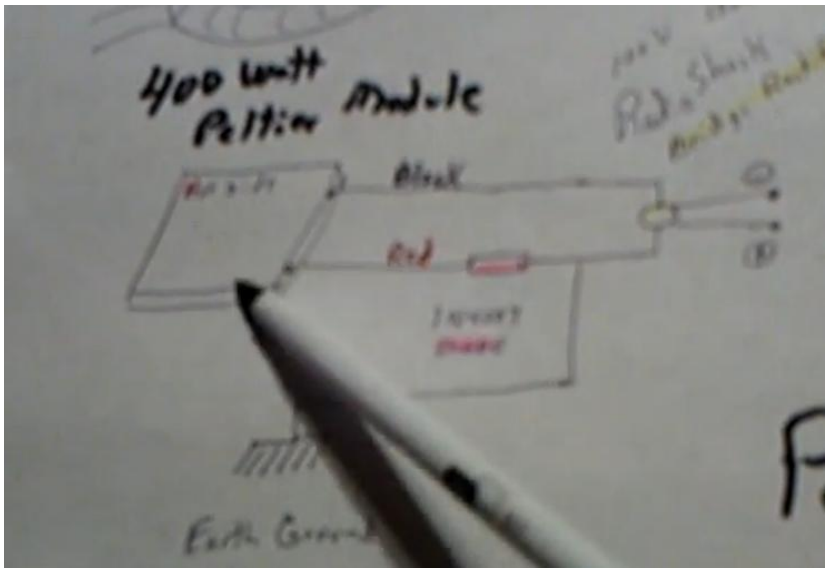
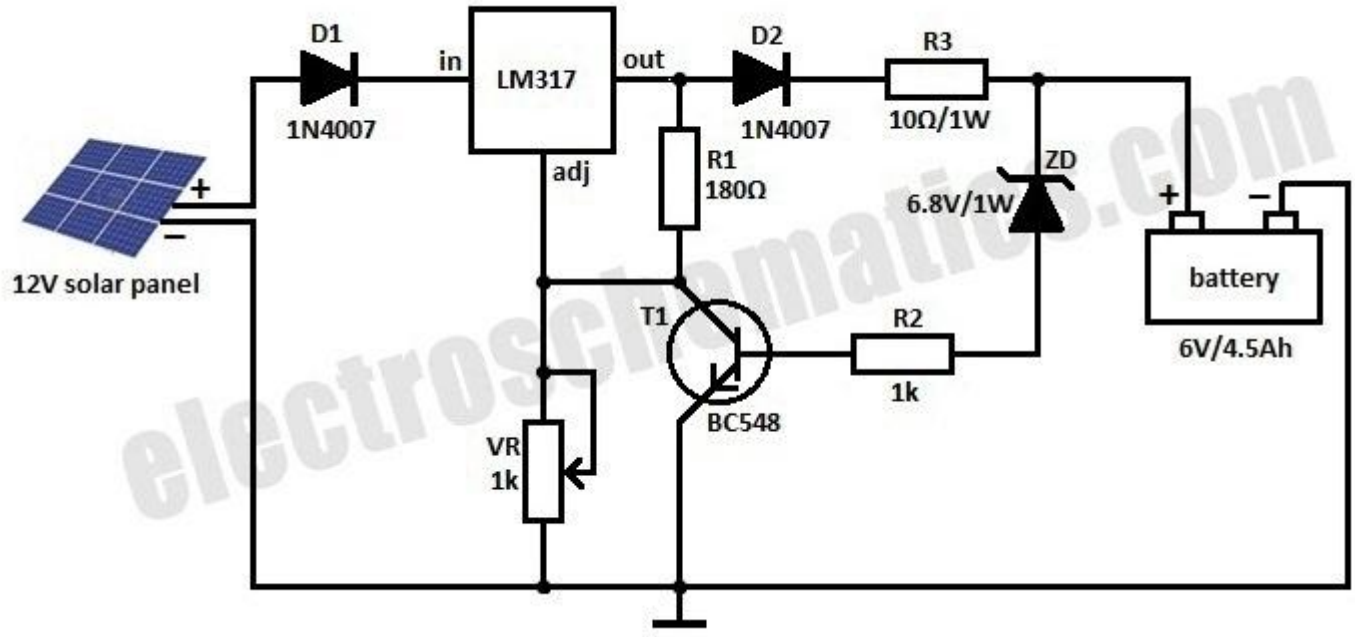
Diode:

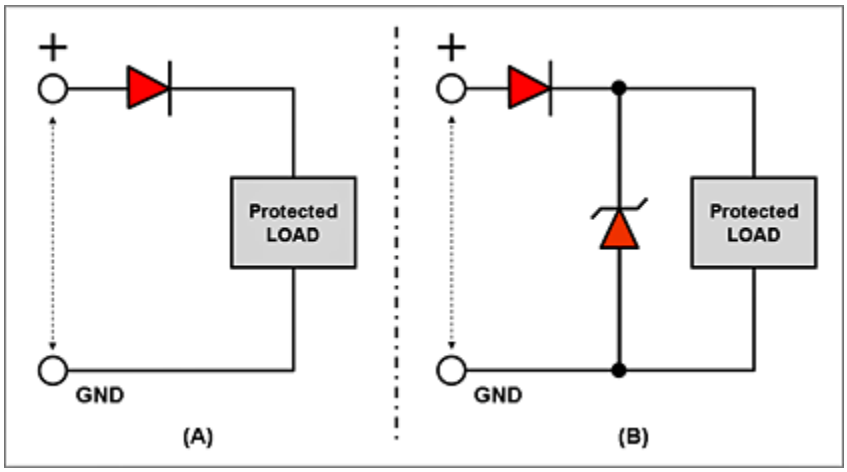
A diode is a two-terminal device, having two active electrodes, between which it allows the transfer of current in one direction only. Diodes are known for their unidirectional current property, wherein, the electric current is allowed to flow in one direction. Basically, diodes are used for the purpose of rectifying waveforms, and can be used within power supplies or within radio detectors. They can also be used in circuits where 'one way' effect of diode is required. Most diodes are made from semiconductors such as silicon, however, germanium is also used sometimes. Diodes transmit electric currents in one direction, however, the manner in which they do so can vary. Several types of diodes are available for use in electronics design.

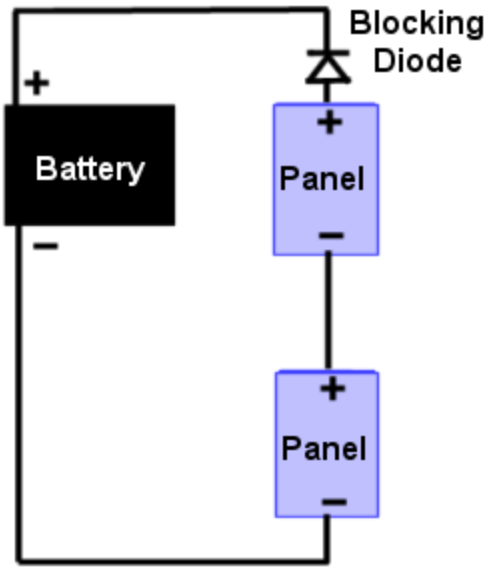
The reason we need diodes is fairly simple: The AC output from our transformer is constantly changing directions, which means there is no positive (+) or negative (-) wires. Each wire switches back and fourth between positive and negative up to 50 or 60 time each second! Obviously, devices like peltiers and DC fans need a + and a – wire to work correctly. The diode bridge controls where the electricity can flow, and only allows the electricity to flow one way, hence making a DC output.

1n4007 DIODE IS USED BY LIDMOTOR

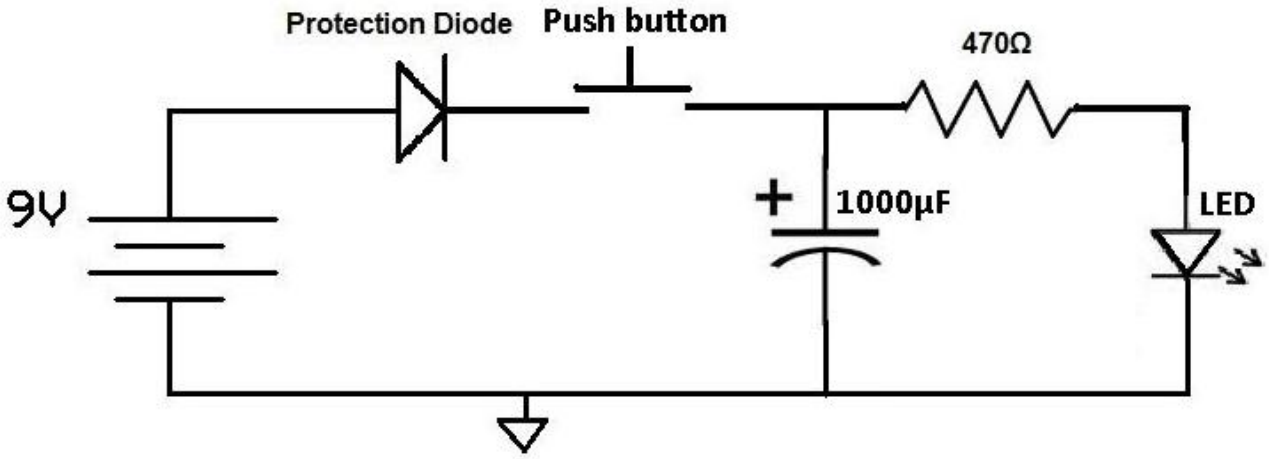


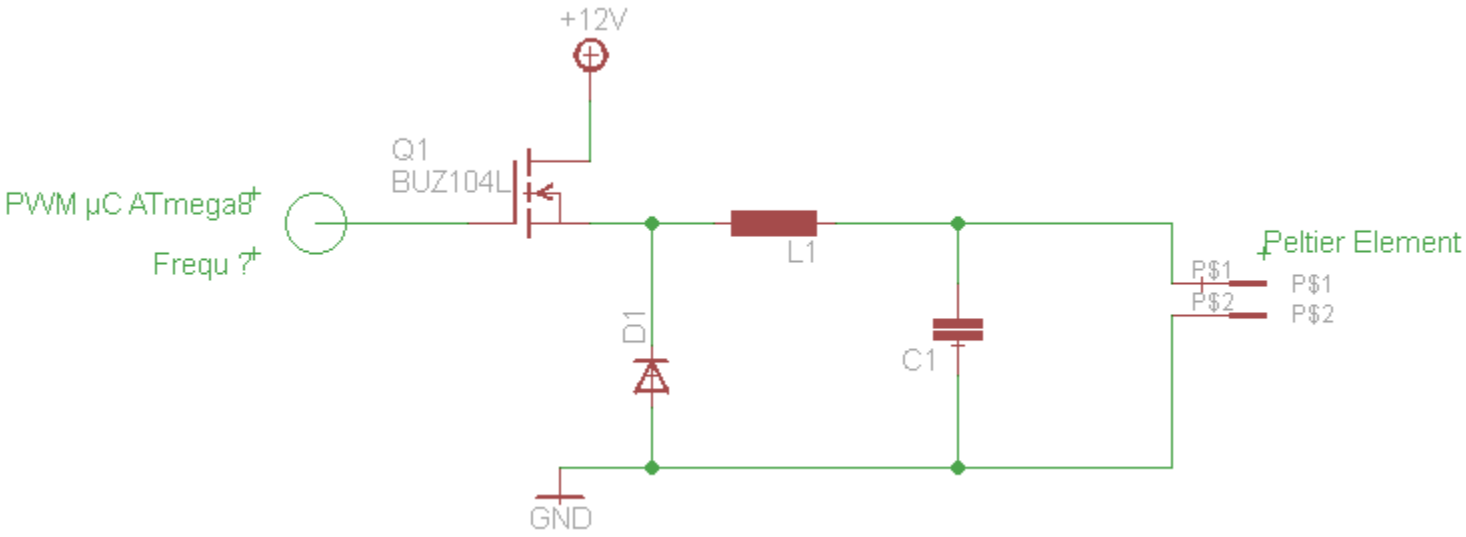


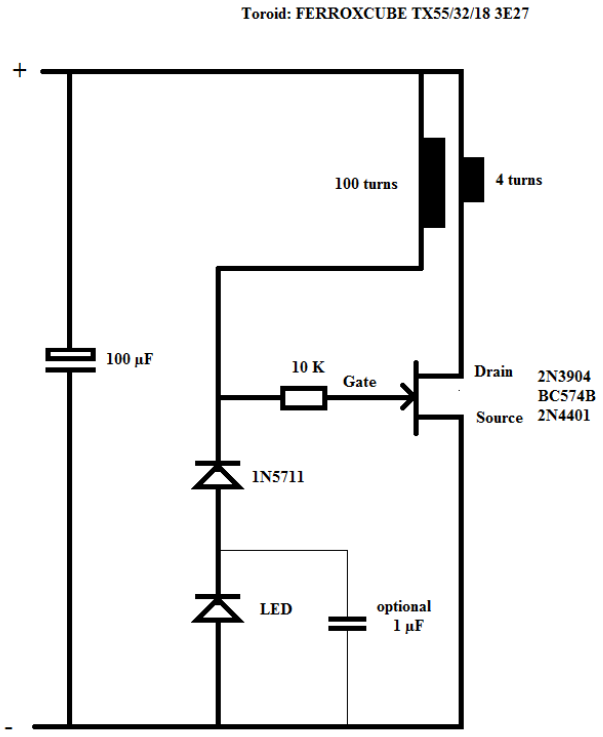




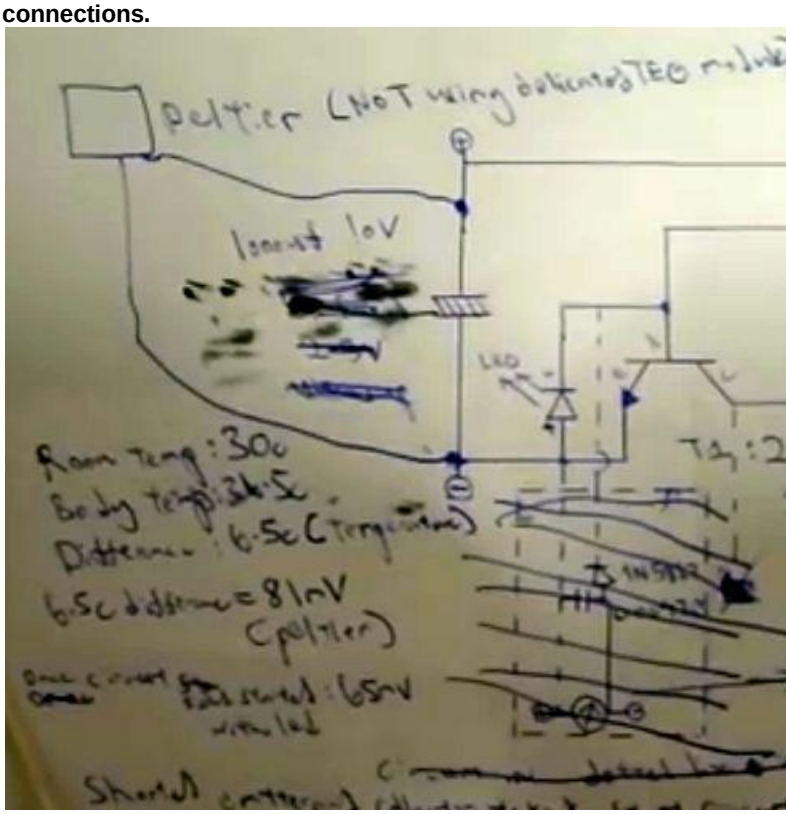
Below are Diode Positions in Peltizer Circuits.

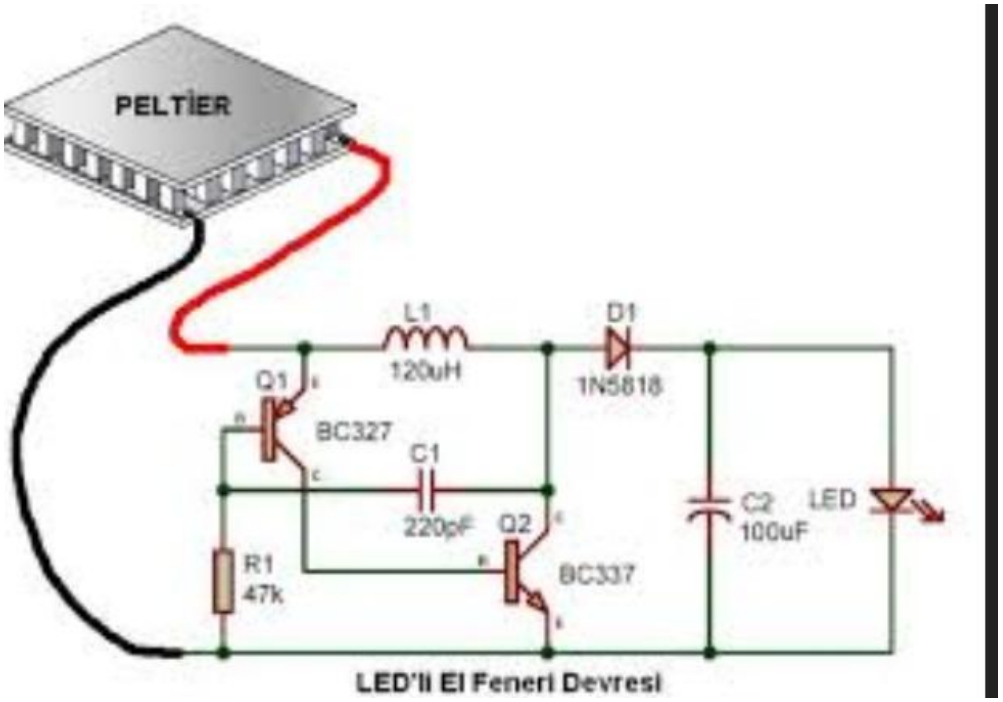






With this one the peltier may be the positive and negative connections.





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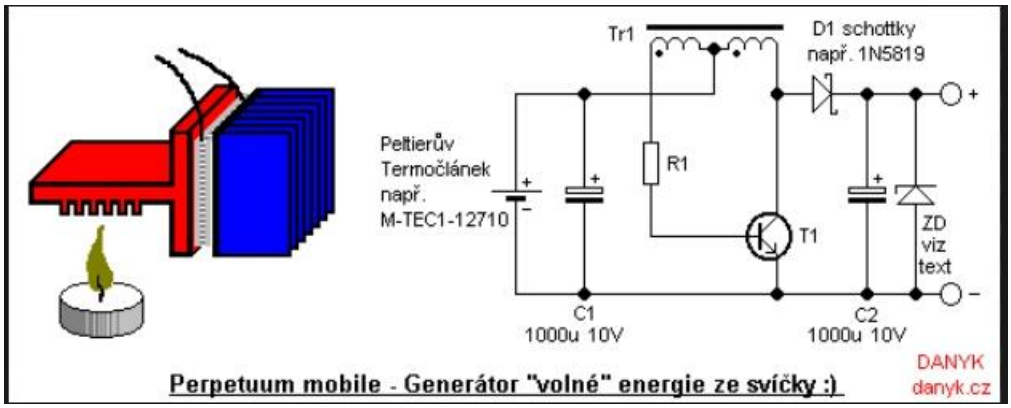


Perpetuum mobile - Generátor "volné" energie ze svíčky :)

Push Buttons can be substituted for a 12v power source:

Eliminating the Need for a circuit that kicks in at 12volt, instead use a water pump that activates at a 9 volts

4 Maxwell Supercaps = 10.8 volts. Set the motor so that it turns on at 9 volts. As soon as this occurs, the water will extinguish the flame and the "residual" charge effect can remain up to 1.8 volts more. Test this to see that it works first - HOW LONG THE RESIDUAL CHARGE EFFECT GOES FOR.

PINNING

PIN	DESCRIPTION
1	emitter
2	base
3	collector, connected to case

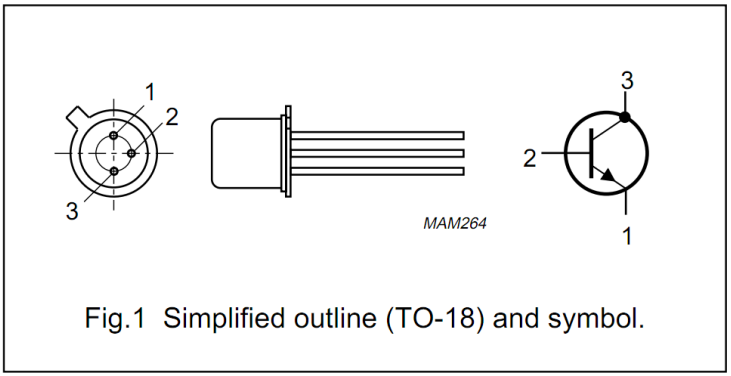
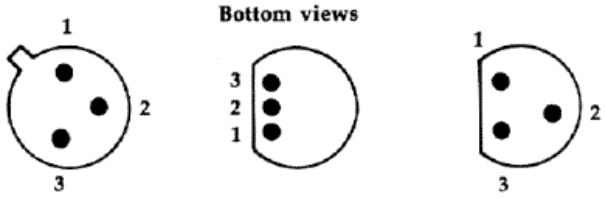


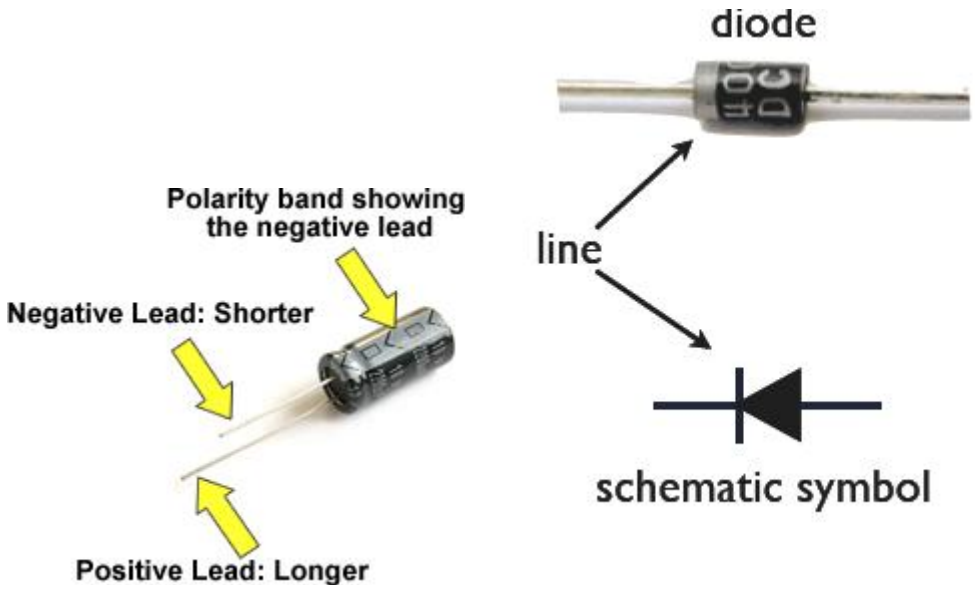
Fig.1 Simplified outline (TO-18) and symbol.

Figure 8-1. Pin Diagrams for Typical 2N2222 NPN Transistors



Pin
1. Emitter
2. Base
3. Collector

Here are three of the most common 2N2222 NPN transistor configurations you'll find.



The electrolytic capacitors we use look like small cans, and have two leads. Snap-lock electrolytics are polarized, which means they have a positive and negative lead, and must be hooked up correctly. A white stripe down one side of the can indicates the negative lead

The Diode:
A diode is simply an electrical check-valve; it only allows electricity to flow in one direction. The line at the tip of the arrow just reminds you that if you try to go the wrong way, you'll be stopped by the diode. The line is like a brick wall to electricity.

E30-150 Economy Motor

mm and 1/2" Sprockets and Keys **Available also on amazon for good price**

The 1/2" bore of our standard sprocket fits all our 3-inch motors.

The sprocket has 9 teeth and it works with #35 roller chain. It comes with a 1/8" key.

$79.00
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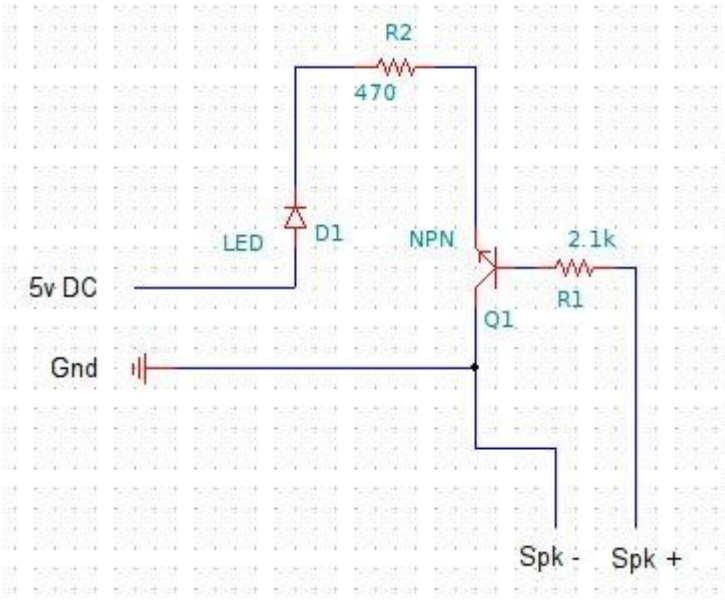
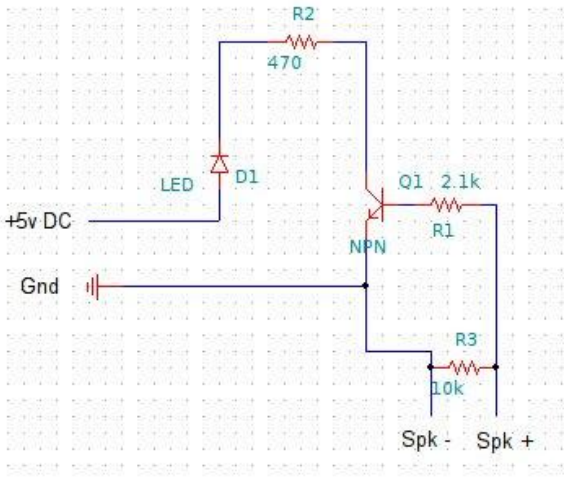
heelMotors with the E30-150 motors. (Click for larger images)

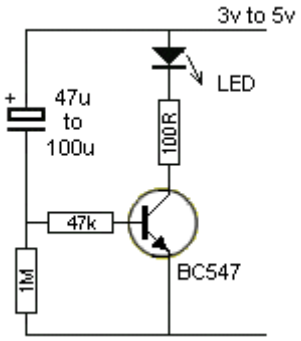
http://www.ampflow.com/wheelmotors.htm



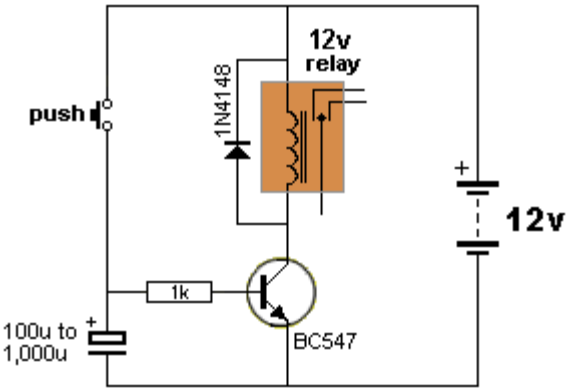
With this you may try and inset a capacitor somewhere in the circuit. The one on the right is modified. Speaker can be the motor output.



POWER ON



This LED illuminates for a few seconds when the power is turned on. The circuit relies on the 47u discharging into the rest of the circuit so that it is uncharged when the circuit is turned on again.



The relay in this circuit will remain active for a few seconds after the push button has been released.
The value of the 1k resistor and electrolytic can be adjusted to suit individual requirements.

The first circuit diagram shows how a transistors and a few other passive components may be connected for acquiring the intended delay timing outputs.

The transistor has been provided with the usual base resistor for the current limiting functions.

A LED which is used here just indication purposes behaves like the collector load of the circuit.

A capacitor, which is the crucial part of the circuit gets the specific position in the circuit, we can see that it's been placed at the other end of the base resistor and not directly to the base of the transistor.

A push button is used to initiate the circuit.

On depressing the button momentarily, a positive voltage from the supply line enters the base resistor and switches ON the transistor and subsequently the LED.

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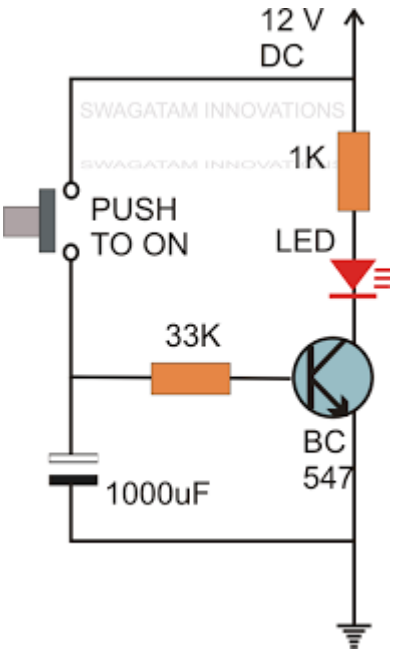
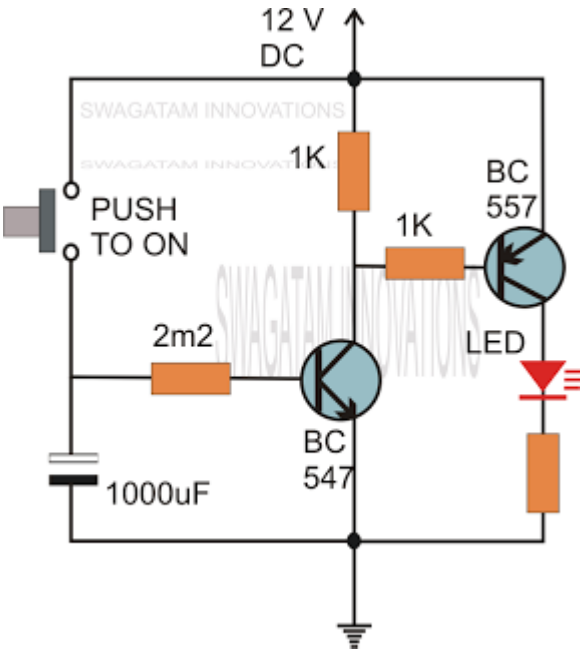


However in the course of the above action, the capacitor charged fully.
releasing the push button, though the power to the base disconnected, the transistor continues to conduct with the stored energy in the capacitor which now starts discharging stored charge via the transistor.
LED also stays switched ON capacitor gets fully discharged. value of the capacitor determines the time delay or long the transistor stays in the conducting mode.



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Along with the capacitor, the value of the base resistor also plays an important role in determining the timing for which the transistor remains switched ON after the push button is released.

However the circuit using just one transistor will be able to produce time delays which may range only for a few seconds.

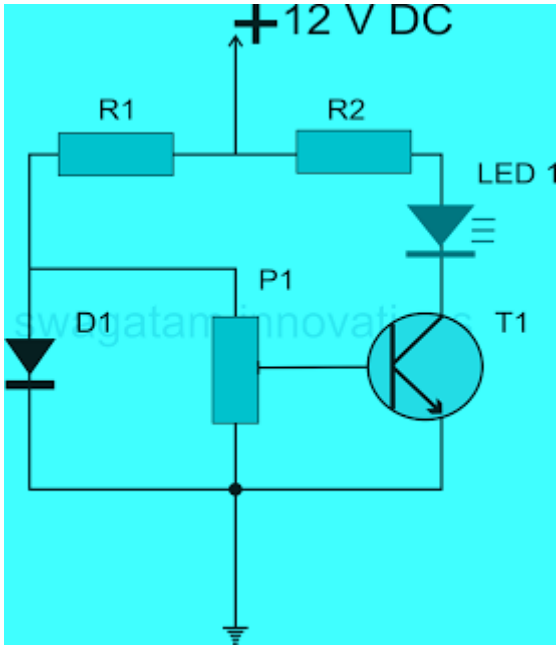
By adding one more transistor stage (next figure) the above time delay range can be increased significantly.

The addition of another transistor stage increases the sensitivity of the circuit, which enables the use of larger values of the timing resistor thereby enhancing the time delay range of the circuit.

Two Step Sequential Timer

The above circuit can be modified to produce a two step sequential delay generator. This circuit was requested by one of the avid readers of this blog, Mr.Marco.

Simple Temperature Detector Circuit



A very simple temperature indicator circuit can be built using the circuit shown in the diagram. A generally purpose small signal transistor is used here as the sensor and another active device in the form of a1N4148 diode is used for providing a reference level to the sensing operation.The heat source which is to be measured is place in contact with the transistor while the diode is held at a relatively constant ambient temperature level.
As per the setting of the preset P1, if the threshold is crossed by the introduced heat source, the transistor begins to conduct substantially, illuminating the LED and indicating the generation the heat beyond a particular set limit.

Parts List for the above simple transistor hobby circuit
R1 = 1K,
R2 = 2K2,
D1 = 1N4148,
P1 = 300 Ohms,
T1 = BC547
LED = RED 5mm
100 Watt Transistor Based Inverter Circuit