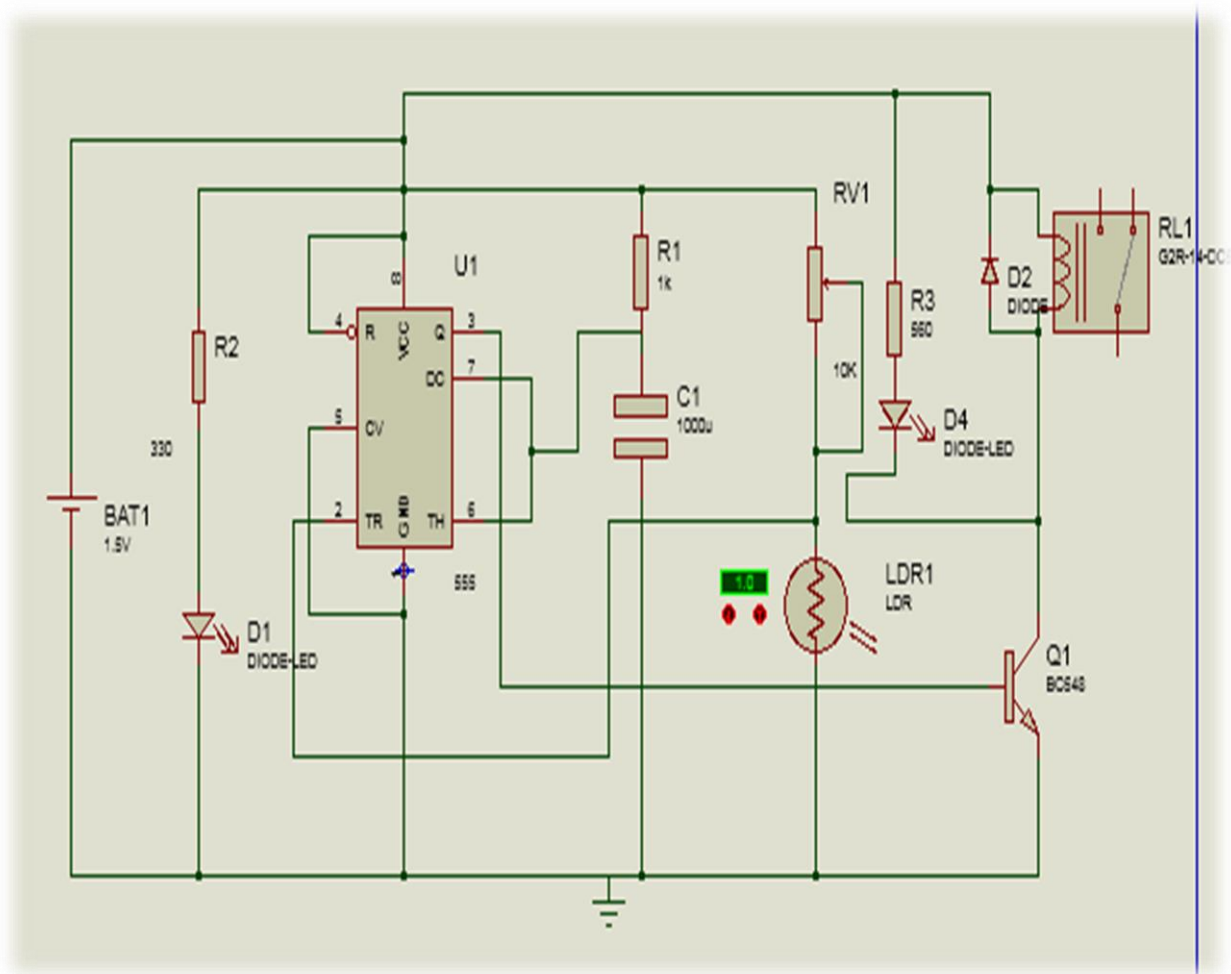


AUTOMATIC STREET LIGHT USING IC 555

Did you ever think that how the street lights automatically turn ON in the night and turn OFF automatically at morning? Is there any person who comes to ON/OFF these lights?. The circuit that described below performs this job automatically. This circuit employed the output from an uncomplicated light/dark activated circuit and force a relay in its output which can be further attached to switch ON/OFF a street light and electrical application in a household also. In this article, we are going to make automatic street light using LDR and 555 timer IC.

CIRCUIT DAIGRAM



COMPONENTS REQUIRED

- IC 555(TIMER IC)



- LDR (LIGHT DEPENDENT RESISTOR)



- CAPACITOR (10uf)



- VARIABLE RESISTOR(Pot) (10K)



- RESISTORS

R1=1K ohm

R2=330 ohm

R3=560 ohm



- LED (LIGHT EMITTING DIODE)



- RELAY (5V)



- DIODES(IN4007)



- 8 pin IC Base

- BC548 (BIPOLAR TRANSISTOR NPN)



- BATTERY (9V)



- Battery Strap

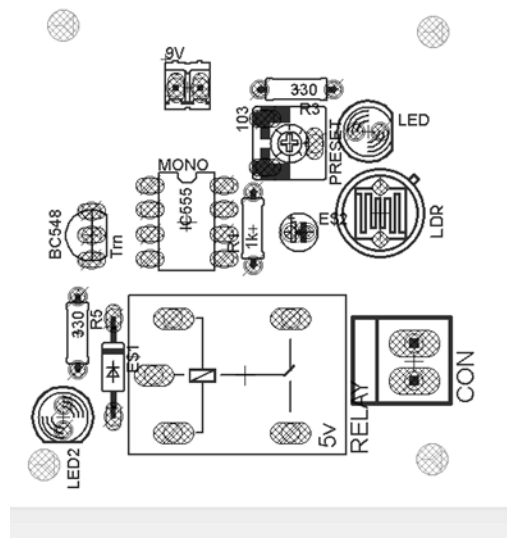
PRINCIPLE AND WORKING OF AUTOMATIC STREET LIGHT

555 Timer IC is the main part of the circuit that works as a comparator. All the working of this circuit depends on the working of the 555 timer IC. In this circuit, pin 3 produce output which has just two states high and low. Output goes to high when trigger pin2 is at a lower level than the 1/3rd level of the power supply voltage and output goes low when trigger pin 2 is at above then 1/3rd of the power supply voltage. In this circuit pin, 4,6 and 8 are connected to the power supply. Here we use LDR to detect the presence of light which is formed a potential divider circuit along with the resistor. LDR is a special type of resistor whose value depends on the light. The output of this divider circuit is given to trigger pin of the 555 timer IC.

In this circuit, we are using a simple LED to show how the circuit works. You can also connect as much led as you want by using the transistor or you can connect a to control high voltage electrical bulbs.

PCB LAYOUT

- **FRONT LAYOUT:**



- **BACK LAYOUT:**

