



# Coin Based Mobile Charger

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**ABSTRACT:** The objective of this project is inserting the coin to charge your mobile phone in public places. People who are all using mobile phones in outside of home or office without charging condition, the coin based mobile phone charger is very useful to that person for using coin to charge that mobile. The IR (infrared) transmitter and IR receiver is used to transmit and receive the IR signal in the receiver side. Between the IR transmitter and receiver, a coin is to be inserted to change the polarity of pulse in SCU input. The relay will ON to activate the 230v charger, we will use charger to charge for our mobile phone.

**KEYWORDS:** Coin, IR rays, Relay and Charger

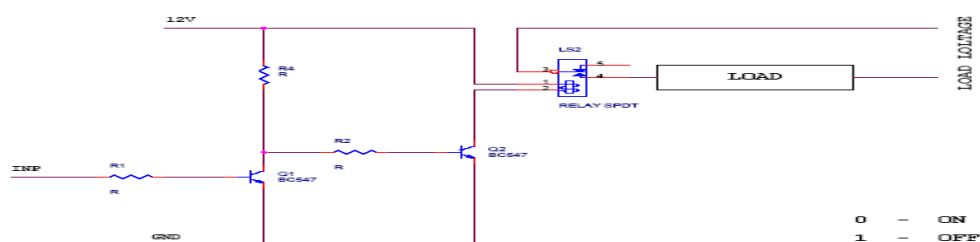
## I. INTRODUCTION

Power supply is an integral parts a vital role in every electronic system and hence their design constitutes a major part in every application. In order to overcome mal-operation which results due to fluctuations in the load and discontinuity in the supply proper choice of power supply is indeed a great need in this hour. The aim of this project is to provide a solution for charging of mobile at public places. The person who wants to charge his/her mobile has to insert a coin and connect his/her mobile with the charger. Mobile will be charged at a particular amount of time depending on the number of coins inserted by the person. As soon as the Coin Sensor detects the coin, it sends a pulse to the 555 timer. The 555 timer turns ON the relay(Electromechanical Switch) to provide 230V,50Hz signal to the charging socket and the user can charge his/her mobile phone from the socket.

## II. RELAY

A relay is an electrically operated switch. Current flowing through the coil of the relay creates a magnetic field which attracts a lever and changes the switch contacts. The coil current can be on or off so relays have two switch positions and they are double throw (changeover) switches. Relays allow one circuit to switch a second circuit which can be completely separate from the first. For example a low voltage battery circuit can use a relay to switch a 230V AC mains circuit. There is no electrical connection inside the relay between the two circuits; the link is magnetic and mechanical.

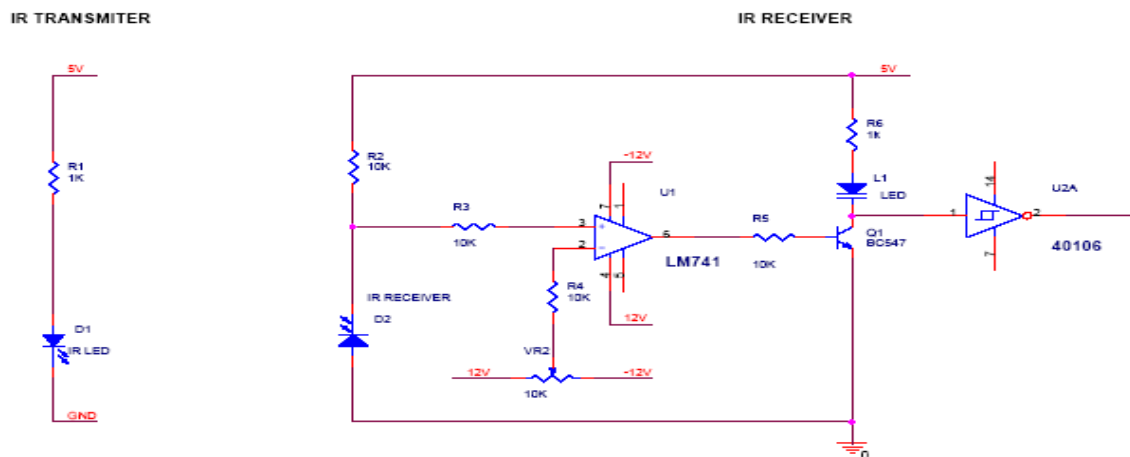
RELAY CIRCUIT - SPST



### III. INFRARED TRANSMITTER & RECEIVER

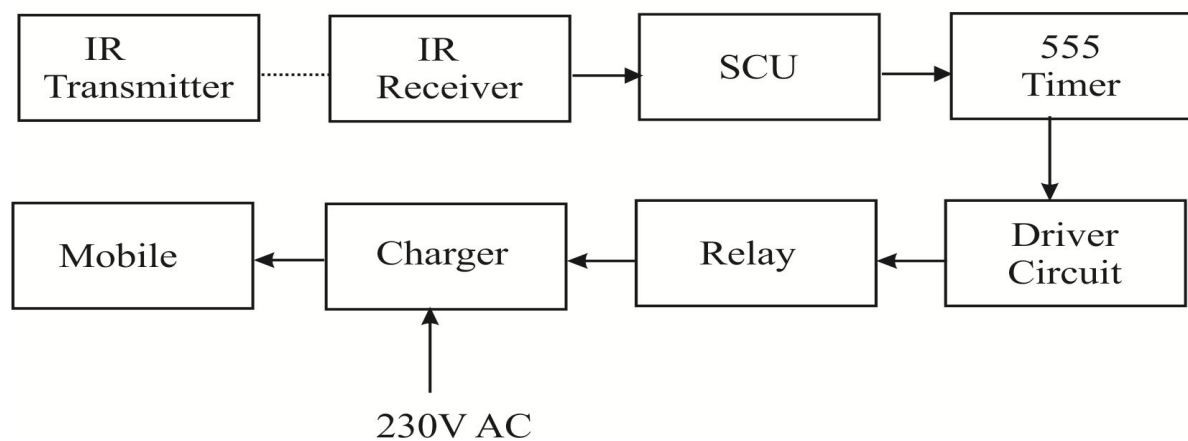
Infrared is an invisible radiation with longer waves than those of visible light. Infrared transmitter is one type of LED which emits infrared rays transmits around 940nm. Similarly IR Receiver is like a LED which is used to listen the IR rays transmitted by the IR transmitter. The One important point is both IR transmitter and receiver should be placed straight line to each other. So only it can sense the IR rays which is transmitted. This IR transmitters and receivers are used in many places like industries for various purpose. In our project, when the coin is let fall between the transmitter and the receiver, the coin cuts the IR radiation for a second. When the IR rays are disturbed, the receiver sends the pulse output to the SCU which is the Signal Conditioning Unit.

#### IR TRANSMITER AND RECEIVER



#### IV. BLOCK DIAGRAM

### Coin Based Mobile Charger





## **V.EFFICIENT FUNCTIONING**

This project is designed with an IR transmitter and receiver as the sensor for sensing the coin. When the coin is dropped between the transmitter and the receiver, the coin cuts the IR radiation for a second. When the IR rays are interrupted the receiver gives the pulse output to the SCU which is the Signal Conditioning Unit. The Signal Conditioning Unit is nothing but a comparator which compares the input signal with the reference voltage. When the sensor input exceeds the threshold value the comparator gives a high output. The output of the comparator is given to the inverter circuit to invert the pulse from high to low. The low pulse is given to the 555 timer as a trigger input and as soon as the trigger is received by the 555 timer IC the timer gives the output for a pre-determined time. The output of the timer is used to activate the relay for a pre-determined interval. Whenever the relay is activated the charger circuit closes and charges the mobile phone. After the period the timer deactivates the relay and the charging process is disabled. To charge it again, the user has to insert another coin.

## **VI.CONCLUSION**

This project “COIN BASED MOBILE CHARGER” is designed and made with the hope that it is very much economical and helpful in many public places. It is also more beneficial to the people to charge their mobile which needs to be charge during urgency period. This project helped us to know the periodic steps in completing a project work. Thus we have completed the project successfully.

## **REFERENCES**

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