

Article

Controlling 230V Load On/ Off Byusing Mobile

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A B S T R A C T

In this project there is one mobile detector circuit which uses CD3130 IC and two monostable circuit which uses 555 IC to turn On/ Off the bistable circuit. In this bistable circuit a positive triggering pulse is used to turn on and off 230v load from monostable to bistable circuit. The mobile detector circuit is used to detect the electromagnetic signal through the capacitor. The mobile detector circuit is ON continuously until the signal transmission ceases. If the circuit of the mobile detector is ON then the transistor of that circuit will be ON and due to this the monostable circuit is activated. If the monostable circuit is ON and applying the short positive pulse from monostable to bistable, the bistable circuit is turn off and applying long positive pulse from monostable circuit to bistable circuit then bistable circuit is turn ON.

Keywords: Mobile Phone Detector, Bistable Circuit, Monostable Circuit

Introduction

The moment that detect the RF transmission signal from activated mobile phone and due to this the transistor of that circuit is turn ON then monostable circuit gives the short triggering pulse to bistable circuit through the second transistor and due to these the circuit remain in off state. When we apply the long positive pulse from the bistable circuit then the circuit turns ON. The capacitor of mobile detector circuit changes its value by detecting the electromagnetic signal and change the output of circuit. The transmission frequency of mobile phones ranges from 0.9 to 3 GHz with a wavelength of 3.3 to 10 cm. So, a circuit detects gigahertz signal.

The monostable multivibrator circuit generate a single output pulse either high or low then the triggering pulse is applied to the circuit from this the timing cycle will start.

The pulse width of the monostable circuit depends on the value of resistor and capacitor means RC time constant. The monostable multivibrator can produce much longer rectangular waveform

The bistable multivibrator circuit is stable in both the state either one transistor "OFF" and other will be "ON" and vice versa.

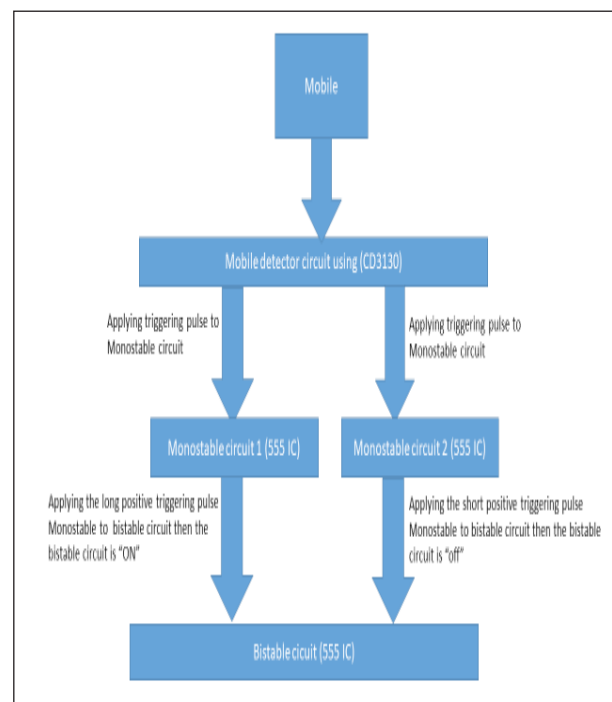


Figure 1. Block diagram to Control 230V load ON/ OFF by using Mobile

System Design

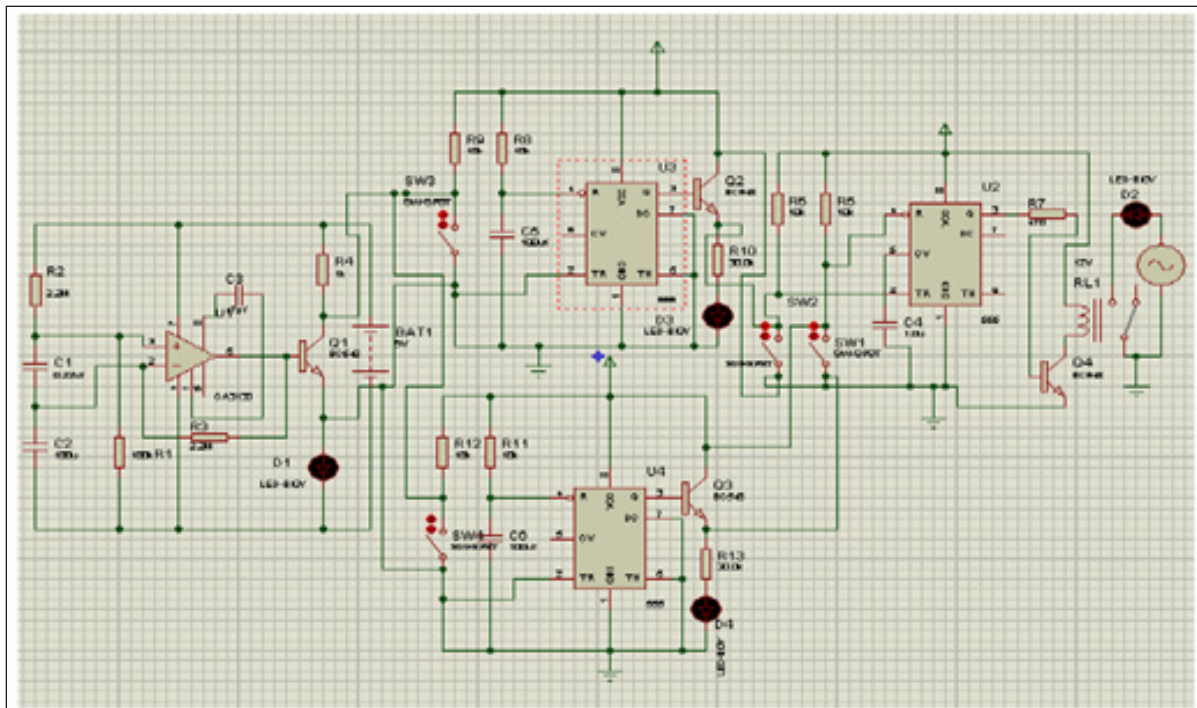


Figure 2.Circuit Diagram of Controlling 230V Load using Mobile

Working

In this project the mobile detector circuit detect the electromagnetic signal through capacitor until the signal ceases. If the mobile detector circuit detects the signal then the transistor of circuit turns ON and that transistor gives the short positive triggering pulse to the first monostable circuit then the monostable circuit turns ON and this monostable circuit gives the short positive triggering pulse to the bistable circuit then the bistable circuit remains in OFF state. If the second monostable circuit gives the long positive triggering pulse to the bistable circuit then the bistable circuit turns ON.

Conclusion

The circuit for controlling 230 V load works properly by using RF transmission signal from mobile phone. This circuit reduce the human efforts. This circuit is flexible, reliable and cost effective.

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