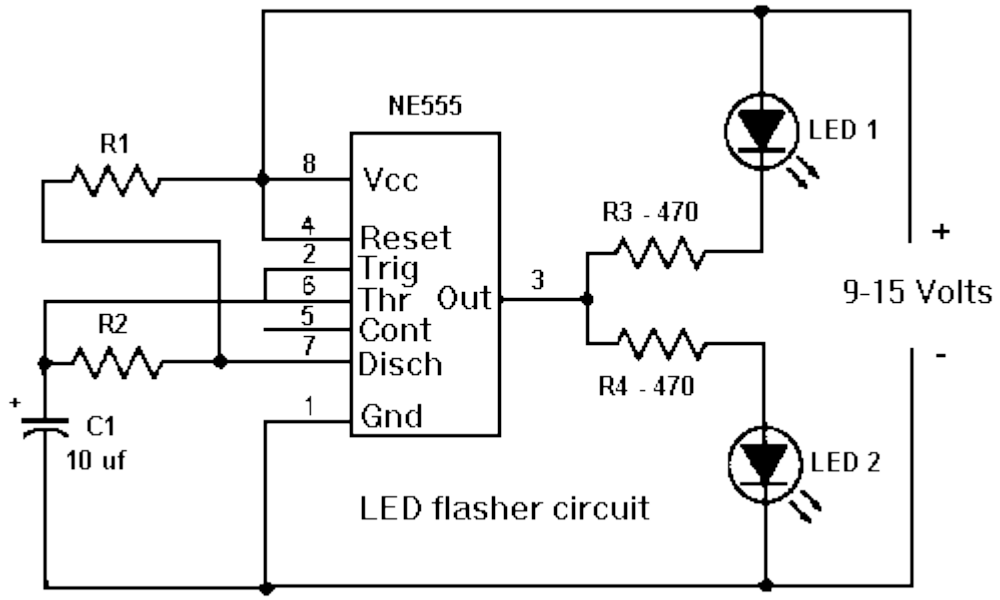
Led Flasher

Introduction

LEDs are probably the only components to offer a wide range of application. It can be used either to describe working of the circuit or with LED itself, a complete circuit can be developed. The LED flasher circuit makes use of this amazing component to turn it flash on and off. The LED flasher circuit employs a voltage source, capacitor, and LED.

This project requires voltage supplies varying from 1.15 volts to 6 volts typically because of which the circuit can be operated with a single battery cell making it more economical. In addition to this, power drain has been optimized to prolong the battery life. The external electrolytic capacitor not only controls the flash rate but also is used to supply a voltage boost to the LED for maximum brightness. The frequency provided at the output can be adjusted slow enough (1 Hz) for LED flashing applications or can also be made faster (1 kHz). At the faster rate, audio tones can be produced which can be used to directly drive an 8 ohm speaker.

Block Diagram



Component

- 555 timer ic (only one)
- 1 k ohm resister (only one)
- 10 k ohm resister (only one)
- 220 k ohm resister (only two)
- 100 micro farad capaciter
- leds (two only)
- jumper wires (5 to 7)
- wiro board
- 9 volt battery

Application

- Railroad crossing signal for model railroads
- Safety blinkers for bicycle, etc
- Fun stuff for halloween, like making plastic jack-o-lanterns blink
- Festival decorations
- Blinkers to locate item in dark