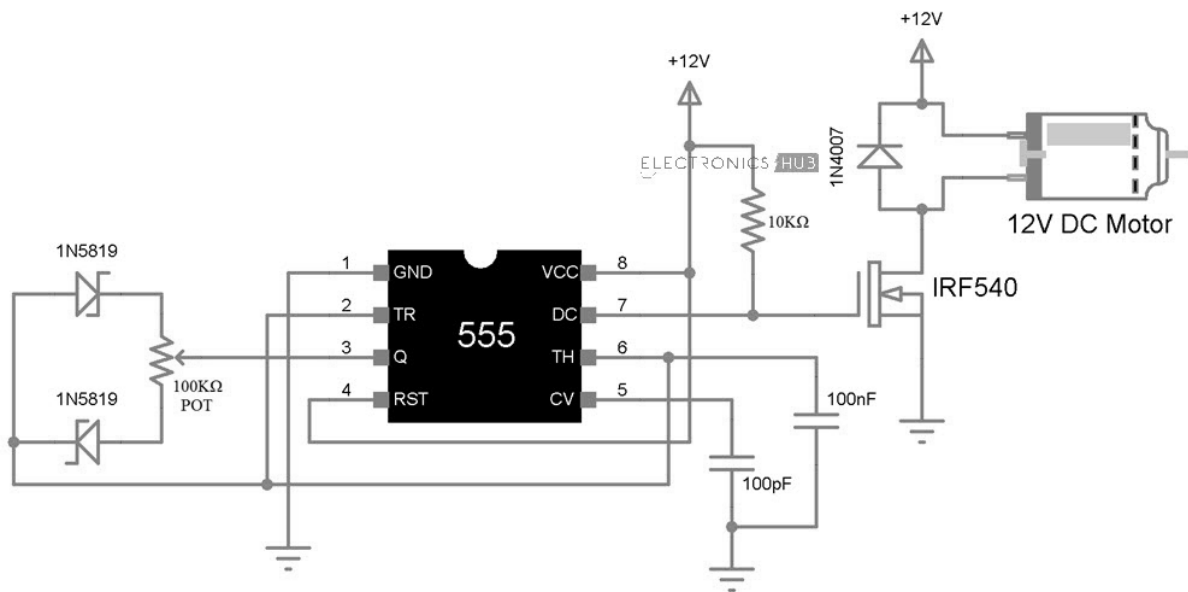# SPEED CONTROL OF DC MOTOR USING PWM

There are multiple ways to adjust the speed of a DC Motor manually. The simplest way to achieve this is with the help of a variable resistor i.e. we can adjust the speed of a DC Motor by using a variable resistance in series with the motor.But this method is usually not prepared for two reasons. The first reason is energy wastage i.e. the resistor dissipates the excess energy as heat. The second reason is if we want to use any devices like microcontrollers or any other digital equipment for automating our DC Motor speed control, then this method cannot be used. A more efficient way to proceed is by using Pulse Width Modulation technique to Control the speed of our DC motor.

Working of speed Control of DC Motor Circuit

In this circuit, the DC motor is operated by a 555 integrated circuit. The IC 555 in this circuit is being operated in astable mode, which produces a continuous HIGH and LOW pulses. In this mode, the 555 IC can be used as a pulse width modulator with a few small adjustments to the circuit. The frequency of operation of the circuit is provided by the passive parameters of resistances and capacitors attached to it.