Experiment 11 **BASIC ELECTRONIC CIRCUITS**

DC Power Supply

In this experiment, we will assemble and study the performance of a DC power supply, which consists of a Transformer with a center- tapped secondary, two rectifier diodes (1N4007), a shunt capacitor filter and a voltage regulator (7805). 1KΩ resistor will be used as the load (R) for the power supply, and 10KΩ potentiometer is used to vary the DC voltage from 0V to 5V. Test points are given to take the readings at TP1, TP2, TP3 and TP4.

The complete circuit diagram of the D C Power supply is given in **Fig. 11.1.**

1. Observe and sketch the waveforms of the power supply at TP1 and rectifier output voltage at TP2 .
2. Measure the DC Voltages at TP3 and TP4 with respect to the ground.

Fig. 11.2 shows the circuit diagram of Speed control of Motor using PWM Technique with 555 Timer IC.

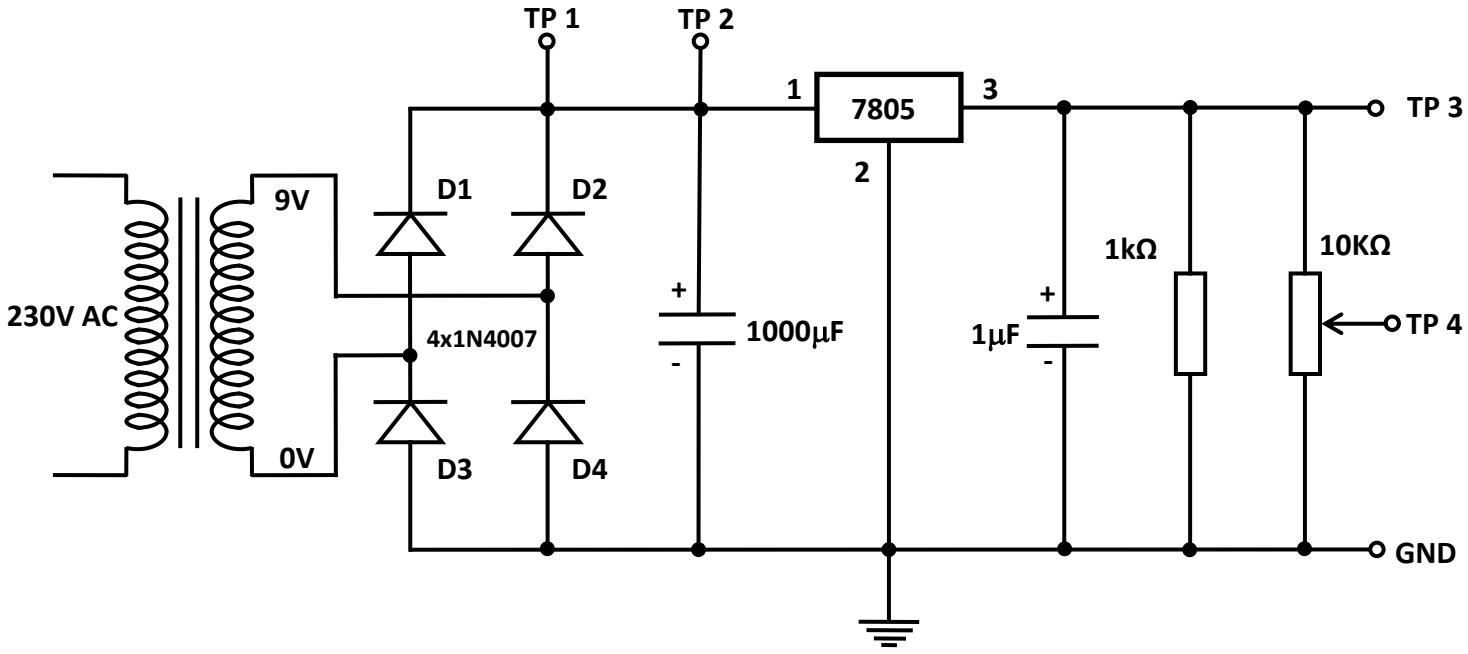


Fig. 11.1 Circuit Diagram of Complete D-C Regulated Power Supply

2). PWM Circuit to control Motor Speed

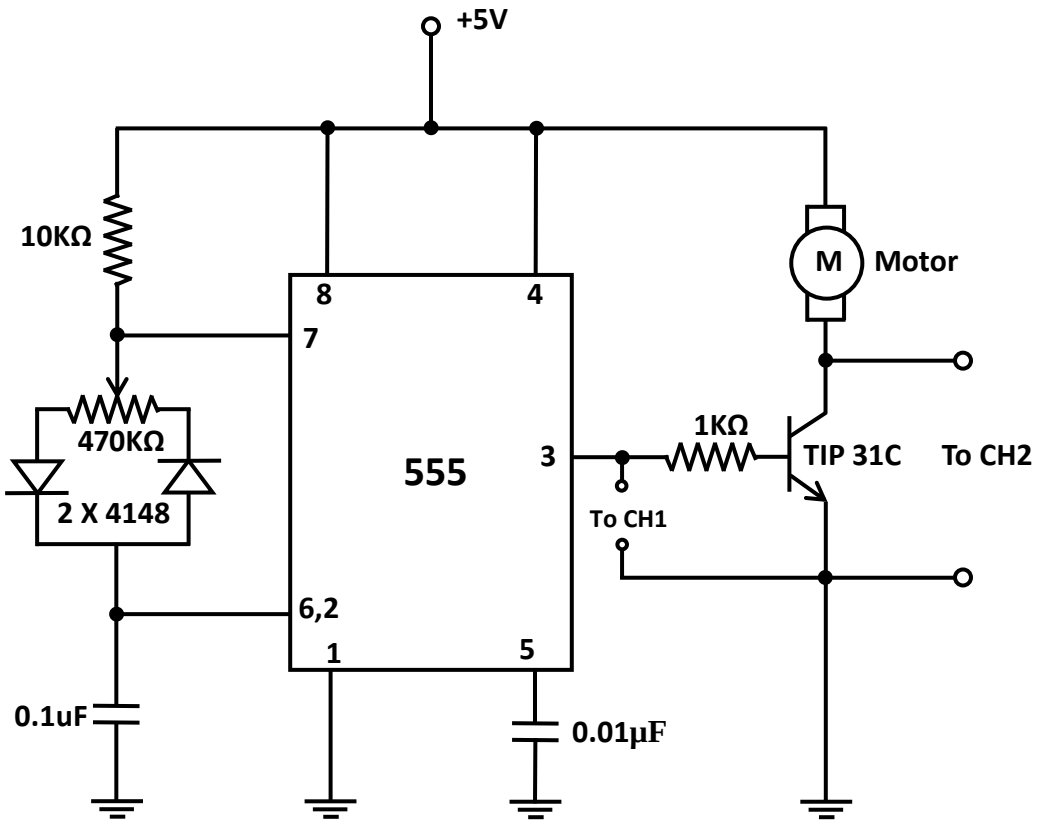
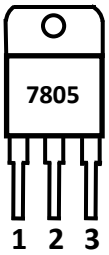
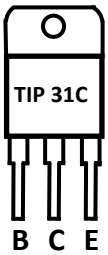


Fig 11.2: PWM Circuit to Control Motor Speed.



Front view of 7805



Front view of TIP 31C