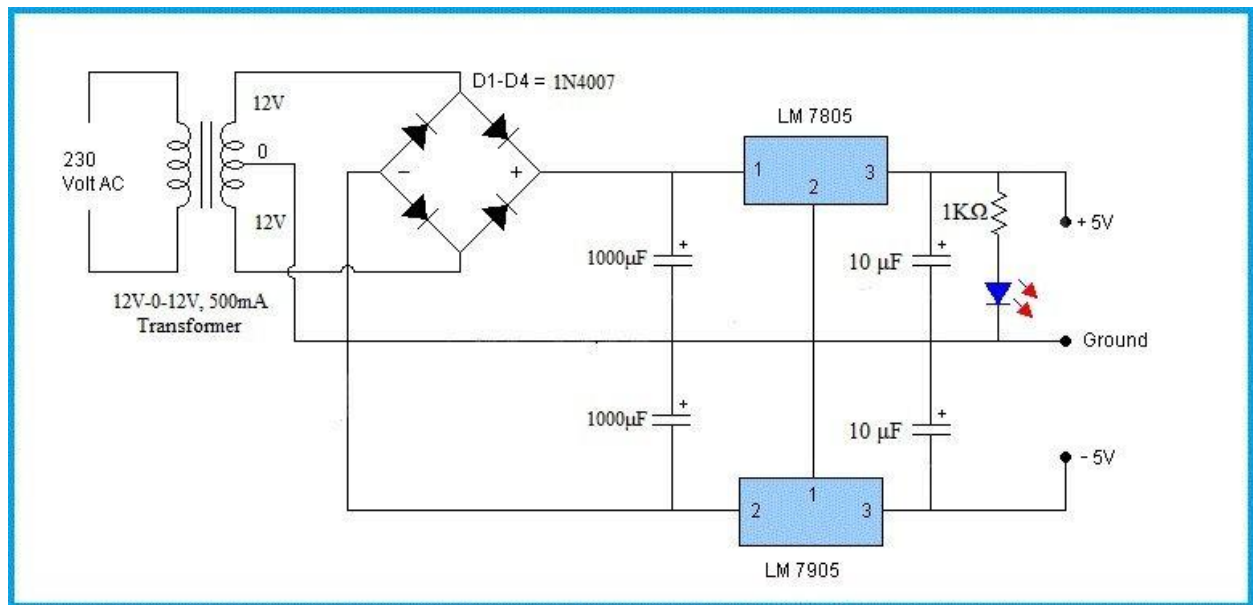


# Dual Polarity Power Supply

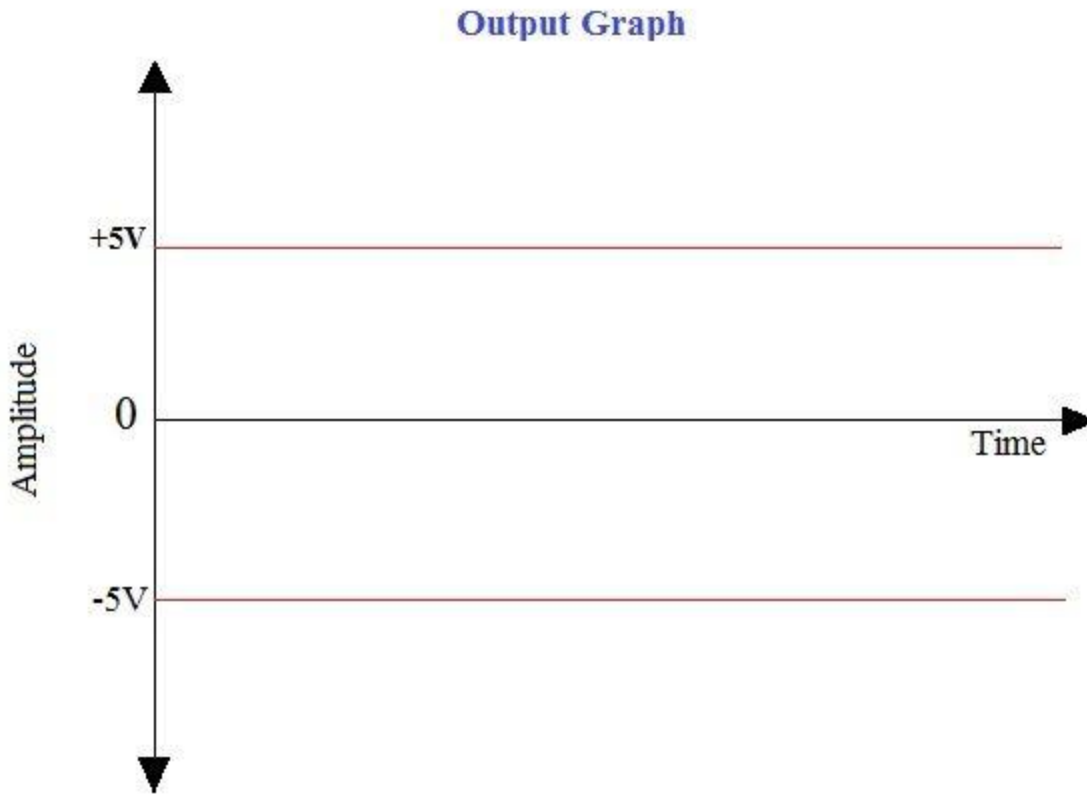
## Introduction:

A power supply is the fundamental building block of all but the simplest of electronic devices. It converts the alternating current (AC) from our wall outlets into direct current (DC) at some specified voltage. A dual polarity power supply is capable of supplying +/-DC voltage. Dual polarity power supply is created mostly to power up operational amplifier circuits and other circuits that require dual supply voltage. The voltage is adjustable, requires a few parts, and easy to build.

## Circuit Diagram and Working:



The four diodes are used to form bridge rectifier. The two terminals of secondary winding of transformer are connected to bridge rectifier to have pulsating DC. Ground is taken from the centre of secondary winding of transformer. One 1000µF capacitor is connected between the positive output of bridge rectifier with respect to ground. Another 1000µF capacitor is connected between the negative output of bridge rectifier with respect to ground. The capacitors are called as filter capacitors. It filter out AC voltage and allows only DC voltage. Here we have used Positive(**LM7805**) and Negative voltage regulators(**LM7905**) to have +5V and -5V. The purpose of using voltage regulators is to make a perfect straight line DC. The straight line DC will have 0Hz frequency, so it is called as straight line DC. The voltage regulators will also maintain constant DC voltage without any deviation. The 10µF capacitor at the output of voltage regulator is used to maintain stable voltage at output. The LED is used for indication purpose.



**References:-**

1. <https://www.instructables.com/id/5V-and-5V-Dual-Regulated-Power-Supply/>
2. <https://alectronicx.blogspot.com/2011/06/dual-polarity-regulated-power-supply.html>