

ABSTRACT

The necessities of DC power supply increases every time. Electronic devices are certainly requires a power supply source. Power required each device is different. As we know, the majority of the electronics devices utilizing the source DC power supply. DC power supply source is always retrieved from the energy the battery and power supply. Therefore, in order for the power supply of electronics device got a continuous and adjustable output power as needed, then needed adjustable power supply. Efficiency, stability, and protection system in power supply are some of the important parameters are used as a benchmark for a quality power supply.

In this final project, a adjustable power supply using monolithic IC (Integrated Circuit) switching regulator LM2577T-Adj has designed and implemented. The monolithic regulator IC use for the simplicity design purpose. Voltage display designed using mikrokontroler with voltage sensing by some resistor circuit. The analog value of voltage will be converted to digital display in LCD.

The test result show that output voltage of adjustable power supply has been designed is 4.5-13.48Vdc. The output ripple of power supply is 240-400mV. The test result with different resistive and inductive load shows the biggest power efficiency is about 90,408% with 10 ohm resistive load and 81.34% with 12V inductive load.

Keywords: *adjustable power supply, switching regulator, monolithic IC LM2577*