

ABSTRACT

Supplying electrical energy will suit the needs of electronic devices with increasingly sophisticated capabilities due to technological developments, require the provision of electrical energy must have advantages in terms of electricity consumption is more efficient with better performance. Limitations of power providers (power supply) in the form of electricity can be solved by making a converter tool (converter) a form of electric power into another form. Supply of DC power is a power tool that can convert alternating current (AC) into direct current electricity (DC). In making this final project is specifically designed to power a supply receives an alternating current input from the PLN and turn it into a pure direct current output.

In the design of DC power supply that uses switching technology is devoted to become a driver on the LED T8 tube light series. There are several main sections on this driver include: full-wave rectifier, switch the power MOSFET, PWM controller, power factor correction, and flyback transformer DC Chopper topology, and a reference voltage. Pulse Width Modulation (PWM) or pulse width modulation is used to manage the life cycle of the power switch off the MOSFET, so that would be obtained with high-frequency signals that regulate the output DC current. UC3843AN as a PWM controller IC is used as the main controller in the regulation of DC output voltage and current.

In designing this final project, has created a power supply or a driver with an input AC electricity with efficiency 38.29% On the output voltage 38.5 Volt and the maximum current 0.5 Ampere . In implementation, the power supply or driver DC power is used exclusively for LED T8 tube light series, an LED lamp that contains Epistar 3528 SMD LED 288 chip with 20 watts of electrical power, luminous flux of 1900 lm and 1200 mm length.

Key words: DC power supply, drivers, PWM, switching regulators, LED T8 tube light series