Switching mode voltage regulator

Final Year Project Report

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Declaration

We declare that the work contained in this thesis is our own, except where explicitly stated otherwise. In addition, this work has not been submitted to obtain another degree or any professional qualification.

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Dedicated to our Parents

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Abstract

In modern age, Switched Mode Power Supply is most important for DC power supply in modern systems, because it is capable to handle variable loads. Besides this, weight and size of power supplies is becoming major issue for manufacturers**.**

The title of our project is “Switching Mode Voltage Regulator”. That can provide us constant output voltage of 10V for electrical components.

Now days, switch mode voltage regulator can said to be the backbone of electronics world. Its output is constant 10V, whether inputs vary or change time to time. We can use linear regulator for such purpose but switch mode regulator is much efficient for constant output voltages because it is low cost, portable, small size, wide input range and reliable. Efficiency of this device is almost 90%, which is good figure to consider something best. Electronics manufacturing companies can use it because electronics devices need some constant voltage. Step-down (buck) and step-up (boost) convertors are used in this

1.1 Introduction:

CHAPTER 1

Electrical energy is converted from one form to another with the help of power electronics in very compact, robust, clean and efficient manner for utilization. Power supply designers are facing challenges in this race to manufacture smaller and lighter products.

Designers require a design that can easily provide solution to problems and meet better performance like efficiency, output regulation with accuracy, low cost, fast transient response, etc. The major task to which designers need to compete is the total output power.