



Design and Implementation of Triple Output Flyback Converter for Space Applications

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Abstract:

This paper describes the Hardware Design and Implementation of multiple output Flyback converter for space applications. Flyback topology is well suited for low to medium power applications due to its simple design and low cost. The converter is designed to operate at a frequency 200kHz using PWM IC UC1846. Current mode control technique is used at the primary side to improve the response of the system. A major issue with multiple output converters is the attainment of load and cross regulation. Therefore, a multiple output flyback converter with Low dropout regulators (LDO) are built to meet the output demand as per the required specifications. Converter has designed for many backup protection such as Over voltage Protection, Under voltage Protection, External Disable and Short circuit Protection. Electrical tests are carried out at ambient temperature to validate the performance of the converter.

Keywords:

Flyback Converter, PWM controller, Low dropout regulators and Current mode control technique