



DC-DC Power Converter Design & Implementation

By Irfan Jamil

GRIN Verlag GmbH Okt 2013, 2013. Taschenbuch. Book Condition: Neu. 211x149x10 mm. Neuware - Bachelor Thesis from the year 2013 in the subject Electrotechnology, grade: Bachelor, Harbin Engineering University (College of Automation), course: Electronics, language: English, abstract: In recent years, with the development of power electronic devices control theory and the increasing demand of high-quality power supply, power electronics technology has aroused widely attention from scholars. DC-DC power converters are employed in a variety of applications, including power supplies for personal computers, office equipment; spacecraft power systems, laptop, Cell phones, and telecommunications equipment, as well as dc motor drives. In this project a detailed study of zero current switching buck converters is done and also practically implemented in hardware. In addition a mathematical analysis of switching loss occurring in MOSFET s is also presented and a short study of zero voltage switching is also appended. During the hardware implementation the Ton, Toff and operating frequency were found out and thoroughly tuned through the IC555 circuit and various waveforms across inductors, capacitors, load resistor and test points were noted down. In this thesis, the Buck type circuit structure and working principle are analyzed and a DC-DC buck converter is designed. The...

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