URN etd-0407109-183701-58
Author Chih-Hsiang Li
Author's Email Address No Public.
Statistics This thesis had been viewed 90 times. Download 0 times.
Department
Year 2007
Semester 1
Degree Master
Type of Document Master's Thesis
Language zh-TW.Big5 Chinese
Title Analysis and Design of Current-Fed ZVS-ZCS Push-Pull DC/DC Converter
Date of Defense 0000-00-00
Page Count 112

Keyword
Push-Pull
Soft Switching
ZVS
ZCS

Abstract
A current-fed zero-voltage-switching (ZVS) and zero-current-switching (ZCS) push-pull dc/dc converter is presented in this paper. The proposed push–pull converter topology is suitable for unregulated low-voltage to high-voltage power conversion with low ripple input current. The resonant frequency of both capacitor and inductor is operated at approximately twice the main switching frequency. In this topology, the main switches are operated under ZVS due to commutation of the transformer magnetizing current and the parasitic drain-source capacitance. Due to the leakage inductance of the transformer and resonant capacitance from the resonant circuit, both main switches and output rectifiers are operated implementing ZCS. The operation and performance of the proposed converter has been verified on a 400W with 12V input voltage, 408~426V output voltage and 65.8kHz operated in frequency ZVS ZCS push-pull dc/dc converter. Experimental results in efficiency of 92.5% at a full load.
Advisory Committee Ching-Lung Chu - advisor

Files No Any Full Text File.
Date of Submission 2008-08-05