

## Very High Frequency Interleaved Self-Oscillating Resonant SEPIC Converter - DTU Orbit (09/11/2017)

### Very High Frequency Interleaved Self-Oscillating Resonant SEPIC Converter

This paper describes analysis and design procedure of an interleaved, self-oscillating resonant SEPIC converter, suitable for operation at very high frequencies (VHF) ranging from 30 MHz to 300 MHz. The presented circuit consists of two resonant SEPIC DC-DC converters, and a capacitive interconnection network between the switches which provides self-oscillating and interleaved operation. A design approach to ensure zero voltage switching (ZVS) condition of the MOSFET devices is provided. To verify the proposed method, an 11 W, 50 MHz prototype was built using low-cost VDMOS devices and experimental results are presented. Peak achieved efficiency was 87%.

### General information

State: Published

Organisations: Department of Electrical Engineering, Electronics

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Number of pages: 9

Publication date: 2013

### Host publication information

Title of host publication: Proceedings of EPE '13-ECCE Europe

Publisher: IEEE

ISBN (Print): 978-90-75815-17-7

Main Research Area: Technical/natural sciences

Conference: EPE'13 ECCE Europe, Lille, France, 03/09/2013 - 03/09/2013

Very high frequency power converter, Resonant converter, Zero voltage switching, Interleaved converters, Self-oscillating Electronic versions:

0713-epe2013-full-16560670.pdf

Source: dtu

Source-ID: u:8811

Publication: Research - peer-review › Article in proceedings – Annual report year: 2014