US Mains Stacked Very High Frequency Self-oscillating Resonant Power Converter with Unified Rectifier - DTU Orbit (09/11/2017)

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This paper describes a Very High Frequency (VHF) converter made with three Class-E inverters and a single ClassDE rectifier. The converter is designed for the US mains (120 V, 60 Hz) and can deliver 9 W to a 60 V LED. The converter has a switching frequency of 37 MHz and achieves an efficiency of 89.4%. With VHF converters the power density can be improved and the converter described in this paper has a power density of 2.14 W/cm3. The power factor (PF) requrements of mains connected equepment is fulfilled with a power factor of 0.96.

General information

State: Published
Organisations: Department of Electrical Engineering, Electronics
Authors: Pedersen, J. A. (Intern), Madsen, M. P. (Intern), Mønster, J. D. (Intern), Knott, A. (Intern), Andersen, M. A. E. (Intern)
Pages: 1842-1846
Publication date: 2016

Host publication information

Title of host publication: Proceedings of IEEE Applied Power Electronics Conference 2016
Publisher: IEEE
ISBN (Print): 978-1-4673-9550-2
Main Research Area: Technical/natural sciences
Conference: IEEE Applied Power Electronics Conference 2016, Long Beach, CA, United States, 20/03/2016 - 20/03/2016
Source: PublicationPreSubmission
Source-ID: 123734251
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016