

The Experience with SiC MOSFET and Buck Converter Snubber Design

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Abstract : The newest semiconductor devices on the market are MOSFET transistors based on the silicon carbide - SiC. This material has exclusive features thanks to which it becomes a better switch than Si - silicon semiconductor switch. There are some special features that need to be understood to enable the device's use to its full potential. The advantages and differences of SiC MOSFETs in comparison with Si IGBT transistors have been described in first part of this article. Second part describes driver for SiC MOSFET transistor and last part of article represents SiC MOSFET in the application of buck converter (step-down) and design of simple RC snubber.

Keywords : SiC, Si, MOSFET, IGBT, SBD, RC snubber

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