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Robustness of SiC Trench MOSFETs

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Abstract:

In this presentation aspects regarding the robustness of state of the art SiC Trench MOSFETs will be discussed. Results of short circuit test results on discrete devices as well as modules using multiple parallel SiC MOSFETs will be shown alongside measurements that demonstrate the timely detection and safe turn-off of both short-circuit type I and type II. As an additional aspect of device robustness results of cosmic radiation robustness tests executed on SiC MOSFETs will be presented.

Curriculum Vitae:

Christian Felgemacher received an M.Eng. (Hons.) degree in electronics and electrical engineering with management from the University of Edinburgh, Scotland, UK in 2011. From 2012 to 2017 he was a research assistant at the Centre of Competence for Distributed Electric Power Technology at the University of Kassel, Germany. During this time he worked on topics relating to reliability of power semiconductors in photovoltaic inverters and the application of modern wide-band-gap power devices to renewable energy applications. In 2018 he was awarded a doctorate in engineering (Dr.-Ing.) from the University of Kassel, Germany.

Since 2017 he works for ROHM Semiconductor GmbH where he is today leading a technical team supporting European customers in power systems related aspects on application level. He is a member of IEEE.

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