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Ali Alhoussein, Hadi Alawiyeh, VEDECOM Institute, F; Zouheir Riah, Yacine Azzouz, ESIGELEC, F

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Not All GaN Transistors are Built Equal: The Benefits of Vertical GaN-on-GaN

Dinesh Ramanathan, Charles Coles, Wolfgang Meier, NexGen Power Systems, USA

Impact of Negative Turn-Off Voltage On Turn-On Losses in GaN E-HEMTs

Lukas Will, Sebastian Sprunck, Peter Zacharias, University of Kassel, D

Performances Evaluation of ST's New HEMT GaN vs SJ Si MOSFETs in Resonant Converters

Domenico Nardo, Agatino Palermo, Filadelfo Fusillo, Rosario Scollo, Simone Buonomo, STMicroelectronics, I

Static and Dynamic Characterization of a Monolithic Integrated Temperature Sensor in a 600 V GaN Power IC

Dominik Koch, Jan Hüchelheim, Kevin Muñoz Barón, Ingmar Kallfass, University of Stuttgart, D; Stefan Mönch, Richard Reiner, Patrick Waltereit, Fraunhofer Institute IAF, D

Novel GaN Half-Bridge Configuration for the Measurement of Core Losses Under Rectangular Voltages and DC-bias

Erika Stenglein, Benedikt Kohlhepp, Daniel Kübrich, Manfred Albach, Thomas Dürbaum, Friedrich-Alexander-University Erlangen-Nuremberg, D

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Gyan Dutt, Oscar Khaselev, Monnir Bouregghda, Julien Jouget, MacDermid Alpha Electronic Solutions, USA; Maurizio Fenech, MacDermid Alpha Electronic Solutions, D

Electroplating of Aluminium and Copper for Reliable Electrical Connections for Power Electronics

Gerald Metge, Arno Marto, Inovon, D

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Julian Weimer, Dominik Koch, Ingmar Kallfass, University of Stuttgart, D; Ankit Bhushan Sharma, Till Huesgen, University of Applied Science Kempten, D

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Björn Pelle Weiler, Bas Vermulst Maurice Roes, Korneel Wijnands, Eindhoven University of Technology, NL

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Design and Development of High Voltage and High Current SiC MOSFET Modules

Puqi Ning, Yuhui Kang, Tianshu Yuan, Chinese Academy of Sciences, CN

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Johan Delaine, Dominique Bergogne, Christine Laurant, Venceslass Rat, Frederic Rothan, Gilles Simon, CEA, F; Thierry Bouchet, LETI, F

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Lars Rebenklau, Paul Gierth, Henry Barth, Fraunhofer Institute IKTS, D

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Harald Beyer, Milad Maleki, Martin Bayer, Fabian Fischer, Gontran Pâques, ABB Power Grids Switzerland, Semiconductors, CH

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Shishir Rai, DiscoverEE, USA

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Jianwen Shao, James Solovey, Wolfspeed, A Cree Company, USA; Frank Wei, Wolfspeed, A Cree Company, CN; Xin Zhao, University of Texas, USA

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Martin Bendix Fogsgaard, Jacob Bitsch Nørgaard, Francesco Iannuzzo, Aalborg University, DK

H3TRB-Test on 1200 V SiC Schottky Diodes After Previous Operation

Felix Hoffmann, Nando Kaminski, University of Bremen, D; Peter Friedrichs, Infineon Technologies, D

Power Cycle Test with Switching Losses and Integrated Hot-Spot Measurement

Alexey Krupin, Jan Fuhrmann, Hans-Günter Eckel, University of Rostock, D

Finding Solder Cavities in High Power Modules with Temperature-Sensitive Parameters

Jan Fuhrmann, Hans-Günter Eckel, University of Rostock, D; Sebastian Klauke, Infineon Technologies, D

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Erping Deng, Jie Chen, Yushan Zhao, Zixuan Zhao, Yongzhang Huang, North China Electric Power University, CN

Experimental Evaluation of Oxide Current on a Low Voltage Trench Gate Power MOS Under Mechanical Bending Conditions

Lorenzo Maurizio Selgi, Michele Calabretta, Alessandro Sitta, STMicroelectronics, I; Antonella Sciuto, Giuseppe D'Arrigo, CNR-IMM, I

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Benjamin Fabian, Sven Thomas, Marko Kalajica, Andreas Hinrich, Anna Wolf, Stefan Gunst, Heraeus, D

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Volume and Efficiency Optimization of an Industrial Flying Capacitor GaN Multilevel Inverter

Raphael Hartwig, Alexander Hensler, Siemens, D; Thomas Ellinger, Technical University of Ilmenau, D

Analysis of Short Circuit Impact on Solid State Transformers

Dirk Fischer, Regine Mallwitz, Technical University of Braunschweig, D

Improvement of ZVS Range in Dual Active Bridge Converters Using Nonlinear Inductors by Ferrite Block Insertion

Erik Smailus, Gerd Griepentrog, Technical University of Darmstadt, D; Marcel Lutze, Markus Pfeifer, Siemens, D

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Jiri Smutka, Jan Svetlik, Jakub Hajek, STMicroelectronics, CZ; Vladimir Scarpa, STMicroelectronics, D

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Muhammad Abu Bakar, Muhammad Farhan Alam, Rasoul Shalchi Alishah, Kent Bertilsson, Mid Sweden University, S

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Joao Oliveira, VEDECOM Institute, F; Montie Vitorino, Mauricio Correa, Adalberto Filho, Federal University of Campina Grande, BR

A High Power Density Inverter Utilizing SiC-MOSFET and Fair Comparison Method of the Same Kind of Power Converters

Akio Toba, Ikuya Sato, Motohito Hori, Takaaki Tanaka, Ryuji Yamada, Fuji Electric, J

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Dmitriy Sorokin, Sergey Volskiy, Moscow Aviation Institute, RUS; Yury Skorokhod, Transconverter, RUS

Argon ICP Plasma Torch at Atmospheric Pressure Driven by a SiC Based Resonant Converter Operating in MHz Range

Santiago Eizaguirre, Tim Gehring, Christoph Simon, Rainer Kling, Karlsruhe Institute of Technology, D; Fabian Denk, Ushio, D

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Christoph Friedrich, Thomas Fuchslueger, Hans Ertl, Technical University of Vienna, A; Markus Vogelsberger, Bombardier Transportation, A

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Rasoul Shalchi Alishah, Muhammad Abu Bakar, Kent Bertilsson, Mid Sweden University, S

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Jawad Ismail, Yun Wan, Hafiz Kashif Iqbal, Pedro Leal dos Santos, Steven Liu, Technical University of Kaiserslautern, D

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Low Commutation Inductance Using Standard Half Bridge IGBT Modules in High Power 3-Level (A)-NPC Inverters

Thomas Radke, Narender Lakshmanan, Daniel He, Mitsubishi Electric Europe, D;
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Ignacio Polanco, Drazen Dujic, Power Electronics Laboratory, EPFL, CH

1-MW Full-Bridge MMC for High-Current Low-Voltage (100V-400V) DC-Applications

Roland Unruh, Frank Schafmeister, Norbert Fröhleke, Joachim Böcker, University of Paderborn, D

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Fabian Hohmann, Mark-M. Bakran, University of Bayreuth, D; Dominik Schuster, Siemens, D

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Mohamed Abdelrahem, Ümit Degmez, Ralph Kennel, Technical University of Munich, D; Jose Rodriguez, Andrés Bello National University, RCH

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David Matthies, Alexander Ernst, Bernd Orlik, University of Bremen, D

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Sören Behrens, Wilfried Holzke, Holger Raffel, Bernd Orlik, University of Bremen, D

A Compact High-Efficiency GaN Based 400W Solar Micro Inverter in ZVS Operation

Van Sang Nguyen, Stephane Catellani, Anthony Bier, Jeremy Martin, Henri Zara, Jeremie Aime, CEA Tech, F

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Gerrit Bremer, Holger Behrends, Vanessa Beutel, Michael Kröner, Stefan Geißendörfer, Karsten von Maydell, DLR Institute of Networked Energy Systems, D

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Effect Investigations of Double Pulse Test on the Wide Bandgap Power Devices

Jian-Zhi Fu, Giorgio Kapino, Wulf-Toke Franke, University of Southern Denmark, DK

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Jan-Philipp Roche, KEB Automation, D; Jens Friebe, Leibniz University Hannover, D; Oliver Niggemann, Helmut Schmidt University, D

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Lukas Fräger, BLOCK Transformatoren-Elektronik, D

Digital Clock Recovery Phase-Locked Loop for Sigma-Delta Current Sensors

Jens Onno Krahn, Malte Katz, Cologne University of Applied Sciences, D

Influence of Current Sensing Equipment and DC-Link Capacitor on the Performance of a Low Inductive SiC Switching Cell

Alexander Sewergin, Severin Delhey, David Bündgen, ISEA RWTH Aachen University, D; Alexander Stippich, Rik W. De Doncker, RWTH Aachen University, D

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Markus Fürst, Mark-M. Bakran, University of Bayreuth, D

Hardware Accelerated Decoupled Current Control in Active Front End Converters for V2G Applications

Giuseppe Aiello, Francesco Gennaro, Natale Aiello, STMicroelectronics, I; Mario Cacciato, Giacomo Scelba, University of Catania, I

Modules, Thermal Management

New ST's Package TO-LL and MDmesh DM6: The Right Choice for High Level SMPS

Domenico Nardo, Alfio Scuto, Giuseppe Sorrentino, Rosario Scollo, Simone Buonomo, STMicroelectronics, I

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Guillaume Fontes, François Boige, Alvaro Morentin, Guillaume Delamare, Nicolas Videau, Power Design Technologies, F; Thierry Meynard, LAPLACE, F

Optimization of Properties Thermal Compensators from MMC AISiC for Thyristors and IGBT Modules

Konstantin Nishchev, Mikhail Novopoltsev, Ogarev Mordovia State University, RUS; Mikhail Malygin, Evgeny Nesterov, Evgenia Osipova, Denis Pyshkov, PJSC Electroprivyarnitel, RUS

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Sebastian Sprunck, Raoul Mitze, Christian Nöding, Peter Zacharias, University of Kassel, D

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Radoslava Mitova, Abdelaziz Bel Hadj, Alain Dentella, Schneider Electric, F

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Robert W. Maier, Mark-M. Bakran, University of Bayreuth, D

Increasing Power Density in Power Modules with Baseplate Width of 60 mm

Dmitry Titushkin, Alexey Surma, Sergey Antonov, JSC Proton-Electrotex, RUS

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Heat Dissipation Strategies for Silicon Carbide Power SMDs and Their Use in Different Applications

Benjamin Strothmann, Till Piepenbrock, Frank Schafmeister, Joachim Böcker, University of Paderborn, D

Experimental Evaluation of Simulation Model for Power Losses Estimation using 1200V SiC MOSFET

Tiago Kommers Jappe, Dionisis Voglitsis, On Semiconductor, D; Samir Ahmad Mussa, Federal University of Santa Catarina, BR

A New Analog Behavioral SPICE Macro Model with Self-Heating Effects and 3rd Quadrant Behavior for Silicon Carbide Power MOSFETs

Alessandra Raffa, Pier Paolo Veneziano, Alessandra Manzitto, Gaetano Bazzano, STMicroelectronics, I

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Sven Kalker, Christoph van der Broeck, Rik W. De Doncker, RWTH Aachen University, D

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Nikolay Kalugin, Mikhail Firsov, Andrey Matveev, KW Systems, RUS

Accurate Losses Multipoint Non Adiabatic Calorimetric Measurement Technique for WBG Power Converters

Martin Schiestl, Maurizio Incurvati, Ronald Stärz, Management Center Innsbruck, A; Andreas Lösch, Alpitronic, I

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Victor Golev, Jasper Schnack, Jan Philipp Gördes, Sönke Fleck, Ulf Schümann, University of Applied Sciences Kiel, D

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Kevin Muñoz Barón, Kanuj Sharma, Maximilian Nitzsche, Philipp Ziegler, Dominik Koch, Ingmar Kallfass, University of Stuttgart, D

Online Junction Temperature Measurement of Power Semiconductor Devices

Johannes Ruthardt, Kanuj Sharma, Tobias Schmid, Maximilian Nitzsche, Philipp Ziegler, Jörg Roth-Stielow, University of Stuttgart, D

SiC MOSFETs Gate Driver Systems for Effective Energy Switching Loss Evaluation

Anselmo Gianluca Liberti, Mario Pulvirenti, Gionatan Montoro, Angelo Giuseppe Sciacca, Luciano Salvo, Massimo Nania, STMicroelectronics, I

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Steffen Beushausen, Fabian Herzog, Rik W. De Doncker, RWTH Aachen University, D

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Ahmed Farhan, Mohamed Abdelrahem, Ralph Kennel, Technical University of Munich, D; Amr Saleh, University of Fayoum, ET; Adel Shaltout, University of Cairo, ET

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Timo Wilkening, Turac Cetin, Jens Onno Krah, Cologne University of Applied Sciences, D; Herbert Reiter, Dr. Johannes Heidenhain, D

Online Signal Processing for Accurate Slotting Saliency Extraction Using Two-Active SVPWM Integrated Excitation for Sensorless Induction Machine Control

Markus A. Vogelsberger, Bombardier Transportation, A; Eduardo Rodriguez Montero, Hans Ertl, Thomas M. Wolbank, Technical University of Vienna, A; Wolfram Teppan, LEM Intellectual Property, CH

Design and Evaluation of Finite Control Set Model Predictive Control of Interleaved Inverter Topology with Induction Machine

Morris Fuller, Ali Montazeri, Gerd Griepentrog, Technical University of Darmstadt, D; Oliver König, Bhaskar Pariti, AVL, A

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Julian Dobusch, Thomas Dürbaum, Friedrich-Alexander-University Erlangen-Nuremberg, D

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Mohamed Abdelrahem, Ralph Kennel, Technical University of Munich, D; Mohamed A. Ismeil, Abdelfatah Ali, South Valley University, ET; Mahmoud A. Gaafar, Aswan University, ET

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Global Optimization Approach for the Parameter Synthesis of a Pole Restraining Controller on the Example Vienna Rectifier

Marcel Gladen, WIL0, D; Volker Staudt, Ruhr-University Bochum, D

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Wilfried Holzke, Florian Redmann, Matthias Joost, Holger Raffel, Bernd Orlik, University of Bremen, D

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Jakub Jirsa, STMicroelectronics, CZ

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Carlos Villegas, Speedgoat, CH; Sabin Carpiuc, The MathWorks, GB

Enlarging ZVS Range of DABSR Converters Using Decoupled Feedback Control of Voltage and Resonant Current Angle

Erik Smailus, Ivan Kliashev, Gerd Griepentrog, Technical University of Darmstadt, D; Marcel Lutze, Markus Pfeifer, Siemens, D

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Naoki Koike, Shinichiro Nagai, Pony Electric, J

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Hadiseh Geramirad, Florent Morel, Piotr Dworakowski, Bruno Lefebvre, Thomas Lagier, Philippe Camail, SuperGrid Institute, F; Christian Vollaire, Arnaud Bréard, Laboratoire Ampère, F

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Performance Comparison of DC-DC Controllers with FPGA

Ben Jeppesen, Intel, GB

Novel Algorithm to Protect Converter from Impulsive Overvoltages by Using Neural Networks

Yury Skorokhod, Nikolay Antushev, Nikolay Volskiy, Transconverter, RUS; Sergey Volskiy, Moscow State Aviation Institute Technical University, RUS; Artem Gainanov, Nikita Frolov, DataData, RUS

Frequency Controlled Series-Resonant Converter for Optimum ZVS and Near ZCS Operation

Tim Rieger, Martin Nießen, Patrick Deck, Christian Peter Dick, Cologne University of Applied Sciences, D

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Michael Hartmann, Schneider Electric Power Drives, A; Hans Ertl, Technical University of Vienna, A

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Christian Peter Dick, Marvin Slippens, Cologne University of Applied Sciences, D

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Benedikt Kohlhepp, Tim Lanvermann, Thomas Dürbaum, Friedrich-Alexander-University Erlangen-Nuremberg, D

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Comparison of Switching Power Losses of Fixed-Frequency PWM, Hysteresis Control and Delta-Sigma PWM

Hannes Ramm, Michael Homann, Torben Schulze, Faical Turki, Heiko Rabba, IAV, D

Influence of Different Load Currents on a Stepwise Driver for Optimized IGBT Turn-Off Performance

Christoph Lüdecke, Rik W. De Doncker, RWTH Aachen University, D; Jochen Henn, Michael Laumen, ISEA RWTH Aachen University, D

Sensitivity Analysis of an Adaptive Open Loop Gate Driver to Manufacturing Related Varying IGBT Parameters

Fabian Stamer, Andreas Liske, Marc Hiller, Karlsruhe Institute of Technology, D; Norbert Stadter, Siemens, D

Multilevel Gate Driver with Adjustable Gate Voltage for Thermal Stress Reduction of Power Switches in Electric Drive Application

Lie Wang, Bas Vermulst, Jorge Duarte, Eindhoven University of Technology, NL

High-Level Synthesis of a Long Horizon Model Predictive Control Algorithm for an FPGA

Eyke Liegmann, Syed Ans Bin Khalid, Ralph Kennel, Technical University of Munich, D; Petros Karamanakos, Tampere University of Technology, FIN

CPLD and dsPIC Hybrid-Controller for Converter Prototyping Driving a Reconfigurable Transformer Phase-Shifted Full-Bridge

Stefan Haller, Muhammad Abu Bakar, Kent Bertilsson, Mid Sweden University, S

Inductor Design Considerations for Overload Conditions of LC-Filters in High Frequency GaN-Inverters

Benedikt Kohlhepp, Markus Barwig, Daniel Kübrich, Hans Roßmanith, Thomas Dürbaum, Friedrich-Alexander-University Erlangen-Nuremberg, D

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Quadratic Flyback Converter

Felix Himmelstoss, Technikum Vienna, A; Karl Edelmoser, Technical University of Vienna, A

GaN FET-Based Ultra-Thin DC-DC Step-Down Converter

Jianjing Wang, Yuanzhe Zhang, Michael de Rooij, Efficient Power Conversion, USA

Investigation of the Operating Point Dependent Vsec-Product of DC-DC Converters for a Wide Input Voltage Range

Michael Gerstner, Armin Dietz, Technical University of Nuremberg, D; Martin März, Friedrich-Alexander-University Erlangen-Nuremberg, D

Advantages and Challenges of Using SiC MOSFETs in a High Power Density Insulated HV/LV DC-DC Converter

Stefan Zeltner, Bernd Seliger, Daniel Haager, Bernd Eckardt, Hoang Linh Bach, Zechun Yu, Stephan Vater, Christoph Friedrich Bayer, Andreas Schletz, Fraunhofer Institute IISB, D; Hidekazu Umeda, Tatsuo Morita, Panasonic Industrial Devices, D

Cascade Control of a Two-Stage Isolated DC-DC Converter with Wide Input Voltage Range for Optimal Efficiency

Jan-Niklas Koch, Tim Stuckmann, Holger Borcharding, Technical University of Ostwestfalen-Lippe, D

300 W 48V-12V Digitally Controlled 1/16 Brick DC-DC Converter Using GaN FETs

Yuanzhe Zhang, Michael de Rooij, Efficient Power Conversion, USA

SiC MOSFET Enables High-Voltage Auxiliary Power Supply with Wide Input-Voltage Range

Yuequan Hu, Cree, USA; Jianwen Shao, Wolfspeed, A Cree Company, USA

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Design and Analysis of Highly Efficient SiC-Based Phase-Shift Full-Bridge Converter for Industrial DC-Grids

Tim Stuckmann, Jan-Niklas Koch, Holger Borcharding, Technical University of Ostwestfalen-Lippe, D

Highly Integrated Boost Converter Featuring a Power Density of 98 kW/dm³ and 56 kW/kg

Arne Hendrik Wienhausen, Alexander Sewergin, Rik W. De Doncker, ISEA RWTH Aachen University, D

Design and Analysis of Directly Coupled Inductor for Application in GaN Based Interleaved DC-DC Converter

Kaspars Kroics, Riga Technical University, LV

Output Capacitor Current Reduction with T-Type Dual Active Bridge Converter for Wide Output Voltage Condition

Hiroki Watanabe, Keisuke Kusaka, Jun-ichi Itoh, Nagaoka University of Technology, J

97.4%-Efficient All-GaN Dual-Active-Bridge Converter with High Step-Up High-Frequency Matrix Transformer

Armin Jafari, Mohammad Samizadeh Nikoo, Furkan Karakaya, Nirmana Perera, Elison Matioli, POWERlab, EPFL, CH

Impact of a Non-Perfect Transformer in the Behavior of Three Phase Resonant Converter

Benjamin Loyer, Eric Laboure, Group of electrical engineering - Paris, F; Mickaël Petit, Morgan Almanza, SATIE, CNAM, F

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Experimental Comparison of Discrete Cascode GaN-GaN and Single e-GaN in High-Frequency Power Converter

Alonso Gutierrez Galeano, Emmanuel Marcault, CEA-Tech Occitanie, F; David Tremouilles, Corinne Alonso, LAAS-CNRS, F

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Christoph Simon, Santiago Eizaguirre, Rainer Kling, Karlsruhe Institute of Technology, D; Fabian Denk, Ushio, D

Experimental Study of the Self-Disturbance Phenomena in a Half-Bridge Configuration of Si IGBT and SiC MOSFET Switches

Hadiseh Geramirad, Florent Morel, Bruno Lefebvre, SuperGrid Institute, F; Christian Vollaire, Arnaud Bréard, Laboratoire Ampère, F

Design of a 100W Radiation-Tolerant Power-Factor-Correction Buck AC-DC Converter

Lalit Patnaik, Grzegorz Daniluk, Salvatore Danzeca, CERN, CH

Analyzing Contactless Transmission of Energy and Information and Communication Signals via a Common Inductive Link

Nikolay Madzharov, Lyudmil Petkov, Technical University of Gabrovo, BG

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Impact of Wide-Bandgap Semiconductors on DC-Link Considerations in Servo-Drive Applications

Hendrik Neemann, Urs Obernolte, Lenze, D; Thorben Schobre, Regine Mallwitz, Technical University of Braunschweig, D

A High Bandwidth Active SiC Gate Driver for Dynamic Adjustment of Electromagnetic Emissions in Electric Vehicles

Jochen Henn, Leonard Heine, ISEA RWTH Aachen University, D; Rik W. De Doncker, RWTH Aachen University, D

Bidirectional Soft-Switching DC-DC Converter for Highly Efficient EV Chargers: Comprehensive Analysis of a 20 kW CLLLC Converter Prototype for Vehicle-to-Grid (V2G)

Matthias Luh, Thomas Blank, Marc Weber, Karlsruhe Institute of Technology, D

LLC Converter Design in Capacitive Operation Utilizes ZCS for IGBTs – a Concept Study for a 2.2 kW Automotive DC-DC Stage

Daniel Urbaneck, Philipp Rehlaender, Frank Schafmeister, Joachim Böcker, University of Paderborn, D

Novel Integrated Charger Concepts Using Six Phase Electrical Machines as Boost-Buck Converter

Erik Hoevenaars, Qi Wang, Philipp Schumann, Robert Bosch, D; Marc Hiller, Karlsruhe Institute of Technology, D

Battery Modular Multilevel Management (BM3) Converter Applied at Battery Cell Level for Electric Vehicles and Energy Storages

Manuel Kuder, Julian Schneider, Richard Eckerle, Thomas Weyh, University of the Federal Armed Forces Munich, D; Anton Kersten, Torbjörn Thiringer, Chalmers University of Technology, S

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Analytical Loss Calculation for ANPC Converters in Electric Drive Applications Using Different Modulation Strategies to Determine Efficiency and Overall Cost

Johannes Häring, Michael Gleissner, Mark-M. Bakran, University of Bayreuth, D; Wolfgang Wondrak, Maximilian Hepp, Mercedes-Benz, D

110 kW, 2.6 I SiC-Inverter for DRIVEMODE - a Highly Integrated Automotive Drivetrain

Roland Bittner, Sandro Bulovic, Matthias Kujath, Sven Bütow, Nicola Burani, SEMIKRON Elektronik, D; Nathalie Becker, Technical University of Ilmenau, D

Analysis of Parasitic Elements in Power Modules Based on GaN Components

Joao Oliveira, Florent Loiselay, VEDECOM Institute, F; Hervé Morel, Dominique Planson, INSA Lyon, F

Analysis of Power Losses within a SiC-MOSFET-Inverter with Passive dv/dt-Damping Network for Reduced Voltage Slopes at Inductive Loads

Felix Bröcker, Klaus Hoffmann, Helmut Schmidt University, D; Heiko Solmecke, Markus Grimmig, Jenoptik Advanced Systems, D

Reliable and Rugged Solutions for Automotive Safety and Transmission Applications

Filippo Scrimizzi, Carmelo Mistretta, Giuseppe Longo, Giusy Gambino, STMicroelectronics, I

DC Grids

Four Switch Buck/Boost Converter to Handle Bidirectional Power Flow in DC Subgrids

Matthias Schulz, Nico Schleippmann, Kilian Gosses, Bernd Wunder, Fraunhofer Institute IISB, D; Raphael Chacon, CEUS, D

Transient Overvoltage Protection Solutions for Drive Inverters Operating on an Open Industrial DC Grid

Simon Puls, Lenze, D; Holger Borcharding, Johann Austermann, Technical University of Ostwestfalen-Lippe, D; Jan Hegerfeld, Phoenix Contact, D

A Decentralised Controller for Multi-Terminal DC Grids Offering Grid Supporting Functions

Steffen Menzel, René Reimann, Holger Raffel, Bernd Orlik, University of Bremen, D; Reinhard Kruse, wpd, D

Dual Mode Medium Voltage Solid-State Circuit Breaker Based on Mass-Produced SiC JFETs

Jonathan Dodge, United Silicon Carbide, USA

A New Linear Power Amplifier for a Series Hybrid Cascaded H-Bridge Converter Used as a Power Hardware in the Loop Emulator

Rüdiger Schwendemann, Markus Lörcher, Marc Hiller, Karlsruhe Institute of Technology, D

High Frequency Transformers and Capacitors for the Wide Bandgap Era

Novel Analysis of the Influence of Tolerances in Geometry and Material on the Equivalent Circuit of a LLC Transformer

Jeremias Kaiser, Markus Barwig, Thomas Dürbaum, Friedrich-Alexander-University Erlangen-Nuremberg, D

Loss-Minimization of High-Frequency Power Transformers for a 11 kW/800V (H)EV Off-Board Charger

Michael Schmidhuber, Christoph Drexler, SUMIDA Components & Modules D; Wolfgang Müller, Michael Leipold, Deutronic Elektronik, D

Core Material for Design of Air-Cooled Transformer Operating Near Saturation in Induction Heating

Arun Kumar Paul, Electronics Devices World Wide, IND

Air-Core Toroidal Transformer Concept for High-Frequency Power Converters

Philipp Ziegler, Jörg Haarer, Johannes Ruthardt, Maximilian Nitzsche, Jörg Roth-Stielow, University of Stuttgart, D

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Trends in Automotive Power Electronics Discussed at Audi's first full Electric Drive Train

Robert Plikat, VW, D

Battery Energy Storage Systems: Past, Present and Future

Ahmed Elasser, GE Global Research Center, USA

Innovative Data Center Power Solutions

Roland Hümpfner, Huawei Technologies, D

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Design Consideration of GaN HEMT for a Three-Phase Motor Inverter and the Impact of the Reverse Conduction on the Losses of Inverters

Shmuel Ben-Yaakov, Ben-Gurion University, IL; Roman Volkov, David Shapiro, Evgeny Rozanov, Valery Veprinsky, Oleg Dubinsky, Ilia Bunin, VISIC Technologies, IL

Voltage Bias Effect on the ESR of Ferroelectric Ceramic Capacitors

Shmuel Ben-Yaakov, Ben-Gurion University, IL; Florian Hämmerle, Hermann Haag, OMICRON Lab, A

Enhancing Silicon Carbide CoolSiC MOSFET 1200 V Performance with Improved D2Pak Package Using Diffusion-Soldering Die Attach

Jorge Cerezo, Blaz Klobucar, Lisa Engl, Infineon Technologies, A

Primepack with 2300 V and 1200 V Trenchstop IGBT7 Enabling 1500 V-DC NPC2 in MW Solar Central Inverter

Jürgen Esch, Sergio Mansueto, Wilhelm Rusche, Koray Yilmaz, Suresh Thangavel, Infineon Technologies, D

Two-Level Slew-Rate Control Driver to Optimize IGBT Performance

Wolfgang Frank, Infineon Technologies, D; David Levett, Infineon Technologies, USA; Zi qing Zheng, Infineon Technologies, CN

Introduction of Hydrogen Sulfide (H₂S)-Protected IGBT Modules

Aleksei Gurvich, Oliver Schilling, Jens De Bock, Anton Rossin, Sanjay Mangesh, Infineon Technologies, D

Design of 20W Compact AC-DC Converter with Highly-Integrated Power IC

Haibo Li, Jia Wang, Power Integrations, USA; Yi Qian, University of Nebraska-Lincoln, USA

62 W Auxiliary Power Supply for Three-Phase Power Converters Using Infineon 1700 V Silicon Carbide MOSFET

Omar Harmon, Infineon Technologies, A; Bruce Wu, Infineon Technologies, CN

Method for Extracting Internal Gate Resistance of SiC MOSFETs from Double-Pulse Measurements

Andreas Hürner, Paul Sochor, Rudolf Elpelt, Infineon Technologies, D

An Enhanced Smart Power Module for Low Power and High Frequency Motor Drive Applications with an Improved EMI/EMC Performance

Noah Hur, David Jo, Bumseung Jin, ON Semiconductor, ROK; Marcus Preuss, ON Semiconductor, D

One Method to Optimize LLC Converter

Mladen Ivankovic, Infineon, USA

1200V Discrete CoolSiC MOSFETs in a Comparison with the Trenchstop HighSpeed IGBTs for High-Speed Spindles and Servo Drive System

Blaz Klobucar, Zihui Yuan, Infineon Technologies, A

A Novel 650V SiC Technology for High Efficiency Totem Pole PFC Topologies

Rene Mente, Ralf Siemieniec, Wolfgang Jantscher, David Kammerlander, Ute Wenzel, Giovanbattista Mattiussi, Infineon Technologies, A

Low Shrinkage EMC (Epoxy Molding Compound)

Hwasuck Oh, Chan Young Park, MyongTaek Shim, YoungEun Kwon, Byung-Seon Kong, KCC, ROK

Optimal Selection of Power Semiconductor Technology for On-Board Charger (OBC) Applications and Experimental Verification for a 2.5 kW Classical Boost Power Factor Correction (PFC)

Ajay Poonjal Pai, Lisa Holzmann, Infineon Technologies, D; Severin Kampl, Infineon Technologies, A

A New Method for Prediction of 2D Chip Temperature Distributions in General Purpose Drive Load Profiles

Alexander Philippou, Jan Meissner, David Übelacker, Christian Müller, Franz-Josef Niedernostheide, Infineon Technologies, D

High Density Cascaded ZVS Switched Capacitor Converter for 48-V Data-Center Application

Christian Rainer, Roberto Rizzolatti, Infineon Technologies, A; Diogo Varajao, Infineon Technologies, D

Short-Circuit-Current Protection of SiC Power MOSFET Including Characterization by Measurement

David Reiff, Volker Staudt, Ruhr University Bochum, D; Shunmeng Xie, Wenqing Mei, CRRC Zhuzhou Institute, CN

Developing W18O49 Electrode Material with Excellent High-Speed Charging/Discharging Characteristics

Akito Sasaki, Daisuke Fukushi, Ryosuke Hiramatsu, Hideaki Hirabayashi, Seiichi Suenaga, Syuichi Saito, Toshiba Materials, J

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Jihwan Seong, Min Ki Kim, Sang Won Yoon, Hanyang University, ROK

Concept and Analysis of a 12-Pulse Transformer with Built-In Passive Harmonic Filter

Kurt Schenk, NTB, CH; Andrzej Pietkiewicz, Elhand Consulting, CH

Loss-Optimized Active Neutral-Point Clamped Inverter in a Low-Inductive Power-Module Design

Andressa Colvero Schittler, Christian Müller, Infineon Technologies, D

Silicon Carbide MOSFETS in Drives Applications – A Comparative Study

Martin Schulz, Michael Ebli, Marcel Morisse, Jens Czichon, Infineon Technologies, D

VCSEL/Micro LED Sacrificial GaAs Etch

Scott Tice, MEI, USA

Commutation Loop Design for Optimized Switching Behavior of CoolSiC MOSFETs Using Compact Models

Paul Sochor, Andreas Huerner, Rudolf Elpelt, Infineon Technologies, D

Interleaved Buck Converter with Coupled Inductors as Auxiliary Bias-Current Source for Controllable Magnetic Devices

Alejandro Aganza Torres, Jonas Pfeiffer, Peter Zacharias, University of Kassel, D

1600 A 1200 V PrimePACK 2 with IGBT 7 for Higher Power Density in Drives Application

Koray Yilmaz, Marius Patocki, Andreas Schmal, Joscha Pfeiffer, Waleri Brekel, Infineon Technologies, D