

pcim

ASIA SHANGHAI

24 – 26 September 2025
Shanghai New International
Expo Centre, China



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CONFERENCE PROGRAM

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pcim
ASIA

28 – 30.8.2024
Shenzhen World Exhibition and
Convention Center, China
中国 • 深圳国际会展中心

mesago

International Exhibition and Conference for
Power Electronics, Intelligent Motion, Renewable
Energy and Energy Management
电力电子、智能运动、可再生能源
深圳国际电力元件、可再生能源管理展览会

Conference

www.pcimasia-expo.com

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Welcome Address



Chairman
Leo Lorenz
ECPE, DE

Dear PCIM Asia Shanghai participants,

I am very happy and honored to welcome all of you to the PCIM Asia Shanghai 2025 Exhibition and Conference in Shanghai.

Electrifying the world power electronics is the enabling technology. In generation, transmission, distribution and electrified end-use applications, technologies like WBG devices, single stage and/or multilevel converter topologies and digital control concepts already enable high performance of Power Electronics Technology. In addition to technological development, we must pay more attention to sustainable designs and circular economy to minimize life cycle environmental impacts and environmental health. Power Electronics is a cross-sectional discipline therefore PCIM covers the whole value-added chain from new materials, semiconductor devices, assembly and interconnection technologies, electrical circuit topologies and control in all systems and applications dealing with electric energy.

The PCIM Asia Shanghai Conference is well-known and the highest established Platform attracting the world’s foremost experts and decision makers from industry and academia in the field of power electronics components and system engineering to discuss future technological trends and new products relevant for the market. In this year’s PCIM conference industry experts and leading academics will provide presentations covering new developments in the fields of power devices, advanced packaging technologies, and future power converters for automotive and renewable energy systems. PCIM Asia Shanghai is a worldwide hub for designers, engineers and researchers in the field of power electronics as well as decision makers from companies to create new market segments and trigger future avenues of research.

Leading edge innovation in power electronics components and systems will be shown and discussed during this year’s PCIM Asia Shanghai Conference

The technical program for this year’s PCIM Asia Shanghai is highlighting new achievements of semiconductors with a strong focus on SiC and GaN Devices and new interface technologies including relevant packaging designs handling ultrafast switching devices with extended lifetime and sensing parameters for predictive diagnostic functions as well as digital controlled power conversion concepts based on AI features for advanced motor control traction and SMART grid applications.

Conference highlights and important innovations will be addressed with the keynote presentations. Keynote presentations will demonstrate and discuss: Future Perspectives of Power Electronics for E-Vehicles, ultra–compact and high efficient Power Supplies Enabling AI Computing as well as trends in Power Supply architecture driving Large - Scale Data Centers.

Further on I would like to stress special attention to research achievements carried out by engineers from industry and academia with their presentations as well as the “Best Paper Award”, “Young Engineer Award” and “University Scientist Award” handed out during the PCIM Asia Shanghai conference 2025.

I wish you an enjoyable and successful conference, open dialogue with all the experts attending and many new ideas for your future product innovation and business.

PCIM Asia Shanghai

Advisory Board

Chairman



Leo Lorenz
ECPE, DE

Board of Directors



Naoto Fujishima
Fuji Electric, JP



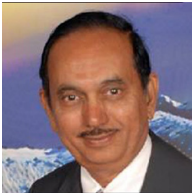
Yongdong Li
Tsinghua University, CN



Jinjun Liu
Xi'an Jiaotong University, CN



Gourab Majumdar
Mitsubishi Electric Corporation, JP



Abhijit D. Pathak
ADP-Power LLC, USA



Norbert Pluschke
CN-iCuTech Semiconductor, HKSAR, CN



Xinbo Ruan
Nanjing University of Aeronautics and Astronautics, CN



Tianhao Tang
Shanghai Maritime University, CN



Dehong Xu
Zhejiang University, CN



Dianguo Xu
Harbin Institute of Technology, CN



Jianping Ying
Delta Electronics, CN



Dapeng Zheng
Shenzhen Hopewind Electric, CN

Technical Committee



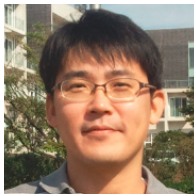
Jean-Paul Beaudet
Schneider Electric, FR



Yijen Chan
Cyntec Co., Ltd, TW, CN



Min Chen
Zhejiang University, CN



Youngchul Choi
Panjit International, USA



Ziyang Chen
CN



Lifeng Chen
Infineon Technologies, CN



Bo Chen
LEM Electronics (China)
Co.,Ltd., CN



Pete Chia
Akkodis Shanghai Co., Ltd, CN



Francesco Gennaro
STMicroelectronics, IT



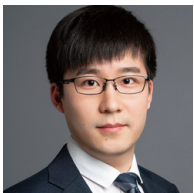
Wei Jing
Semikron Danfoss, CN



Jinsong Kang
Tongji University, CN



Yong Kang
Huazhong University of
Science and Technology, CN



Teng Liu
China Southern Power Grid
Electric Power Research
Institute, CN



Fangcheng Liu
Canadian Solar Inc., CN



Haihui Luo
Zhuzhou CRRC Times
Semiconductor, CN



Yu-Kang Lo
LITE-ON Technology, TW, CN

Technical Committee



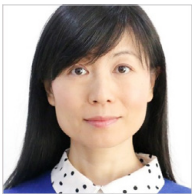
Meiqin Mao
Hefei University of
Technology, CN



Mingping Mao
Infineon Technologies
Asia Pacific Pte. Ltd., SG



Gaosheng Song
Mitsubishi Electric
Semiconductor, CN



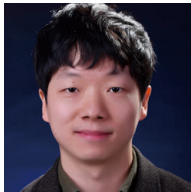
Yi Tang
Starpower Semiconductor,
CN



Shunli Wang
Inner Mongolia University
of Technology, CN



Xuhui Wen
Institute of Electrical
Engineering, Chinese
Academy of Sciences, CN



Xuanlyu Wu
Shenzhen Xihe Future
Technology, CN



Lie Xu
Tsinghua University, CN



Gang Yao
Shanghai Maritime
University, CN



Xing Zhang
Hefei University of
Technology, CN



Guoqiang Zhang
Harbin Institute of
Technology, CN



Miao Zhu
Shanghai Jiao Tong
University, CN

Conference Program at a Glance

Wednesday, 24 September 2025

09:10 – 10:00	Conference Room 1 Conference Opening & Award Ceremony Conference Director: Leo Lorenz, ECPE, DE			
10:00 – 10:40	Conference Room 1 Keynote 1 Technological Evolution and Future Perspectives of Electric Vehicle Speaker: Liu Chang, SuZhou Inovance Automotive Co., ltd. Chair: Meiqin Mao, Hefei University of Technology, CN			
10:40 – 10:55	Tea break & Room change			
10:55 – 12:45	Conference Room 1 Oral Session: WBG I_SiC Chair: Naoto Fujishima, Fuji Electric, JP		Conference Room 2 Oral Session: Smart Grid Power Electronics Chair: Dapeng Zheng, Shenzhen Hopewind Electric, CN	
12:45 – 13:30	Lunch Break			
13:30 – 15:00	Poster Dialogue Session 1 Power Si-Devices Chair: Shunli Wang, Inner Mongolia University of Technology, CN	Poster Dialogue Session 2 WBG Devices Chair: Ziyang Chen, CN	Poster Dialogue Session 3 Packaging & Reliability Chair: Gaosheng Song, Mitsubishi Electric Semiconductor, CN	Poster Dialogue Session 4 Power Converter Chair: Guoqiang Zhang, Harbin Institute of Technology, CN
15:00 – 16:40	Conference Room 1 Oral Session: Si Device Chair: Yi Tang, Starpower Semiconductor, CN		Conference Room 2 Oral Session: Packaging & Reliability I Chair: Norbert Pluschke, CN-iCuTech Semiconductor, HKSAR, CN	

Thursday, 25 September 2025


09:30 – 10:10	Conference Room 1	Keynote 2 Ultra-Compact and Efficient Power Supply Enabling AI Computing Speaker: Teng Long, University of Cambridge Chair: Xuhui Wen, Institute of Electrical Engineering, Chinese Academy of Sciences, CN	
10:10 – 10:25	Coffee Break & Room Change		
10:25 – 12:15	Conference Room 1 Oral Session: WBG II_GaN Chair: Gourab Majumdar, Mitsubishi Electric Corporation, JP	Conference Room 2 Oral Session: Motor Drive & Motion Control Chair: Tianhao Tang, Shanghai Maritime University, CN	
12:15 – 13:30	Lunch Break		
13:30 – 15:00	Poster Dialogue Session 5 Motor Control Chair: Jinsong Kang, Tongji University, CN	Poster Dialogue Session 6 High Frequency Power Converter Chair: Min Chen, Zhejiang University, CN	Poster Dialogue Session 7 Smart Grid & Energy Transmission Chair: Teng Liu, China Southern Power Grid Electric Power Research Institute, CN
15:00 – 16:40	Conference Room 1 Oral Session: SiC related hybrid switch Chair: Yijen Chan, Cynotec Co., Ltd, TW, CN	Conference Room 2 Oral Session: Packaging & Reliability II Chair: Wei Jing, Semikron Danfoss, CN	

Friday, 26 September 2025

09:30 – 10:10	Conference Room 1 Keynote 3 Evolutionary Trends in Power Supply for AI Data Centers Speaker: Zhaozheng Hou, Huawei Digital Power, China Chair: Jinjun Liu, Xi'an Jiaotong University, CN	
10:10 – 10:25	Coffee Break & Room Change	
10:25 – 12:40	Conference Room 1 Special Session: “Power Chiplet” technology, ultra-high-power density platform for future power electronics Chair: Naoto Fujishima, Fuji Electric, JP Organizer: Ichiro Omura, Kyushu Institute of Technology, JP	Conference Room 2 Oral Session: Advanced low power Module Design Chair: Lifeng Chen, Infineon Technologies, CN
12:40 – 13:30	Lunch Break	
13:30 – 18:00	PCIM Asia Shanghai Tour – E-mobility *only by invitation, First in first served	




BEST PAPER AWARD FINALIST (1 WINNER)



pcim
ASIA SHANGHAI
Best Paper Award
FINALIST

This award is sponsored by:



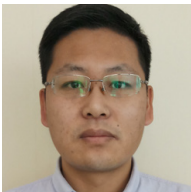
MITSUBISHI
ELECTRIC
Changes for the Better



Wending Zhao, Zhejiang University, China
25kW/L 99.2% Efficiency Wide Output Three-phase PFC based on
Modular Inductive Switching Network
25. 9 | 11:20 a.m. | Conference Room 1




Xiangyu Wan, Xiangyu Wan, Huazhong University of Science and Technology, China
Research on Overcurrent Interruption Capability and Influencing Factors of SiC
MOSFETs in DCCBs
24. 9 | 11:55 a.m. | Conference Room 1




Jian Sun, Mitsubishi Electric & Electronics (Shanghai) Co., Ltd., China
Realize High Performance 200kVA Auxiliary Power Supply with 1.7kV SiC MOSFET
24. 9 | 13:30 p.m. | Poster Gallery

YOUNG ENGINEER AWARD FINALISTS (1 WINNER)



pcim
ASIA SHANGHAI
Young Engineer Award
FINALIST

This award is sponsored by:



SEMIKRON
DANFOSS



Wending Zhao, Zhejiang University, China
25kW/L 99.2% Efficiency Wide Output Three-phase PFC based on
Modular Inductive Switching Network
25. 9 | 11:20 a.m. | Conference Room 1




Xiangyu Wan, Xiangyu Wan, Huazhong University of Science and Technology, China
Research on Overcurrent Interruption Capability and Influencing Factors of SiC
MOSFETs in DCCBs
24. 9 | 11:55 a.m. | Conference Room 1




Akito Nakagome, Fuji Electric Co., Ltd., Japan
3D Wiring Technology Development for Power Modules to Achieve High-Power
Density
25, 9 | 15:35 a.m. | Conference Room 2

UNIVERSITY SCIENTIST AWARD FINALISTS (5 WINNERS)




This award is sponsored by:






Wending Zhao, Zhejiang University, China
25kW/L 99.2% Efficiency Wide Output Three-phase PFC based on Modular Inductive Switching Network
25. 9 | 11:20 a.m. | Conference Room 1



Xiangyu Wan, Huazhong University of Science and Technology, China
Research on Overcurrent Interruption Capability and Influencing Factors of SiC MOSFETs in DCCBs
24. 9 | 11:55 a.m. | Conference Room 1



Xin Wu, College of Electrical Engineering, Zhejiang University, China
Design and Testing of 1.44 kVac / 270 Vdc 50 kW Solid-state Transformer Cell for Data Centers
24. 9 | 11:30 a.m. | Conference Room 2



Christos Madmelis, ARISTOTLE UNIVERSITY OF THESSALONIKI
A Flexible Operated Li-ion Battery Management System for Motor Drives in Electric Vehicle Applications
25.9 | 11:25 a.m. | Conference Room 2




Xubo Gong, Harbin Institute of Technology, China
PDC-Based Hybrid Flux Observer with Flux Error Estimation for Sensorless SPMSM Drives
25. 9 | 13:30 p.m. | Poster Gallery



Xu Jiang, Zhejiang University, China
Dynamic On-Resistance Characterization of GaN HEMTs under High Temperature Using Multigroup Double Pulse Test
25. 9 | 11:00 a.m. | Conference Room 1



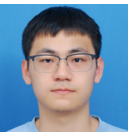
Dan Zheng, Chinese Academy of Sciences, China
Online Monitoring of SiC MOSFET Junction Temperature with Full-range and Gate oxide Defect Insensitivity
24. 9 | 12:20 a.m. | Conference Room 1



Jiahui He, Harbin Institute of Technology, China
A High-Power Step-Up DC Transformer for Renewable Energy Distribution Systems
24. 9 | 11:05 a.m. | Conference Room 2



Haobin Chen, Zhejiang University, China
Application of Cu Sintering Technology in High-Power-Density Double-Sided Cooling SiC Module
24. 9 | 13:30 p.m. | Poster Gallery




Xiang Pan, Hefei University of Technology, China
Multi-Objective Optimization Design of Dual-Bridge Series Resonant Converter Based on Deep Reinforcement Learning
25. 9 | 13:30 p.m. | Poster Gallery



Jiaxuan Yu, Shanghai University, China
Reducing the Size and Weight of Filter Inductor for NPC 3-Level Inverter with 240CPWM
25. 9 | 13:30 p.m. | Poster Gallery




Jiahui Zhang, Hefei University of Technology, China
Fault Classification Method for PEMFC Based on Equivalent Circuit and SVM
24. 9 | 13:30 p.m. | Poster Gallery



Zhibo Liu, Hefei University of Technology, China
Probability Predication of Electric Vehicle Schedulable Capacity Based on Improved Informer with Copula
25. 9 | 13:30 p.m. | Poster Gallery



Xu Gao, Beijing University of Technology, China
Spatial-Temporal Customizable Topology Graph Networks Combined with LSTM for Power Device RUL Prediction
24. 9 | 13:30 p.m. | Poster Gallery



Christos Mademlis, Aristotle University of Thessaloniki, Greece
Advanced Energy Management to Effectively Utilize Buildings' Renewable Energy Generation and Storage Capabilities
24. 9 | 11:55 a.m. | Conference Room 2



Speaker:
Liu Chang, Director of R&D Center,
SuZhou Inovance Automotive Co., Ltd.



Chair:
Meiqin Mao, Hefei University
of Technology, CN



Speaker:
Teng Long, University of
Cambridge



Chair:
Xuhui Wen, Institute of
Electrical Engineering, Chinese
Academy of Sciences, CN

Wednesday, 24 September 2025 10:00 a.m., Conference Room 1

Technological Evolution and Future Perspectives of Electric Vehicle

Core Requirements of Power Electronics in EV Applications:

- High Reliability
- High Availability
- High Efficiency
- High Power Density
- High EMC Performance

Technology Trends and Future Directions:

- System Architecture
- Circuit Topologies integrated
- Control Algorithms
- Power Semiconductors
- Fundamental Processes & Materials
- Manufacturing Processes.



Speaker:
Zhaozheng Hou, Huawei
Digital Power, China



Chair:
Jinjun Liu, Xi'an Jiaotong
University, CN

Friday, 26 September 2025 09:30 a.m., Conference Room 1

Evolutionary Trends in Power Supply for AI Data Centers

The artificial intelligence market is experiencing unprecedented prosperity, China's AI computing power market is expected to reach \$33.7 billion by 2026. In the face of future evolution demands, data security, and the high energy consumption of megawatt-level data centers, a secure and reliable architecture becomes very important. This presentation will discuss three dimensions: flexible scalability, safety and reliability, and high efficiency and energy saving. It will explore multiple future

Thursday, 25 September 2025 09:30 a.m., Conference Room 1

Ultra-Compact and Efficient Power Supply Enabling AI Computing

Modern high-performance computing core XPUs (e.g. CPUs, GPUs, and TPUs) consumes hundreds even thousands of amperes of current each at a low voltage ($\leq 1V$). Meanwhile, High Voltage DC such as 400V and 800V DC feed is increasingly popular in datacentre power architecture. This requires a holist design and optimisation from 800 to 0.5V DC system. Rapid growth of AI applications is increasingly demanding more electrical power with high system efficiency and dynamic response. The power supply must be deployed in proximity to the XPU in extremely constrained space, requiring the power supplies to be ultra-compact and efficient. Emerging power electronics technologies such as advanced topologies, power semiconductors, high frequency magnetics, and module packaging need to be urgently adopted to meet such challenging application specifications. This talk will share research and industrial frontier of power supplies for XPUx. Technical identifiers of such power supplies will be outlined. The latest industrial solutions will be highlighted.



09:10 – 10:00	Conference Room 1 Conference Opening & Award Ceremony Conference Director: Leo Lorenz, ECPE, DE 
10:00 – 10:40	Conference Room 1 Keynote 1 Technological Evolution and Future Perspectives of Electric Vehicle Speaker: Liu Chang, Director of R&D Center, SuZhou Inovance Automotive Co., Ltd. Chair: Meiqin Mao, Hefei University of Technology, CN
10:40 – 10:55	Tea break & Room change

Find the matching manuscript in your proceedings via the presentation numbers listed here.



Conference Room 1

WBG I_SiC




Chairperson:
Naoto Fujishima, Fuji Electric, JP

10:55
Chair’s opening speech


Conference Room 2

Smart Grid Power Electronics




Chairperson:
Dapeng Zheng, Shenzhen Hopewind Electric, CN

10:55
Chair’s opening speech



11:05
400 V SiC MOSFET Unlocks New Efficiency and Power Density Ranges for Server and AI Power Supply Solutions

Owen Song, Infineon Semiconductors (Shenzhen) Company Limited, China
David Meneses, Infineon Technologies Nordic AB, Finland
Ralf Siemieniec, Alex Rossi, Matteo-Alessandro Kutschak, Sriram Jagannath, Infineon Technologies Austria AG, Austria



11:30
Impact of P-well Contact on Dynamic Losses in Scaled 1.2 kV SiC MOSFETs for Parallel Switching Applications

Paula Reigosa Díaz, Roger Stark, Nick Schneider, Tommaso Steconi, Lars Knoll, SwissSEM Technologies, Switzerland
Leon Liang, Coris Li, Sun.King Pacific Semiconductor Technology, China



11:55
Research on Overcurrent Interruption Capability and Influencing Factors of SiC MOSFETs in DCCBs

Xiangyu Wan, Lin Liang, Zhongqi Guo, Imran Zulfiqar, State Key Laboratory of Advanced Electromagnetic Technology, School of Electrical and Electronic Engineering, Engineering Research Center of Power Safety and Efficiency, Ministry of Education of China, Huazhong University of Science and Technology, China



12:20
Online Monitoring of SiC MOSFET Junction Temperature with Full-range and Gate oxide Defect Insensitivity

Dan Zheng, Xuhui Wen, Zhijie Qiu, Hongyang Li, Puqi Ning, Tao Fan, State Key Laboratory of High Density Electromagnetic Power and Systems, Institute of Electrical Engineering, Chinese Academy of Sciences, China
Wenyuan Ouyang, Xiaofeng Jiang, University of Chinese Academy of Sciences, China



11:05
A High-Power Step-Up DC Transformer for Renewable Energy Distribution Systems

Jiahui He, Ning Wang, Binbin Li, Yingzong Jiao, Dianguo Xu, The School of Electrical Engineering and Automation, Harbin Institute of Technology, China



11:30
Design and Testing of 1.44 kVac / 270 Vdc 50 kW Solid-state Transformer Cell for Data Centers

Xin Wu, Haihong Long, Haoxiang Wang, Yi Zhou, Wenxin Wang, Dehong Xu, College of Electrical Engineering, Zhejiang University, China



11:55
Advanced Energy Management to Effectively Utilize Buildings’ Renewable Energy Generation and Storage Capabilities

Christos Mademlis, Evangelos Tsioumas, Nikolaos Jabbour, Despoina Antoniadou, Vasileios Vlastos, School of Electrical and Computer Engineering, Aristotle University of Thessaloniki, Greece




12:20
Adaptive Switching Frequency Boundary in Hybrid DCM and BCM Method for Flyback Micro-Inverter

Lwena Delgado, Anqi Wang, Chen Xu, Yichen Xu, Shanghai University, China

12:45 – 13:30	Lunch Break
13:30 – 15:00	Poster Dialogue Session

Conference Room 1

Si Devices




Chairperson:
Yi Tang, Starpower Semiconductor, CN

15:00
Chair's opening speech

Conference Room 2

Packaging & Reliability I




Chairperson:
Norbert Pluschke, CN-iCuTech Semiconductor, HKSAR, CN

15:00
Chair's opening speech




15:10
A new IGCT Platform for up to 8.5 kV with unprecedented turn-off current capability

Umamaheswara Vemulapati, Tobias Wikström, Urban Meier, Mark Frecker, Thomas Stiasny, Christian Winter, Hitachi Energy Ltd. Semiconductors, Switzerland
Zuzana Ptakova, Hitachi Energy s.r.o., Semiconductors, Czech Republic



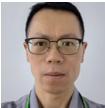
15:50
Next Generation 1200V IGBT and Diode Technology for Automotive Drivetrain Applications

Jiong Wu, Alexander Beckmann, Matteo Dainese, Matthias Fiebig, René Spenke, Infineon Technologies AG, Germany



15:10
Effect of Processing Condition on Reliability Performance of SiC package by Pressure-less Silver Sintering

Ziyang Li, Qingyuan Tang, Bo Luo, Xiangsheng Ma, Guangdong Fenghua Semiconductor Technology Co., Ltd., China



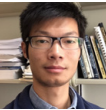
15:50
High Performance Materials Developing for Power Module

Shihuan Lu, Sumitomo Bakelite (Suzhou) Co., Ltd., China
Yuta Ikari, Go Ichizawa, Sumitomo Bakelite Singapore Pte., Ltd., Singapore



15:35
Enhanced 900 A 1700 V ED Module with Micropattern Trench IGBT for High Performance and Reliability

Nick Schneider, Rémi Guillemin, Raffael Schnell, Sven Matthias, Chantal Toker, Lars Knoll, SwissSEM Technologies AG, Switzerland
Ben Gao, Ian Wang, Sunking Pacific Semiconductor Technologies (Zhejiang) Ltd., China




16:15
Asymmetric ESD protection in bidirectional trench power MOSFETs for Li-ion battery applications

Xueqing Liu, Xiaobin Wang, Ji Pan, Sik Lui, Madhur Bobde, Alpha and Omega Semiconductor, the United States



15:35
Full SiC SLIMDIP for High Efficiency Applications

Takakura Kazuki, Yuki Terado, Yuya Omagari, Toma Takao, Akiko Goto, Koichiro Nguchi, Mitsubishi Electric Corporation, Japan
Kai Jiang, Xiaoliang Wang, Mitsubishi Electric & Electronics (Shanghai) Co., Ltd., China



16:15
All in One Copper Sintering – Die attach and Substrate Attach in Single Step with Soft Tool

Sri Krishna Bhogaraju, CuNex GmbH, Germany
Simon Merkert, Maximilian Rodemers, PINK GmbH Thermosysteme, Germany




Scan the code to follow the official WeChat account for more infromations.



09:10 – 10:10	Conference Room 1 Keynote 2 Ultra-Compact and Efficient Power Supply Enabling AI Computing Speaker: Teng Long, University of Cambridge, China Chair: Xuhui Wen, Institute of Electrical Engineering, Chinese Academy of Sciences, CN
10:10 – 10:25	Coffee Break & Room Change

Conference Room 1

WBG I_GaN




Chairperson:
Gourab Majumdar, Mitsubishi Electric Corporation, JP

10:25
Chair’s opening speech

Conference Room 2

Motor Drive & Motion Control



Chairperson:
Tianhao Tang, Shanghai Maritime University, CN

10:25
Chair’s opening speech



10:35
System benefit of drone driven by GaN based inverter


Alan Wai Keung Lun, Infineon Technologies Hong Kong Limited, HKSAR, China
Marco Cannone, Infineon Technologies Austria AG, Austria
Shawn Wu, Infineon Semiconductors (Shenzhen) Company Limited, Chin



11:00
Dynamic On-Resistance Characterization of GaN HEMTs under High Temperature Using Multigroup Double Pulse Test


Xu Jiang, Xinke Wu, Jiahui Sun, College of Electrical Engineering, Zhejiang University, China
Xu Jiang, Xinke Wu, ZJU-Hangzhou Global Scientific and Technological Innovation Center, China
Yuwei Wu, Kevin J. Chen, Department of Electronic and Computer Engineering, The Hong Kong University of Science and Technology, Hong Kong, China






11:25
1700V GaN Switch with Adaptive Zero-Voltage Switching for Multi-Output Flyback Converters


Han Cui, Ferhat Tuncer, Yi Li, Power Integrations, United States of America





11:50
25kW/L 99.2% Efficiency Wide Output Three-phase PFC based on Modular Inductive Switching Network

Wending Zhao, Xinke Wu, Zhejiang University, China
Wending Zhao, Xinke Wu, ZJU-Hangzhou Global Scientific and Technological Innovation Center, China











10:35
Deadbeat predictive Control of Dual Three-Phase Linear Motors Based on Sliding Mode Observer

Huifei Cheng, Zongbo Hu, Jinsong Kang, College of Transportation, Tongji University, China




11:00
Dual Position Feedback-Based Oscillation Suppression Method for Full Closed-Loop Position Control

Xiangrui Xu, Xinyuan Liu, Dianguo Xu, Harbin Institute of Technology, China




11:25
A Flexible Operated Li-ion Battery Management System for Motor Drives in Electric Vehicle Applications

Christos Mademlis, Nikolaos Jabbour, Evangelos Tsioumas, School of Electrical and Computer Engineering, Aristotle University of Thessaloniki, Greece



11:50
Artificial Intelligence Augmented P(AI)ID Cycle-by-Cycle Controller for Automotive DC-DC Converter Applications Based on AURIX TC4x

Mihail Jefremow, Aziz Banna, Juergen Schaefer, Arndt Voigtlaender, Infineon Technologies, Germany
Alberto Trentin, Infineon Technologies, Italy



12:45 – 13:30	Lunch Break
13:30 – 15:00	Poster Dialogue Session

Conference Room 1

SiC related hybrid switch



Chairperson:

Yijen Chan, Cyntec Co., Ltd, TW, CN

15:00

Chair's opening speech

Conference Room 2

Packaging & Reliability II



Chairperson:

Wei Jing, Semikron Danfoss, CN

15:00

Chair's opening speech



15:10

Introducing a new 650 V SOI Gate Driver with Improved DESAT Protection

Zhou Chen, Mercedes Labella, Gianluca Mele, Infineon Technologies Americas Corp., the United States



15:50

Practically achievable WLTC loss improvements for the Si/SiC hybrid switch approach in a 400 V automotive traction inverter application – a retrofitting case study

Hariprasad Baburajan, Alexander Bucher, Christian Hasenohr, Alexander Rambetius, Mohadeseh Jahani, Sabarinadh Pamarathi, Valeo eAutomotive Germany GmbH, Germany



15:10

Analysis and Study on the Advantages of one Innovative SiC Chip Embedding PCB Solution for xEV Main Inverter Application

Hao Zhang, Wen Xu, Xiaobo Jing, Infineon Technologies China Co., Ltd. China
Ippisch Matthias, Fontana Nico, Infineon Technologies AG, Germany



15:50

Advanced cooling of power electronics with copper cold sprayed aluminum heatsinks & busbars

Michael Dasch, Reeti Singh, Ján Kondás, Max Meinicke, Leonhard Holzgaßner, Markus Brotsack, Impact Innovations, Germany



15:35

FusionPlus – Novel Hybridswitch to improve efficiency and reduce system cost in 800V battery vehicles inverter

Norbert Pluschke, CN-iCuTech Semiconductor Hongkong, HKSAR, China
Carl Yang, YiTong Semiconductor, China



16:15

Active DC-Link capacitor discharge methods with Si/SiC Fusion power module for addressing vehicle cost down

Tomas Reiter, Julius Schapdick, Michael Krug, Matthias Weinmann, Infineon Technologies AG, Neubiberg, Germany
Michael Niendor, Infineon Technologies AG, Warstein, Germany





15:35

3D Wiring Technology Development for Power Modules to Achieve High-Power Density

Akito Nakagome, Tsubasa Watakabe, Souta Yamaguchi, Yuichiro Hinata, Hiromichi Gohara, Shinichiro Adachi, Yoshinari Ikeda, Hirohisa Ooyama, Fuji Electric Co., Ltd., Japan



16:15

Increased power density and lifetime of thin automotive inverter chips through Cu bonding



Maria Spies, Matthias Fiebig, Tomas Reiter, Mark Muenzer, Infineon Technologies AG, Neubiberg, Germany
Michael Niendorf, Matthias Fiebig, Matthias Lassmann, Dennis Bräker, Marc Tuellmann, Nikolaj Gorte, Infineon Technologies AG, Warstein, Germany
Mohamed Salleh, Mohamed Saheed, Infineon Technologies Sdn. Bhd., Kulim, Malaysia







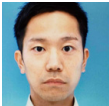




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09:10 – 10:10	Conference Room 1 Keynote 3 Evolutionary Trends in Power Supply for AI Data Centers Speaker: Zhaozheng Hou, Huawei Digital Power, China Chair: Jinjun Liu, Xi'an Jiaotong University, CN
10:10 – 10:25	Coffee Break & Room Change

Conference Room 1 Invited Session:"Power Chiplet" technology, ultra-high-power density platform for future power electronics	Conference Room 2 Advanced low power Module Design
 <div>Organizer: Ichiro Omura, Kyushu Institute of Technology, JP</div>	 <div>Chairperson: Naoto Fujishima, Fuji Electric, JP</div>

 <div>10:30 Power Chiplet Technology for Next Generation Power Electronics Systems Ichiro Omura, Kyushu Institute of Technology, JP</div>	 <div>11:15 Chip Embedded Panel level Power Package for AI and Vehicles Yoshiaki Aizawa, AOI ELECTRONICS CO.,LTD., JP</div>	 <div>10:25 Inductor-Induced Oscillations in SiC Device Characterization: A Comparative Study Nguyen-Nghia Do, Jung-Pei Cheng, Yu-Ming Chen, Chen-Min Chen, Sheng-Tsai Wu, Tai-Jyun Yu, PowerX Semiconductor, Taiwan, China</div>	 <div>11:25 Thermal Performance Analysis and Study on one Top Side Cooling discrete package for xEV OBC Application Jiming Li, Shaoyang Li, Hao Zhang, Xiaobo Jing, Infineon Technologies China Co., Ltd., China</div>
 <div>10:50 Advanced Packages With Power-On-Substrate SolutionsElectronics – Embedding of SiC MOSFET for High-performance Power Modules Frye Fung, ACCESS Semiconductor Co., Ltd., CN</div>	 <div>11:40 Novel Integration Concepts for Power Electronics – Embedding of SiC MOSFET for High-performance Power Modules Lars Boettcher, Fraunhofer IZM Berlin, GE</div>	 <div>11:00 New Transfer-Molded Compact DIPIPM™ Takamasa Miyazaki, Naoki Ikeda, Shuhei Yokoyama, Hiroyuki Nakamura, Masataka Shiramizu, Mitsubishi Electric Corporation, Japan Hongguang Huang, Mitsubishi Electric & Electronics (Shanghai) Co., Ltd., China</div>	 <div>11:50 SiC MOSFET based CCM Totem-pole PFC with Ultra-slim Design Guoxing Zhang, Zan Wang, Infineon Technologies, China Pengcheng Bai, Infineon Technologies, Singapore</div>
	<div>12:05 Discussion with Speakers</div>		 <div>12:15 Voltage Derating Behavior of High Temperature Capacitors for DC-Link Applications Adel Bastawros, SABIC, USA Yuan Zhou, SABIC, China Fumio Yu, SABIC, Japan Takeshi Horiguchi, Takashi Mori, Kenichi Oshita, Nichicon, Japan</div>


12:45 – 13:30	Lunch Break
13:30 – 18:00	PCIM Asia Shanghai Tour – E-mobility *only by invitation, First in first served

Power Si-Devices




Chairperson:
Shunli Wang, Inner Mongolia University of Technology, CN


PP001

**Superjunction MOSFET with a Trench Contact and Embedded SiO₂ Insulator for Excellent Reverse Recovery**
Rui Li, Keqiang Ma, Fanxin Meng, Xingli Jiang, Min Hu, Chengdu Semi-Future Technology Co., Ltd., China


PP002

**New developed 3.3kV/2.4kA Trench IGBT for Traction application**
Xing Chen, Liheng Zhu, Bin Wang, Rongzhen Qin, Qiang Xiao, State key Laboratory of Advanced Power Semiconductor Devices, China
Xing Chen, Liheng Zhu, Bin Wang, Rongzhen Qin, Qiang Xiao, Zhuzhou CRRC Times Semiconductor Co. Ltd., China


PP003

**Plasma Shaping in Silicon Diodes by Cathode-Side Lifetime Recovery**
Nick Schneider, Paula Reigosa Díaz, Tommaso Stecconi, Roger Stark, Lars Knoll, SwissSEM Technologies AG, Switzerland
Coris Li, Leon Liang, Sun.King Pacific Semiconductor Technology, China


PP004

**Benefits of EDT3 750V Technology in Automotive Inverter Applications**
Jiong Wu, Alexandra Bausch, Nebojsa Levkovski, Mathias Geike, Cedric Ouvrard, Infineon Technologies AG, Germany


PP005

**The Impact of Gate Driver Loop Output Capability and Stray Parameters on Switching Performance**
Jie Dong, Infineon Technologies, China


PP006

**Optimized Water Jacket Pin-Fin design for Reducing Pressure Drop in Cooling System**
Juyoung Kim, Monnseok Hong, onsemi, Korea
Roveendra Paul, Leon Zhang, onsemi, USA


PP007

**1200V and 650V Automotive Power Module Applications in Various EV OBC and DC/DC Converters**
Younhee Lee, BumSeung Jin, Noah Hur, onsemi, USA
Duwon Lee, Kangyoon Lee, Jinwoo Park, Yeri Bai, Jeongmin Lee, onsemi, Korea

PP008


**New intelligent power module, CIPOS™ Mini DCB IPM with 7th generation IGBTs for motor drive applications**
Bokkeun Song, Jonguk Lee, Kihyun Lee, Taejin Lee, David Jo, Infineon Technologies Korea, South Korea

WBG Devices




Chairperson:
Ziying Chen, CN


PP009

**Investigation on Channel Mobility of SiC Trench MOSFET**
Qijun Liu, Yao Yao, Qiming He, Yehui Luo, Guan Song, Yafei Wang, Chengzhan Li, Qiang Xiao, Haihui Luo, Zhuzhou CRRC Times Semiconductor Co., LTD, China
Qijun Liu, Yao Yao, Qiming He, Yehui Luo, Guan Song, Yafei Wang, Chengzhan Li, Qiang Xiao, Haihui Luo, State Key Laboratory of Power Semiconductor and Integration Technology, China


PP010

**A Robust and Reproducible Gate Charge Measurement Approach for SiC MOSFET Characterization**
Wenqi Zhou, Tobias Pfletschinger, Lixi Yan, Andreas Hammele, Hadiuzzaman Syed, Karl Oberdieck, Robert Bosch GmbH, Germany


PP011

**Application of SiC Hybrid Discrete in Photovoltaic and Energy Storage Systems**
Shuai Cao, Rui Rong, MACMIC SCIENCE&TECHNOLOGY CO., LTD., China


PP012

**Switching behavior investigation of 1200V CoolSiC™ MOSFET G2 discrete**
Jia Zhao, Infineon Integrated Circuit (Beijing) Co., Ltd., China
Miaomiao Xiao, Song Shen, Infineon Semiconductors (Shenzhen) Co. Ltd., China


PP013

**Leveraging Ultra-High Efficiency in High Power Open Frame Flyback Applications**
Han Cui, Jason Yan, Silvestro Fimiani, Power Integrations, United States of America


PP014

**Low-cost SOI-based level-shift gate driver for high-voltage and >1MHz switching in GaN applications**
Weidong Chu, Infineon Technologies Americas Corp., USA


PP015

**Comparative Analysis of Gate Driver Control Topologies: Effects on SiC MOSFET Switching Performance in Half-Bridge Configurations**
Lan Fang, Venu Gopal Mangal, Robert Bosch GmbH, Germany
Xin Jin, Fangbo Yin, Fangyuan Chen, Bosch, China

PP016



**New 1200 V SiC MOSFET-based CIPOS™ Maxi Intelligent Power Module for High-Efficiency Motor Drives**
Kihyun Lee, Jinhyeok Kim, Soohyuk Han, Mi-ran Baek, Bokkeun Song, Infineon Technologies Korea, South Korea

Packaging & Reliability




Chairperson:
Gaosheng Song, Mitsubishi Electric Semiconductor, CN


PP017

**Application of Cu Sintering Technology in High-Power-Density Double-Sided Cooling SiC Module**
Haobin Chen, Haidong Yan, Kuang Sheng, School of Electrical Engineering, Zhejiang University, China


PP018

**Investigation of Large Area Solder with TrueHeight™ Preform on Bare Cu Substrates**
Liuchang Hu, Damon Hong, Alicia Zhang, Marvin Wang, Macdermid Alpha Electronics Solutions, China
Maurizio Fenech, Macdermid Alpha Electronics Solutions, Germany



PP019

**Design and Assessment of Si/SiC Hybrid Power Module With Cu Clip Interconnection for Solar Power Generation**
Xiankun Zhang, Xiaofei Pan, Xiaodong Zhang, Yuancheng Liu, China Resources Runan Chongqing Co., Ltd., China
Yuxi Liang, Ming Luo, Chongqing University, China



PP020

**Influence of the Junction Temperature on the Dynamic Gate Bias Test of SiC MOSFETs**
Xiaogang Hu, Qingyuan, Hua, Nanjing NARI Semiconductor Co., Ltd., China
Nan Jiang, Wuxi PowerSemiLab Co., Ltd., China


PP021

**Spatial-Temporal Customizable Topology Graph Networks Combined with LSTM for Power Device RUL Prediction**
Xu Gao, Qiang Jia, Fenglei Cao, Yishu Wang, Fu Guo, Beijing University of Technology, China

PP022


**Fault Classification Method for PEMFC Based on Equivalent Circuit and SVM**
Jiahui Zhang, Chenxi Huang, Ruiqin Xia, Hefei University of Technology, China

Power Converter




Chairperson:
Guoqiang Zhang, Harbin Institute of Technology, CN



PP023

**Highly Efficient Auxiliary Power Supply Solution using Infineon ZVS Flyback Controller**
Zhidan Luo, Mingping Mao, Eric Kok, Infineon Technologies Asia Pacific Pte Ltd, Singapore


PP024

**An Optimized Driver Design Strategy for Energy Storage System Applications**
Qibin Wu, Ziqing Zheng, Jie Dong, Infineon Technologies Center of Competence (Shanghai) Co. Ltd., China


PP025

**Realize High Performance 200kVA Auxiliary Power Supply with 1.7kV SiC MOSFET**
Jian Sun, Bo Hu, Gaosheng Song, Mitsubishi Electric & Electronics (Shanghai) Co., Ltd., China
Zhengfeng Li, Power Device Works, Mitsubishi Electric Corp., Japan.


PP026

**An active method to solve the touch current issue of totem-pole bridgeless PFC rectifier**
Desheng Guo, Xingqi Chen, Texas Instruments, China
Sean Yu, Texas Instruments, USA


PP027

**High voltage converter input units with improved input current quality**
Yury Skorokhod, Dmitriy Sorokin, Transconverter, Russia Federation
Sergey Volskiy, Moscow Aviation Institute (National Research University), Russian Federation


PP028

**48-12 V High Frequency LLC resonant Converter with FPCB Transformer for Data Center**
Siyao Hu, Naoki Agatsuma, Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, Japan
Yuta Totoki, Faculty of Engineering, Kyushu University, Japan
Wataru Saito, Shinichi Nishizawa, Research Institute for Applied Mechanics, Kyushu University, Japan

PP029


**A Dual-phase Interleaved AC Link Converter for HPC Processors**
Zhaoliang Wen, Dianguo Xu, Harbin Institute of Technology, China

Motor Control




Chairperson:
Jinsong Kang, Tongji University, CN

PP030




Double-Ratio Based PI Parameters Design Method of Two-Mass Speed loop System
Pengcheng Lan, Ming Yang, School of Electrical Engineering and Automation, Harbin Institute of Technology, China
Xinmei Zhang, Ningbo Anson CNC Technology Co., Ltd, China
Zhenhua Lv, Beijing Institute of Control Engineering, China

PP031




Ellipse Condition Based Controller Parameter Tuning for Refined Stability Performance
Pengcheng Lan, Ming Yang, School of Electrical Engineering and Automation, Harbin Institute of Technology, China
Xinmei Zhang, Ningbo Anson CNC Technology Co., Ltd, China
Zhenhua Lv, Beijing Institute of Control Engineering, China

PP032




Research on narrow pulse suppression strategy of three-level inverter based on dual modulation wave CBPWM
Xudong Bai, Guodong Yu, Harbin Institute of Technology, China

PP033





A Comprehensive Review of the Longitudinal End Effects in Linear Motors
Bining Liu, Jingsong Kang, College of Transportation, Tongji University, China

PP034





Parameter Identification of Robotic Joint with Harmonic Drive
Xinyuan Liu, Xiangrui Xu, Dianguo Xu, Harbin Institute of Technology, China

PP035




PDC-Based Hybrid Flux Observer with Flux Error Estimation for Sensorless SPMSM Drives
Xubo Gong, Wei Wang, Harbin Institute of Technology, China

PP036




Resonance Ratio Control for Vibration and Disturbance Suppression in Force Servoing
Zhiyu Zhang, Ming Yang, Pengcheng Lan, Harbin Institute of Technology, China
Xinmei Zhang, Ningbo Anson CNC Technology Co., Ltd, China
Zhenhua Lv, Beijing Institute of Control Engineering, China

PP037





Optimization method of stator winding temperature model of permanent magnet synchronous motor
Songze Zhao, Puqi Ning, Tao Fan, Xiaoshuang Hui, University of Chinese, Institute of Electrical Engineering, Chinese Academy of Sciences, Key Laboratory of Power Electronics and Electric Drive, Institute of Electrical Engineering, Chinese Academy of Sciences, Collaborative Innovation Center of Electric Vehicles in Beijing, China

High Frequency Power Converter




Chairperson:
Min Chen, Zhejiang University, CN

PP038




Reducing the Size and Weight of Filter Inductor for NPC 3-Level Inverter with 240CPWM
Jiaxuan Yu, Jiaao Xu, Deliang Wu, Shanghai University, China

PP039




Comparative Analysis on Series Resonant Converter and CLLC Resonant Converter for Micro-Inverter Application
Chaojie Zhu, Deliang Wu, Shanghai University, China

PP040




Small Signal Models of Wireless Power Transfer Converters for Unmanned Vehicles Charging Stations
Nikolay Kalugin, Aleksei Chernyshov, Egor Zhuchenko, Energet LLC, Russia
Aleksei Chernyshov, Skolkovo Institute of Science and Technology, Russia

PP041




Isolated Bi-directional Grid-connected Micro-inverter Based on Series Resonant Converter
Deliang Wu, Motuma Adula Dabis, Chaojie Zhu, Shanghai University, China

PP042





Multi-functional chip contributes to the compact design of automotive SiC power module
Lizhong Zhao, Hongguang Huang, Mitsubishi Electric & Electronics (Shanghai) Co., Ltd., China
Kentaro Yoshida, Power Device Works, Mitsubishi Electric Co., Ltd., Japan

PP043




Optimized Extended Phase Shift Modulation for Dual Active Bridge Converters in Automotive Battery Systems
Jiaming Wang, Yanmin Wang, Weiqi Zhang, Harbin Institute of Technology, China

PP044




Multi-Objective Optimization Design of Dual-Bridge Series Resonant Converter Based on Deep Reinforcement Learning
Xiang Pan, Zhicheng Gao, Jianing Wang, Hefei University of Technology, China
Tianyi Ren, Zhiyuan Wang, Sungrow Power Supply Company, China

PP045





Fast Charging Station for Simultaneous Recharging of Three Electric Vehicles
Nikolay Volskiy, Michail Krapivnoi, Charge Evolution ltd, Russian Federation

Smart Grid & Energy Transmission




Chairperson:
Teng Liu, China Southern Power Grid Electric Power Research Institute, CN

PP046




New Generation Ultra High Power Semiconductors for VSC-HVDC Applications
Evgeny Tsyplakov, David Guillon, L. Santolaria, H. Beyer, A. Roesch, Christian Winter, Makan Chen, Hitachi Energy Ltd. Semiconductors, Switzerland
Jan Vobecky, Hitachi Energy s.r.o. Semiconductors, Czech Republic

PP047





Performance Analysis of Basic and Active Neutral Point Clamped Inverter for Energy Storage System
Andrew Yang, onsemi, Republic of Korea
Lei Yang, Yi Liu, onsemi, China

PP048




High Efficiency SiC MOSFET Solutions for Solar System
Wenmin Hua, Lifeng Chen, Infineon Technologies Center of Competence (Shanghai) Co. Ltd., China

PP049




Probability Predication of Electric Vehicle Schedulable Capacity Based on Improved Informer with Copula
Zhibo Liu, Meiqin Mao, Yan Du, Research Center for Photovoltaic System Engineering, Ministry of Education, Hefei University of Technology, China
Cheng Yang, State Grid Anhui Electric Power Co., Ltd, China
Yuanyue Wang, Minglei Zhu, State Grid Anhui Electric Vehicle Service Co., Ltd, China
Nikos Hatzigiargyriou, National Technical University of Athens, Greece

PP050

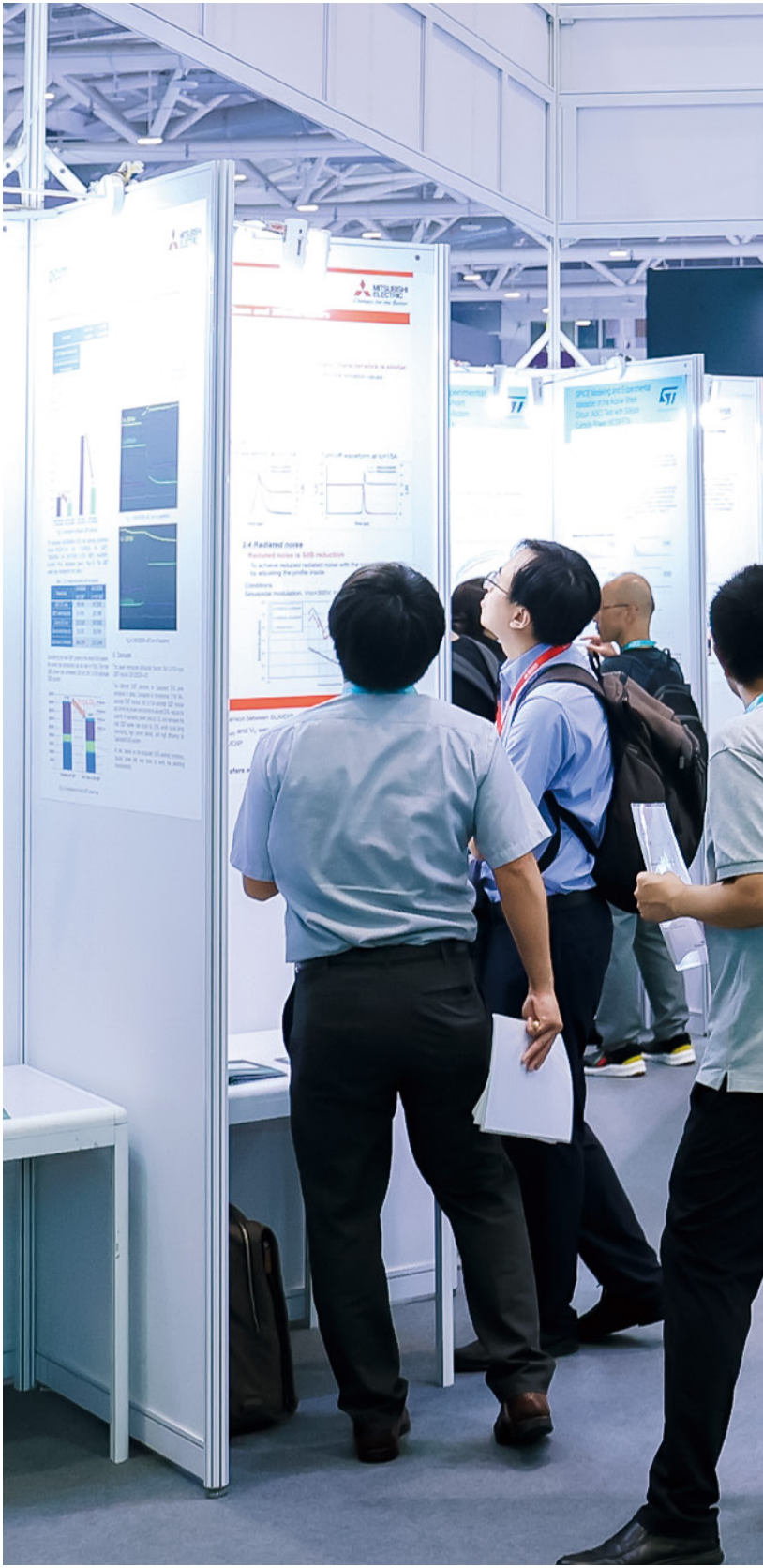


A Comparative Evaluation of Efficiency and Volume for Monolithic Rectifier and Solid-State Transformer
Ruiye Li, Ning Wang, BinBin Li, Dianguo Xu, School of Electrical Engineering, Harbin Institute of Technology, China









































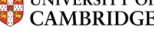



PP051



The Economical Solution of Offshore HVDC for Wind Power Integration and Performance Comparison
Zuoyu Wei, Infineon Technologies (Xi'an) Co., Ltd., China
Heng Wang, Infineon Integrated Circuit (Beijing) Co., Ltd., China
Yuwei Lu, Infineon Technologies Center of Competence (Shanghai) Co. Ltd., China



Prominent Conference Speakers in 2025

Not in specific order

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For Speaker	For Audience
Speakers (Industry) Full Conference 1500 CNY	3 Days Full Ticket 3,200 CNY
Speakers (University/Academia) Full Conference 750 CNY	1 Day Ticket 1,600 CNY
* Lunch & a current e-proceeding & tea break & welcome dinner & award ceremony for inclusive	* Lunch & a current e-proceeding& tea break for inclusive

Conference Proceedings

E-Proceedings of PCIM Asia Shanghai 2025 (USB)	2,000 CNY
E-Proceedings of PCIM Asia 2024 (USB)	800 CNY
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pleasant price for the speakers and attendees who are from the university, college, academic organization.

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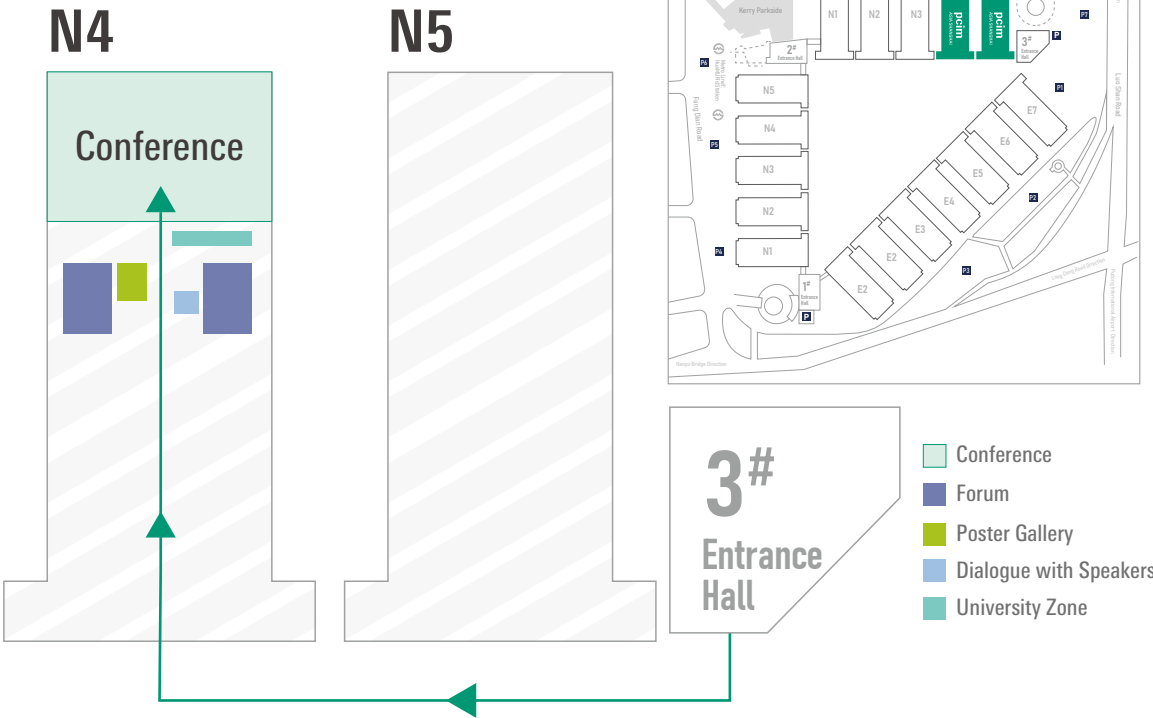
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Exhibition grounds plan

PCIM Asia Shanghai 2025
Hall N4&N5

Shanghai New International
Expo Center(SNIEC)



Conference Layout Plan

