

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



CONFERENCE PROGRAM



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Welcome Address



Chairman Leo Lorenz

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

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 Al 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.

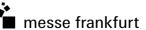
I wish you an enjoyable and successful conference, open dialogue with all the experts attending and many new ideas for your future product innovation and business.

Leo Lorey





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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,



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



YuKang Lo LITE-ON Technology, TW, CN

Technical Committee



Dong Li Infineon Technologies Asia Pacific Pte Ltd, SG



Meiqin Mao Hefei University of Technology, CN



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



Ziying Chen



Lifeng Chen Infineon Technologies, CN



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



Pete Chia Akkodis Shanghai Co., Ltd, CN



Gaosheng Song Mitsubishi Electric Semiconductor, CN



Yi Tang Starpower Semiconductor, CN



Yi Tang Nanyang Technological University, SG



Shunli Wang Inner Mongolia University of Technology, CN



Francesco Gennaro STMicroelectronics, IT



Ziyang GaoHong Kong Microelectronics
Research and Development
Institute, CN



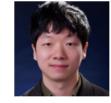
Wei Jing Semikron Danfoss, CN



Jinsong Kang Tongji University, 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



Yong Kang Huazhong University of Science and Technology, CN



Teng LiuChina Southern Power Grid
Electric Power Research
Institute, CN



Fangcheng Liu Canadian Solar Inc., CN



Haihui Luo Zhuzhou CRRC Times Semiconductor, 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		nce 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., Itd., CN 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: Ziying 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 & R Chair: Norbert Pluschke, CN-i(HKSAR, CN	-	



Thursday, 25 September 2025

09:30 – 10:10	Conference Room 1 Keynote 2 Ultra-Compact and Efficient Power Supply Enabling Al Computing Speaker: Teng Long, University of Cambridge, CN 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 hyb Chair: Yijen Chan, Cyntec Co., L			2 c kaging & Reliability II emikron Danfoss, CN	

Friday, 26 September 2025

*only by invitation, First in first served

09:30 – 10:10	Conference Room 1 Keynote 3 Evolutionary Trends in Power Supply for Al Data Centers Speaker: Zhaozheng Hou, Huawei Digital Power, CN 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		
13:00 – 18:00	PCIM Asia Shanghai Tour – E-mobility		

Award Finalists

BEST PAPER AWARD FINALIST (1 WINNER)







Wending Zhao, Zhejiang University, China

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

25. 9 | 11:50 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)



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 | 11:50 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 p.m. | Conference Room 2

UNIVERSITY SCIENTIST AWARD FINALISTS (5 WINNER)



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 | 11:50 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, Greece

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, Institute of Electrical Engineering, 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

Keynotes



Speaker: Liu Chang, SuZhou Inovance Automotive Co., Itd., CN



Chair: Meiqin Mao, Hefei University of Technology, 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: Teng Long, University of Cambridge, CN



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

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

Ultra-Compact and Efficient Power Supply Enabling Al 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 (≤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 Al 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.



Speaker: Zhaozheng Hou, Huawei Digital Power, CN



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 Al 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



Find the matching

manuscript in your proceedings via the

numbers listed here.

presentation

Conference Wednesday, 24 September 2025

Morning Oral Sessions

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., Itd., CN Chair: Meigin Mao, Hefei University of Technology, CN

10:40 - 10:55 Tea break & Room change

Conference Room 1

WBG I SiC



Chairperson: Naoto Fujishima, Fuji Electric, JP

Chair's opening speech

Conference Room 2

Smart Grid Power Electronics



Chairperson: Dapeng Zheng, Shenzhen Hopewind Electric, CN

Chair's opening speech



400 V SiC MOSFET Unlocks New Efficiency and Power Density Ranges for Server and Al **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



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 Stecconi, Lars Knoll, SwissSEM Technologies, Switzerland Leon Liang, Coris Li, Sun.King Pacific Semiconductor Technology, China



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



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



A High-Power Step-Up DC Transformer for





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



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



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 Wednesday, 24 September 2025

Afternoon Oral Sessions

Conference Room 1

Si Devices



Chairperson:Yi Tang, Starpower Semiconductor, CN

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



15:35

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

Technologies (Zhejiang) Ltd., China

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



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



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



Conference Room 2

Packaging & Reliability I

5:10

Chairperson:

Chair's opening speech

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

Norbert Pluschke, CN-iCuTech Semiconductor, HKSAR, CN

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



5:50

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

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-

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.





Conference Thursday, 25 September 2025

Morning Oral Sessions

09:30 - 10:10

Conference Room 1 Keynote 2

Ultra-Compact and Efficient Power Supply Enabling AI Computing

Speaker: Teng Long, University of Cambridge, CN

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

10:10 - 10:25

Coffee Break & Room Change

Conference Room 1

WBG II GaN



Chairperson: Gourab Majumdar, Mitsubishi Electric Corporation, JP

Chair's opening speech

Conference Room 2

Motor Drive & Motion Control



Tianhao Tang, Shanghai Maritime University, CN

Chair's opening speech



System benefit of drone driven by GaN based

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



PCIM
ASIA SHANGHAI
University Scientist Amard

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

25kW/L 99.2% Efficiency Wide Output

Switching Network

Three-phase PFC based on Modular Inductive

Wending Zhao, Xinke Wu, ZJU-Hangzhou Global Scientific and

Wending Zhao, Xinke Wu, Zhejiang University, China

Technological Innovation Center, China



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



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

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



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



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

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

12:15 - 13:30 **Lunch Break**

13:30 - 15:00 **Poster Dialogue Session**

Conference Thursday, 25 September 2025

Afternoon Oral Sessions

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

15:0

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,

ologies AG, 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

Germany

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



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



16:1

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

Jiong Wu, 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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Conference Friday, 26 September 2025

Morning Oral Sessions

09:30 - 10:10

Conference Room 1 Keynote 3
Evolutionary Trends in Power Supply for Al Data Centers

Speaker: Zhaozheng Hou, Huawei Digital Power, CN 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



Organizer: Ichiro Omura, Kyushu Institute of Technology, JP



Chairperson: Naoto Fujishima, Fuji Electric, JP

Conference Room 2

Advanced low power Module Design



Chairperson: Lifeng Chen, Infineon Technologies, CN



10:30

Power Chiplet Technology for Next Generation Power Electronics Systems

Ichiro Omura, Kyushu Institute of Technology, JP



11:15

Chip Embedded Panel level Power Package for Al and **Vehicles**

Yoshiaki Aizawa, AOI ELECTRONICS CO.,LTD., JP



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



11-/10

Novel Integration Concepts for Power Electronics

– Embedding of SiC MOSFET for
High-performance Power Modules

Lars Boettcher, Fraunhofer IZM Berlin, GE

12.05

Discussion with Speakers



0:25

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



11-00

New Transfer-Molded Compact DIPIPM $^{\text{TM}}$

Takamasa Miyazaki, Naoki Ikeda, Shuhei Yokoyama, Hiroyuki Nakamura, Masataka Shiramizu, Mitsubishi Electric Corporation, Japan Hongguang Huang, Mitsubishi Electric & Electronics (Shanghai) Co., Ltd., China



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



SiC MOSFET based CCM Totem-pole PFC with Ultra-slim Design

Guoxing Zhang, Zan Wang, Infineon Technologies, China Pengcheng Bai, Infineon Technologies, Singapore



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 Horiquchi, Takashi Mori, Kenichi Oshita, Nichicon, Japan

12:40 – 13:30 Lunch Break

13:00 – 18:00 PCIM Asia Sha

PCIM Asia Shanghai Tour – E-mobility *only by invitation, First in first served

Conference Wednesday, 24 September 2025 Poster Dialogue Session

13:30 - 15:00 Poster Dialogue Session 1 - 4

Power Si-Devices



Chairperson:

Shunli Wang, Inner Mongolia University of Technology, CN



Superiunction 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

PPNN2



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,

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

PPNN4



Benefits of EDT3 750V Technology in Automotive **Inverter Applications**

Jiong Wu, Alexandra Bausch, Nebojsha 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



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

Kangyoon Lee, Younhee Lee, BumSeung Jin, Noah Hur, onsemi, USA Duwon Lee, Jinwoo Park, Yeriel Bai, Jeongmin Lee, onsemi, Korea



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



Ziying Chen, CN

PP009



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

PPN1N



A Robust and Reproducible Gate Charge Measurement Approach for SiC MOSFET Characterization

Wengi Zhou, Tobias Pfletschinger, Lixi Yan, Andreas Hammele, Hadiuzzaman Syed, Karl Oberdieck, Robert Bosch GmbH,

PPN11



Application of SiC Hybrid Discrete in Photovoltaic and **Energy Storage Systems**

Shuai Cao, Rui Rong, MACMIC SCIENCE&TECHNOLOGY CO.,

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



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

Kihyun Lee, Jinhyeok Kim, Soohyuk Han, Mi-ran Baek, Bokkeun Song, Infineon Technologies Korea, South Korea

Packaging & Reliability



Gaosheng Song, Mitsubishi Electric Semiconductor, CN



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



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



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, Chongging University, China

PP020



Influence of the Junction Temperature on the Dynamic Gate Bias Test of SiC MOSFETs

Xiaogang Hu, Qingyuan, Hua, Nanjing NARI Semiconductor Nan Jiang, Wuxi PowerSemiLab Co., Ltd., China

PP021



Spatial-Temporal Customizable Topology Graph Networks Combined with LSTM for Power Device

Xu Gao, Qiang Jia, Fenglei Cao, Yishu Wang, Fu Guo.

Beijing University of Technology, China



Fault Classification Method for PEMFC Based on **Equivalent Circuit and SVM**

Jiahui Zhang, Chenxi Huang, Ruiqin Xia, Hefei University of Technology, China



Power Converter



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.,



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Best Paper Award

An active method to solve the touch current issue of totem-pole bridgeless PFC rectifier

Deshena Guo, Xinagi Chen, Texas Instruments, China Sean Yu. Texas Instruments. USA



High voltage converter input units with improved input current quality Yury Skorokhod, Dmitriy Sorokin, Transconverter, Russia

Sergey Volskiy, Moscow Aviation Institute (National Research University), Russian Federation

PPN28



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,

Wataru Saito, Shinichi Nishizawa, Research Institute for Applied Mechanics, Kyushu University, Japan



A Dual-phase Interleaved AC Link Converter for HPC

Zhaoliang Wen, Dianguo Xu, Harbin Institute of Technology, China

Conference Thursday, 25 September 2025 Poster Dialogue Session

13:30 - 15:00 Poster Dialogue Session 5 - 7

Motor Control



Chairperson: Jinsong Kang, Tongji University, CN



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



Research on narrow pulse suppression strategy of three-level inverter based on dual modulation

Xudong Bai, Guodong Yu, Harbin Institute of Technology,





A Comprehensive Review of the Longitudinal End Effects in Linear Motors

Bining Liu, Jingsong Kang, College of Transportation, Tongji University, China



Parameter Identification of Robotic Joint with Harmonic Drive

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



PDC-Based Hybrid Flux Observer with Flux Error **Estimation for Sensorless SPMSM Drives**

Xubo Gong, Wei Wang, Harbin Institute of Technology, China





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





Optimization method of stator winding temperature model of permanent magnet synchronous motor

Songze Zhao, Pugi 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



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





Comparative Analysis on Series Resonant Converter and CLLC Resonant Converter for Micro-Inverter Application

Chaojie Zhu, Deliang Wu, Shanghai University, China





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



&Electronics (Shanghai) Co., Ltd., China Kentaro Yoshida, Power Device Works, Mitsubishi Electric Co., Ltd., Japan



Optimized Extended Phase Shift Modulation for Dual Active Bridge Converters in Automotive Battery Systems

Jiaming Wang, Yanmin Wang, Weigi Zhang, Harbin Institute of Technology, China

PP044

PP045



Fast Charging Station for Simultaneous Recharging of Three Electric Vehicles

Tianyi Ren, Zhiyuan Wang, Sungrow Power Supply Company,

Nikolay Volskiy, Michail Krapivnoi, Charge Evolution ltd, Russian Federation

Smart Grid & Energy Transmission



Teng Liu, China Southern Power Grid Electric Power



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 Renublic



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



High Efficiency SiC MOSFET Solutions for Solar System

Wenmin Hua, Lifeng Chen, Infineon Technologies Center of Competence (Shanghai) Co. Ltd., China



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 Hatziargyriou, National Technical University of Athens,



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



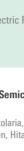
The Economical Solution of Offshore HVDC for Wind Power Integration and Performance Comparison

Zuoyu Wei, Infineon Technologies (Xi'an) Co., Ltd., China Heng Wang, Infineon Integrated Circuit (Beijing) Co., Ltd.,

Yuwei Lu, Infineon Technologies Center of Competence (Shanghai) Co. Ltd., China



Research Institute, CN







Prominent Conference Speakers in 2025



Not in specific order

Registration Information 2025

Fraunhofer

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

Conference Proceedings

ADI ELECTRONICS

E-Proceedings of PCIM Asia Shanghai 2025 (USB)	2,000 CNY
E-Proceedings of PCIM Asia 2024 (USB)	800 CNY
E-Proceedings of PCIM Asia 2015-2023 (USB)	750 CNY



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Alongside the main exhibition, PCIM Asia Shanghai hosts a selection of concurrent forums that provide additional opportunities for learning and interaction. On the concurrent forums, entrepreneurs, experts and industry representatives from the exhibitors, industry leaders and universities will share exciting innovations and forward-looking solutions in their speeches. We expect every audience could have an efficient and intensive opportunity to gather insights into the future of power electronics and contact industry technology representatives.

Theme Forum

8 sessions on topics: "WBG_SiC & GaN", "Power Devices", "Materials & Packaging", "E-mobility", "AI & Data Center", and Power Electronics Technologies.

8 presentations will cover IGBT and SiC devices from process platform to the latest

advanced technologies such as RC-IGBT/SJ IGBT & Rug SiC / Large-sized

Time: September 26

Time: September 24-25

Shanghai New International Expo Centre

Venue: Booth E50, Hall N4

Venue: Booth B50 & E50, Hall N4

Shanghai New International Expo Centre

Emerging Applications Summit

encapsulated SiC module and etc.

Power Semiconductor Rising Star Summit

PCIM Asia Shanghai 2025 Emerging Applications Summit focuses on the application of power electronics technology in two promising fields: eVTOL and Solid-State Circuit Breaker.

Time: September 26 Venue: Booth B50, Hall N4

Shanghai New International Expo Centre

Theme Forum Sponsor



Speakers



Industry-Academia-Research Collaboration Zone

The university, college and academic organization are playing professional and creative role in the industry, PCIM Asia Shanghai always cares the current and future needs of them, and tries to bridge the research force and application practice.

To achieve this, PCIM Asia Shanghai offers a series of supportive participation policies for universities, college and academic organizations.

Conference

pleasant price for the speakers and attendees who are from the university, college, academic organization.

Exhibition

opportunity to display in Industry-Academia-Research Collaboration Zone.

The mission of this Zone is to put industry-related university, college, academic organization and student first. PCIM Asia Shanghai attempt to offer them a stage to stay with the company, and to influence, inspire with each other for professional and creative careers.

PCIM Asia Shanghai works with advisory board nationally and internationally to ensure that the enterprises catch the innovative potentials, schools find the current application in real industry and students meet the future needs of employers.













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Speaker Dialogue Zone

The Speaker Dialogue Zone is dedicated to enabling deep technical exchange between attendees and leading innovators. PCIM Asia Shanghai recognizes the critical need for direct knowledge transfer in power electronics, and strives to dissolve barriers between theoretical research and industrial implementation.

To achieve this mission, PCIM Asia Shanghai offers tailored engagement opportunities:

Conference Priority access to exclusive engagements with keynote speakers and advisory experts for in-depth technical discussions, case analysis, and collaboration matching.

- **Exhibition** Dedicated space for case studies and prototype feedback
 - Open forum for posting collaboration opportunities

The Speaker Dialogue Zone exists to put your technical challenges at the forefront. By facilitating unfiltered conversations between engineers, researchers, and industry leaders, we empower you to:

- Translate breakthrough concepts into viable solutions
- Discover real-world validation for research projects
- Forge partnerships that redefine industry standards

PCIM Asia Shanghai collaborates with global technical leaders to ensure speakers address your immediate design dilemmas while enterprises gain early access to transformative innovations.









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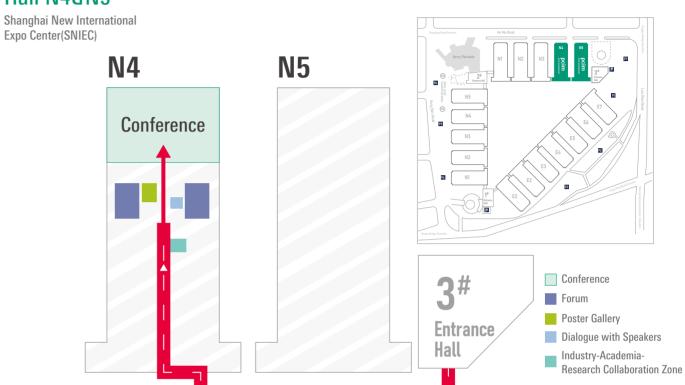
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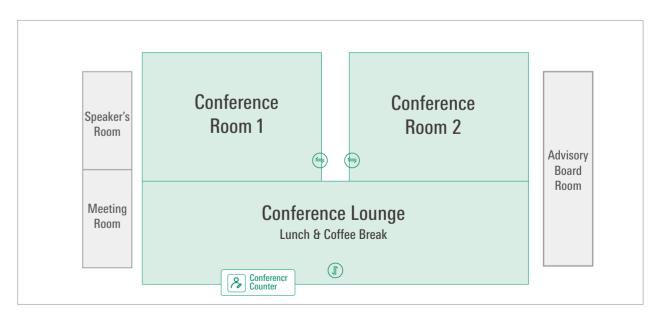
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Exhibition grounds plan

PCIM Asia Shanghai 2025 Hall N4&N5



Conference Layout Plan



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Topics of Papers 2026

1. Advanced Power Semiconductors

- 1.1 High Power Semiconductors
- 1.2 MOSFETs, IGBTs, FREDs & Schottkys
- 1.3 Power Modules and Power Hybrids
- 1.4 SiC Devices
- 1.5 GaN Devices
- 1.6 Other Wide Bandgap Devices
- 1.7 Power Supply Control IC and Power Management ICs
- 1.8 Gate Driver and Device Protection
- 1.9 IPM and Power Electronic Building Blocks

2. Packaging and Reliability

- 2.1 Packaging and Interface Technologies
- 2.2 Advanced Cooling Systems
- 2.3 Thermal Management and Simulations
- 2.4 Power Electronic Components Reliability and Life Time Prediction
- 2.5 Power Embedding
- 2.6 High Power Density Designs
- 2.7 Design Automation and Methodology

3. Passive Components and Integration

- 3.1 Higher Frequency and Low Loss Materials & Techniques for Inductors and Capacitors
- 3.2 Planar Inductors and Transformers and Thin Film Magnetic Component
- 3.3 Filters and Passive Integration

4. AC/DC Converter

- 4.1 High Efficiency/High Density Power Converters/Inverters
- 4.2 Resonant and Quasi Resonant Topologies for Power Supplies
- 4.3 Stand-alone Power Supplies (Adapters) and on Board Supplies
- 4.4 New Topologies (Single Switch, Phase Shift, ZVS, ZCS, ZVZCS)

5. DC/DC Converter

- 5.1 DC/DC Converter Topologies for Enhanced Efficiency and Control
- 5.2 Synchronous Rectification
- 5.3 Smart Battery Management Concepts
- 5.4 Point of Load Converters
- 5.5 New Topologies for Distributed Power Supply Systems (Single or Multi- Stage Architecture, ZVS, ZCS, ZVZCS)

6. Digital Power Conversion

- 6.1 PMBus and other Digital Power Control Protocols
- 6.2 Digital Control for Power Converters
- 6.3 Advantages of Digital Power Conversion and Associated Challenges
- 6.4 System on a Chip (SOC)
- 6.5 Energy Harvesting

7. Motor Drive & Motion Control

- 7.1 Home Appliances
- 7.2 Small Power Motor "General Purpose Drive" with Highly Sophisticated Control Strategies and Low Cost Solutions
- 7.3 New Converter/Inverter Types for Single- and Three Phase Systems
- 7.4 Advanced Motor Concepts for Industrial Application and Traction Drives
- 7.5 New Control Architectures DSP, Microcontroller or FPGA
- 7.6 Advanced Sensor Concepts for Motor Drives
- 7.7 Intelligent Motion Control and Architecture

8. High Frequency Power Electronic Converters and Inverters

- 8.1 Thermal Design, Packaging and EMI Issues
- 8.2 Sensors Specific to Power Electronics (e.g. Voltage, Current, Power, Frequency, Phase, Temperature)
- 8.3 Techniques to Reduce Switching Losses to Improve Efficiency and Reduce Size and Weight
- 8.4 Wireless Power Transfer

9. Automotive Power Electronics and Electrified Transportation

- 9.1 Hybrid / Electric Vehicle
- 9.2 MOSFET, IGBT and SiC Modules in Motor Traction and **Propulsion Applications**
- 9.3 DC/DC Conversion in Transportation Systems
- 9.4 Bidirectional DC/DC Converters
- 9.5 Electronics for Powertrain and Power Management
- 9.6 Energy Storage and Management, including Battery Types, Super Capacitors and Fly Wheels
- 9.7 DC Circuit Breaker
- 9.8 Charging Station Technology

10. System Reliability

- 10.1 Reliability and Health Management of Power Electronic Components and Systems
- 10.2 Fail-safe and Fault-tolerant Applications
- 10.3 Redundancy Concepts in Power Electronics
- 10.4 Life Cycle Design and Cost Analysis

11. Power Quality Solutions

- 11.1 UPS Systems and Inverters
- 11.2 Active Power Filter (APF), DVR, SVG
- 11.3 Energy Storage System (Battery Technologies, Flywheel, Super (ultra) Capacitors)
- 11.4 Harmonics and Power Factor Correction
- 11.5 Electromagnetic Compatibility and Immunity

12. Smart Grid Power Electronics

- 12.1 Grid Inverter Control
- 12.2 Battery Charging and V2G
- 12.3 Energy Storage System and Control
- 12.4 Micro-Grid
- 12.5 Solid State Transformers
- 12.6 Medium Voltage Multilevel Converters
- 12.7 Modular Multilevel Converters
- 12.8 Novel Converter Topologies
- 12.9 Wind Energy Systems
- 12.10 Solar and Photovoltaic Energy Systems
- 12.11 Communication, Cyber Security and Artificial Intelligence

13. Power Electronics in Transmission Systems

- 13.2 Converters for Offshore/Onshore HVDC Links
- 13.3 Power Generation, Transmission and Distribution
- 13.4 DC Grids
- 13.5 HVDC Systems
- 13.6 Digital Twin for Transmission Equipment



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Call for Papers

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Submission of your abstract 4 March 2026
Notification of acceptance May 2026
Submission of your full manuscript 20 June 2026



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