

Conference Program - PCIM Asia New Delhi Conference 2025

Keynote

- Advanced power semiconductor technologies and challenges for pursuing carbon neutrality and sustainability**
K01 Dr. Gourab Majumdar, IEEE Fellow, Entered IEEE-ISPST Inaugural Hall of Fame; Senior Fellow, Mitsubishi Electric Corporation
- Indian Power Electronics Industry – Vision and Immense Opportunities**
K02 Smt. Sunita Verma, Group Coordinator, R&D; Joint Secretary, Ministry of Electronics & IT Govt. of India
- Transformation and upgradation of Indian Power T&D Sector and Smart Grids – Opportunity for Power Electronics industry**
K03 Dr. D. Sai Baba, Joint Secretary (Transmission & Coordination), Ministry of Power, Govt. of India

Keynote: Indian Railways: Traction, Locomotives, Trainsets

- Electrification and Energy Efficiency mandate of Indian Railways: Critical role of Power Electronics**
K04 Dr. Jaideep Gupta, Visiting Professor (Energy Sciences), National Institute of Technology; Former Additional Member (Railway Electrification), Railway Board, Ministry of Railways, Govt. of India
- Building the Trains of Tomorrow: The Power Electronics Opportunity**
K05 Mr. Debi Prasad Dash, Senior Expert & Industry Consultant - Railways Rolling Stock & System Integration; Former General Manager, Chittaranjan Locomotive Works
- Latest developments in locomotive propulsion technology for Indian Railways**
K06 Mr. Renji V. Chacko, Senior Director, Head - Power Electronics Group, C-DAC

Power Transmission and Distribution; Power Grid

- The Age of Electricity, how Power Electronics will shape the Grid of the Future**
OP01 Dr. Baghaie Yazdi Mehrdad, Vice President- Systems, Applications and Software, Infineon Technologies

Renewable Energy; Renewable Power – Solar, Wind, Green Hydrogen

- OP02 **Power semiconductor technology driving best-in class power-density, efficiency and cost for solar inverter**
Dr. Ma Kwok Wai, Senior Principal Engineer, Infineon Technologies

Smart Grid Power Electronics: PV Energy Systems and Novel Converter Topologies

- OP03 **High Power Density Multi-Phase DC/DC Converter for Solar Applications Using GaN Integrated Power Stages**
Mr. Parvraj Pachore, Staff Engineer, Infineon Technologies
- OP04 **Development of a Novel Single-Source Three-Phase Step-Up Multilevel Inverter Topology**
Mr. Yadvendra Singh, Ph.D. Scholar, Thapar Institute of Engineering & Technology

Advanced Power Semiconductors (High Power Semiconductors; SiC Devices)

- OP05 **ASFET-Based Approach for Enhanced Dynamic Current Sharing in Paralleled Power Devices**
Mr. Aniket Kulkarni, Sr. Power Applications Engineer, Nexperia
- OP06 **>3 kV 4H-SiC MOSFETs with Design and Performance Evaluation**
Dr. Monikuntala Bhattacharya, SiC Engineer, L&T Semiconductor Technologies
- OP07 **Comprehensive Characterization of SiC Schottky Barrier Diodes From Room Temperature Down to 7K**
Ms. Sanchari Guha, Doctoral Student, Kyoto Institute of Technology, Japan
- OP08 **Single-Pulse Short Circuit Ruggedness of Different 650V SiC MOSFET Cell Designs**
Mr. Anshul Tyagi, Sr. Product Definition Engineer, Infineon Technologies
- OP09 **New 4.5 kV HV – IGBT Module for High-speed Switching**
Mr. Yuta Fukushima, High Voltage Device Design & Development Sect. Power Semiconductor Device Dept.b, Mitsubishi Electric Corporation Power Device Works

Packaging And Reliability; Lifetime Prediction; Thermal Management

- OP10 **Sintering Innovations for Power Electronics Packaging and Assembly**
Mr. Gyan Dutt, Director, Strategic Marketing, MacDermid Alpha Electronics Solutions
- OP11 **Thermal Fatigue-Based Lifetime Prediction Method for Power Semiconductor Devices**
Mr. Takuma Sakai, Power Semiconductor Application Engineer, Fuji Electric
- OP12 **3.3 kV 2 in 1 High Current Capacity Si-IGBT and SiC MOSFET Power Modules with Sintered Copper Die Attach Technology**
Mr. Kan Yasui, Design Development Division, Minebea Power Semiconductor Device Inc.
- OP13 **Estimation of power semiconductor junction temperature from package body temperature**
Mr. Dinesh Palaniappan, System Application Engineer, Infineon Technologies Asia Pacific Pte. Ltd.
- OP14 **Thermal Transient Measurement Methods for Cascode Power: Devices to Determine Junction to Package Thermal Resistance**
Dr. Wasanthamala Badalawa, Pre Sales Solution Consultant, Siemens Digital Industries Software – Digital Factory Division

High-Frequency Power Electronic Converters and Inverters

- OP15 **Layout Design of 1.2 kV, 11 kW, 100 kHz Matrix Bridge Leg for Single-Stage Three-phase AC to DC Dual Active Bridge based converter**
Mr. Naresh Rana, Ph.D. Scholar, Indian Institute of Science, Bengaluru
- OP16 **Mitigating Conducted EMI with SiC Solutions in Renewable Energy & Grid-Connected Power Converters**
Mr. Sidharth Gupta, Power Applications Engineer, Wolfspeed
- OP17 **PWM Strategies for VSI's: Analysis, Simulation with Python, Rapid Verification, and Practical Deployment on Modern Microcontrollers**
Mr. Nabarun Dasgupta, Senior Group Manger, STMicroelectronics

Expansion of Global Data Centre Infrastructure in India – Emergence as a major Power demand segment

Evolutionary Trends in Power Supply for AI Datacenters

OP18 Mr. Frank Heerdt, Power Electronics Expert, Huawei Ohm Research Center, Germany

Taming the Energy Curve: Managing AI and Data Processing Power Needs

OP19 Mr. Preetam Tadeparthy, Chief Technology Officer & Vice President – Engineering, c2i Semiconductors

Automotive Power Electronics and Electric Mobility

Cutting-edge Developments in Power Electronics for EV Charging Infrastructure

OP20 Mr. Frank Heerdt, Power Electronics Expert, Huawei Ohm Research Center, Germany

Optimizing MOSFET Selection for the 48 V Hybrid Mobility Market

OP21 Mr. Sacha Cazzitti, Ph.D. Scholar, The University of Manchester, UK

EZ-PD™ PAG2S: 48 V input voltage Synchronous Buck with integrated USBPD EPR

OP22 Ms. Manvi Gupta, Staff Applications Engineer Infineon Technologies Pvt. Ltd.

A Versatile Two-Port Extreme Fast Charger with Wide EV Range Application

OP23 Mr. Shivrajit Som, Ph.D. Scholar, Indian Institute of Technology, Delhi

Open Switch fault diagnosis in T-type multilevel inverter using machine learning for EV applications

OP24 Dr. Niraj Kumar Dewangan, Assistant Professor, Manipal Institute of Technology, Manipal Academy of Higher Education

Data-driven generation and validation of synthetic EV drive cycles using GMM and HSMM techniques

OP25 Dr. Manas Ranjan Sial, Research Engineer, Automotive Research Association of India

Power Electronics in Transmission Systems and Smart Grid Applications

- PP01 (Academia) **Advanced Analysis of Voltage Rise Phenomena in Electrically Floating HV Power Platforms.**
Mr. Kapila Warnakulasuriya, Honorary Professor Teesside University, UK
- PP02 (Academia) **Application of Artificial Neural Network for High Impedance Fault Detection in Power System**
Ms. Vaishnavi Petkar, Student, M.Tech, Walchand College of Engineering, Sangli
- PP03 (Industry) **Integrated LC filter design for High Power Charging Systems using 12 Pulse Thyristor Rectifiers**
Mr. Karthik Ankam, Research & Development Engineer, Hitachi Energy India
- PP04 (Academia) **Hardware Design of Cascode GaN Module for Education and Research**
Ms. Little Pradhan, Ph.D. Scholar Indian Institute of Technology, Dharwad
- PP05 (Industry) **A Hybrid Tsukamoto Fuzzy-P&O MPPT Strategy for Photovoltaic Systems: Simulation and Performance Evaluation**
Mr. Pratyush Verma, Lead Engineer, UNO Minda EV Systems
- PP06 (Industry) **A Practical, Optimized Implementation of a Modular SiC Based Fully Digital 5 kW, 3-level Boost MPPT Converter Achieving 90 W / inch³ Power Density and 99.2% Peak Efficiency**
Mr. Akshat Jain, Sr. Staff Engineer – Technical Member, STMicroelectronics
- PP07 (Academia) **Implementation of a Single DC Source Three-Phase Voltage-Boosting Inverter Using Switched-Capacitor Topology**
Prof. (Dr.) Pallavee Bhatnagar, Professor, National Institute of Technical Teachers Training & Research, Bhopal

Packaging & System Reliability

- PP08 (Industry) **Board Level Reliability of Micro-Leaded Automotive MOSFETs of Varying Package Dimensions**
Mr. Aniket Kulkarni, Sr. Power Applications Engineer, Nexperia, UK
- PP09 (Industry) **A Reliable Method for Optimum MOSFET Selection for Any Given Application**
Mr. Aniket Kulkarni, Sr. Power Applications Engineer, Nexperia, UK
- PP10 (Academia) **Real-Time EV Powertrain Fault Diagnostics Using IoT and FMEA-Guided Machine Learning Strategy**
Mr. Shreyas Thombare, Student, Master of Science Program, Indian Institute of Technology Kharagpur
- PP11 (Industry) **Utilizing Frequency Response Analysis in Diverse Power Converter Designs**
Mr. Niranjana Hegde, Software Design Engineer, Tektronix India Pvt. Ltd.
- PP12 (Academia) **Design and Reliability Considerations for Top-Side Cooled Power Semiconductors in Automotive Power Electronics**
Mr. Sacha Cazzitti, Ph.D. Scholar The University of Manchester, UK

High Frequency Power Electronic Convertors and Inverters

- PP13 (Govt.) **GaN FET-Based High-Frequency Power Amplifier with FPGA-Driven PWM and Audio Codec Frontend for Piezoelectric Load**
Mr. Rahul P. Krishnan, Scientist-C, Naval Physical & Oceanographic Laboratory, Defence Research and Development Organization (DRDO) Ministry of Defence, Govt. of India
- PP14 (Industry) **DC Voltage Control Strategies for Vienna Rectifiers in No-Load and Light-Load Conditions**
Mr. Vulavakayala Siva, Senior Engineer, TMEIC Industrial Systems India Private Limited
- PP15 (Industry) **Multimode Bidirectional EV Charger with V-to-X Capability**
Mr. Datta Rajaram Sagare, Assistant Vice President - Technology, TVS Motor Company
- PP16 (Industry) **QR-ZVS based Secondary Side Controlled Low-Profile Adapter for USB-C PD Applications**
Ms. Manvi Gupta, Staff Applications Engineer, Infineon Technologies Pvt. Limited

Advanced Power Semiconductors

- PP17 (Industry) **Gate Driving Techniques for Common Source GaN Bi-Directional Switch (BDS)**
Mr. Shubhendu Sitoke, Staff Engineer - Applications, Infineon Technologies,
Semiconductor India Pvt. Ltd
- PP18 (Industry) **Influence of Cooling Fin on Tj of HVIGBT Power Module**
Mr. Yu Ando, Marketing and Application Engineering Sect.b Product Strategy Dept.,
Mitsubishi Electric Corporation Power Device Works
- PP19 (Industry) **An Enhanced Parametric Testing Model for Optimizing Test Time and Cost in Semiconductor Chips**
Mr. Jagdish Sahu, Silicon Validation Engineer, L&T Semiconductor Technologies
- PP20 (Industry) **Comparative Analysis of 100 V TOLL MOSFET Power Losses of Motor Drive Inverter Application and its Impact on Efficiency**
Ms. Mona Patil, Asst. Manager, Silicon Power Device Business Unit, ROHM
Semiconductor India

Digital Power Conversion

- PP21 (Industry) **SOC Solution for Light Electric Vehicles with 240 W USB-C Charging and 3P BLDC Motor Control**
Mr. Ankit Tripathi, Sr. Staff Engineer, Infineon Technologies
- PP22 (Industry) **EZ-PD™ PMG1-B2 SOC Solution for USB Power Delivery (PD) Integrated 240 W Battery Charging**
Mr. Blesson Easo Varghese, Sr. Power Applications Engineer, Infineon Technologies

Power Quality Solutions

- PP23 (Govt.) **Mitigation of Power Quality Issues in a Dairy Plant using a STATCOM with Remote Monitoring and Control**
Ms. Manju A. S., Scientist E, Centre for Development of Advanced Computing (CDAC,
Ministry of Electronics & IT)

Motor Drive & Intelligent Motion Control

- PP24 (Academia) **Finite Element Analysis of Axial Flux Limited Angle Torque Machine used for Fuel Injection in Internal Combustion Engines**
Mr. Talluri Abhishek, Research Scholar, Indian Institute of Technology, Dharwad

Passive Components and Integration

- PP25 (Industry) **Safe Failure Modeling and Lifetime Prediction of DC Film Capacitors Using Standards-Compliant Reliability Analysis**
Mr. Gopal Pawar, Manager - Research & Development Department, Viz Technologies

Tutorial Sessions

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| TS01 | Advance Si+SiC chip technology & Chip Biz
Dr. Koichiro Noguchi, General Manager Product Strategy Dept. Mitsubishi Electric Corporation Power Device Works |
| TS02 | STACK design example for MW class renewable energy
Dr. Zheng-Feng Li, Manager Marketing and Application Engineering Sect.B Product strategy Dept., Mitsubishi Electric Corporation Power Device Works |
| TS03 | DIIPM case study for small power inverters
Mr. Pradeep Bisht, Deputy General Manager Application Engineering Semiconductors & Devices, Mitsubishi Electric India |
| TS04 | Our approach to the Automotive application area
Mr. Pradeep Bisht, Deputy General Manager Application Engineering Semiconductors & Devices, Mitsubishi Electric India |
| TS05 | Overcoming SiC MOS application challenges body diode, protection, layout and paralleling
Dr. Ma Kwok Wai, Senior Principal Engineer, Infineon Technologies |

Partner Presentations

ROHM's Development Strategy for India

- PA01 Mr. Toshio Nakajima, Group General Manager- Silicon Power Device Business Unit, Rohm Co. Ltd
Ms. Mona Patil, Assistant Manager- Silicon Power Device Business Unit, Rohm Semiconductor India

Power Conversion for Electrification - Enabled by Power Electronics Packaging & Assembly

- PA02 Dr. Ravi M. Bhatkal, Managing Director – India, MacDermid Alpha Electronics Solutions

SEMITRANS 20 - Setting Standards in SiC for Renewable Applications

- PA03 Mr. Erwin Ysewijn, Regional Segment Marketing, Semikron Danfoss

Bosch SiC Technology - Ensuring Efficiency, Robustness, and Long-Term Safety

- PA04 Mr. Steffen Beushausen, Technical Expert Power Electronics, Bosch (China) Investment Ltd.

High Thermal and High Reliability Die Attach for Power Electronics Applications

- PA05 Mr. Ram K. Trichur, Global Head - Semiconductor Packaging, Henkel

Powering India's Electrification: High-Efficiency RC IGBT Solutions

- PA06 Mr. Raveendar Sekar, Assistant General Manager - Semiconductor Division, Fuji Electric India Pvt Ltd.

Mitsubishi Electric contributions to key Power Electronics application areas in India

- PA07 Mr. Hitesh Bhardwaj, Business Head Semiconductors & Devices Mitsubishi Electric India

A Partnership for India's Future: How Japan's Core Technology will Power India's National Growth

- PA08 Mr. Masahiko Suzuki, President, Minebea Power Semiconductor Devices Inc.

Powering a Sustainable Future – TMEIC's Journey in Clean Technology Innovation

- PA09 Mr. K. B. Sreekumar, Chief Operating Officer, TMEIC Industrial Systems India Pvt. Ltd.

Empowering Performance and Reliability in Power Electronics Manufacturing- Advanced Vacuum Soldering and Sintering Solutions for High-Performance Applications

- PA10 Mr. Thomas Krebs, Technology Consultant, PINK GmbH

High-Fidelity Power Electronics Model Simulation for Sustainable Mobility and Renewable Energy with dSPACE FPGA Platforms

- PA11 Mr. Pavan Hiremath Ashokbabu, Manager E- Mobility, dSPACE GmbH

Application of Nanocrystalline Soft Magnetic materials in E-Mobility for high-power density power electronics

- PA12 Mr. Bharadwaj Reddy Andapally, Technical Market Development, CBMM