

2016 28th International Symposium on Power Semiconductor Devices and ICs (ISPSD 2016)

**Prague, Czech Republic
12-16 June 2016**



**IEEE Catalog Number: CFP16ISP-POD
ISBN: 978-1-4673-8771-2**

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IEEE Catalog Number:	CFP16ISP-POD
ISBN (Print-On-Demand):	978-1-4673-8771-2
ISBN (Online):	978-1-4673-8770-5
ISSN:	1063-6854

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SESSION DETAILS

MONDAY, JUNE 13, 2016

09:00–09:20 Velký sál Opening Session

Welcome

Jan Šonský, General Chair (NXP Semiconductors, Belgium)

Programme Introduction

Oliver Häberlen, Technical Program Chair (Infineon Technologies, Austria)

ISPSD 2015 Best Paper Award

Johnny K.O. Sin (General Chair ISPSD'15), Kuang Sheng (Technical Program Chair ISPSD'15)

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Oliver Häberlen (Infineon Technologies, Austria)

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John Shen (Illinois Institute of Technology, United States)

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Chairs: Oliver Häberlen (Infineon Technologies, Austria)

Alex Huang (North Carolina State University, United States)



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¹University of Padova, Italy; ²Ferdinand-Braun Institute, Germany;

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¹Université Grenoble Alpes, France; ²CNRS Institut NÉEL, France; ³AIST, Japan;
⁴Institut Universitaire de France, France

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Welcome Reception

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08:30–10:10 **Velký sál**

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¹MELCO Semiconductor Engineering Corporation, Japan; ²Mitsubishi Electric Corporation Power Device Works, Japan

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¹ABB Switzerland Ltd., Corporate Research, Switzerland; ²ABB Switzerland Ltd. Semiconductors, Switzerland

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Low Voltage – LDMOS

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¹Technische Universität Chemnitz, Germany; ²Infineon Technologies AG, Germany
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19:30 Municipal House - Smetana's Hall (Obecní dům - Smetanova síň)
Gala Dinner "In Art Nouveau"

WEDNESDAY, JUNE 15, 2016

- 08:30–10:10 Velký sál**
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Chairs: Yasuhiro Uemoto (Panasonic, Japan)
Frédéric Morancho (LAAS-CNRS, France)

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	¹ Hong Kong University of Science and Technology, Hong Kong; ² Fuji Electric Co., Ltd., Japan	
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Coffee & Poster Session

Chair: Jan Vobecký (ABB, Switzerland)

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Libor Pína¹, Jan Vobecký²

¹ABB s.r.o., Semiconductors, Czech Republic; ²ABB Switzerland Ltd. Semiconductors, Switzerland

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¹Mitsubishi Electric Corporation, Japan; ²MELCO Semiconductor Engineering Corporation, Japan; ³Mitsubishi Electric Information Network, Japan

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¹Nihon Synopsys G.K., Japan; ²Nakagawa Consulting Office, LLC., Japan;

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C4P-E

Integrated Power (Poster Session)

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Stephanie Banzhaf¹, Stephan Schwaiger¹, Tobias Erlbacher², Anton Bauer², Lothar Frey^{2,3}

¹Robert Bosch GmbH, Germany; ²Fraunhofer IISB, Germany; ³University of Erlangen-Nuremberg, Germany

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08:30–10:35 Velk   s  l

D1L-A

Integrated Power – High Voltage

Chairs: Olivier Trescases (University of Toronto, Canada)
Alexander H  lke (XFAB, Malaysia)

08:30–08:55	2000 V SOI LDMOS with New Drift Structure for HVICs	435
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08:55–09:20	A Novel High-voltage Interconnection Structure with Dual Trenches for 500V SOI-LIGBT Long Zhang ¹ , Jing Zhu ¹ , Weifeng Sun ¹ , Meng Chen ¹ , Chao Huang ¹ , Feng Zhou ¹ , Yan Gu ² , Sen Zhang ² , Wei Su ² ¹ <i>Southeast University, China</i> ; ² <i>CSMC Technologies Corporation, China</i>	439
09:20–09:45	Contributions to dedicated gate driver circuitry for very high switching speed high temperature power devices Van-Sang Nguyen ^{1,2} , Thanh-Long Le ^{1,2} , Farshid Sarrafin ^{1,5} , Ngoc-Duc To ^{1,2} , Davy Colin ^{1,2} , Nicolas Rouger ^{1,2} , Pierre Lefranc ^{1,2} , Yves Lembeye ^{1,2} , Jean-Daniel Arnould ^{3,4} , Bruno Allard ⁵ , Jean-Christophe Crebier ^{1,2} ¹ <i>Univ. Grenoble Alpes, G2ELab, France</i> ; ² <i>CNRS, G2ELab, France</i> ; ³ <i>Univ. Grenoble Alpes, IMEP-LAHC, France</i> ; ⁴ <i>CNRS, IMEP-LAHC, France</i> ; ⁵ <i>INSA Lyon, France</i>	443
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10:10–10:35	Integration of GaN HEMTs onto Silicon CMOS by Micro Transfer Printing Ralf Lerner ¹ , Stefan Eisenbrandt ¹ , Christopher Bower ² , Salvatore Bonafede ² , Alin Fecioru ² , Richard Reiner ³ , Patrick Waltereit ³ ¹ <i>X-FAB Semiconductor Foundries AG, Germany</i> ; ² <i>X-Celeprint Ltd, Ireland</i> ; ³ <i>Fraunhofer Institute for Applied Physics, Germany</i>	451

08:30–10:35 Malý sál

D1L-B

Late News – Wide Band Gap

Chairs: Kevin Chen (The Hong Kong University of Science and Technology, China)
Peter Losee (GE, United States)

08:30–08:55	AlGaIn/GaN Power Device Technology for High Current (100+ A) and High Voltage (1.2 kV) Peter Moens, Abhishek Banerjee, Peter Coppens, Frederick Declercq, Marnix Tack <i>ON Semiconductor, Belgium</i>	455
08:55–09:20	Over 10 A Operation with Switching Characteristics of 1.2 kV-Class Vertical GaN Trench MOSFETs on a Bulk GaN Substrate Tohru Oka, Tsutomu Ina, Yukihiisa Ueno, Junya Nishii <i>TOYODA GOSEI Co., Ltd., Japan</i>	459
09:20–09:45	High Voltage 4H-SiC Bi-Directional IGBTs Sauvik Chowdhury, Collin Hitchcock, Rajendra P. Dahal, Ishwara Bhat, T. Paul Chow <i>Rensselaer Polytechnic Institute, United States</i>	463

10:35–11:05 Coffee Break

11:05–12:45 Velký sál

D2L-A

Packaging & Integration – Multi-Chip Modules

Chairs: Kimimori Hamada (Toyota Motor, Japan)
Sven Berberich (Semikron, Germany)

11:05–11:30	A New Concept of a High-Current Power Module Allowing Paralleling of Many SiC Devices Assembled Exploiting Conventional Packaging Technologies Slavo Kicin ¹ , Felix Traub ¹ , Samuel Hartmann ² , Enea Bianda ¹ , Christof Bernhard ¹ , Stanislav Skibin ¹ , Francisco Canales ¹ ¹ <i>ABB Switzerland Ltd., Corporate Research, Switzerland</i> ; ² <i>ABB Switzerland Ltd. Semiconductors, Switzerland</i>	467
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11:30–11:55	Development of Heat Sink Integrated Transfer molded Power Modules with Thermal Conductive Insulating Sheet Kei Yamamoto, Hodaka Rokubuichi, Takashi Nishimura, Seiki Hiramatsu, Dai Nakajima, Kiyofumi Kitai, Yoichi Goto <i>Mitsubishi Electric Corp., Japan</i>	471
11:55–12:20	Novel IGBT Modules with Epoxy Resin Encapsulation and Insulating Metal Baseplate Yusuke Kaji, Yasumichi Hatanaka, Seiki Hiramatsu, Satoshi Kondo, Shinsuke Asada, Yoshitaka Otsubo <i>Mitsubishi Electric Corp., Japan</i>	475
12:20–12:45	High Performance SiC MOSFET Module for Industrial Applications Ljubisa Stevanovic, Brian Rowden, Maja Harfman-Todorovic, Peter Losee, Alexander Bolotnikov, Stacey Kennerly, Tobias Schuetz, Fabio Carastro, Rajib Datta, Fengfeng Tao, Ravi Raju, Philip Cioffi <i>GE Global Research, United States</i>	479

12:45–13:45 Lunch Break

13:45–15:00 Velký sál

D3L-A

Silicon Carbide & Diamond – Novel Devices

Chairs: Ranbir Singh (GeneSiC, United States)
Kung-Yen Lee (National Taiwan University, Taiwan)

13:45–14:10	Diamond MOSFETs Using 2D Hole Gas with 1700V Breakdown Voltage Hiroshi Kwarada, T. Yamada, D. Xu, Y. Kitabayashi, M. Shibata, D. Matsumura, M. Kobayashi, T. Saito, T. Kudo, M. Inaba, A. Hiraiwa <i>Waseda University, Japan</i>	483
14:10–14:35	Experimental Demonstration of SiC Screen Grid Vertical JFET (SiC-SGVJFET) Having a Ultra-Low C_{rss} Koji Yano ¹ , Tsuyoshi Ishikawa ² , Yasunori Tanaka ³ , Tsutomu Yatsuo ³ , Masayuki Yamamoto ¹ ¹ University of Yamanashi, Japan; ² Toyota central R&D Lab, Japan; ³ National Institute of Advanced Industrial Science and Technology, Japan;	487
14:35–15:00	Orthogonal Optimization Design for Structural Parameters of SiC Reverse Switched Dynistor Lin Liang, Yuxiong Shu, Ludan Zhang, Ming Pan <i>Huazhong University of Science and Technology, China</i>	491

15:00–15:30 Velký sál

Closing Session

Charitat and Best Poster Award

Jan Šonský, General Chair (NXP Semiconductors, Belgium)
Oliver Häberlen, Technical Program Chair (Infineon Technologies, Austria)

Closing Remarks

Jan Šonský, General Chair (NXP Semiconductors, Belgium)

ISPSD'17 Announcement

Mutsuhiro Mori, General Chair ISPSD'17 (Hitachi, Ltd., Japan)

