

Final CALL FOR PAPERS

The 29th International Symposium on Power Semiconductor Devices and ICs

ISPSD 2017

May 28 - June 1, 2017

Sapporo, Japan

Conference site: Royton Sapporo



ISPSD is the premier forum for technical discussion in all areas of power semiconductor devices and integrated circuits, their hybrid technologies and applications. ISPSD 2017 will be held in the beautiful city Sapporo, the center of Hokkaido island in Japan.

MAIN CATEGORIES OF INTEREST INCLUDE:

- ◆ High voltage devices (HV)
- ◆ Low voltage devices and power IC device technology (LVT)
- ◆ Power IC design (ICD)
- ◆ GaN and nitride base compound materials (GaN)
- ◆ SiC and other materials (SiC)
- ◆ Module and Package Technologies (PK)

ABSTRACT SUBMISSION

- ◆ Prospective authors should visit the ISPSD 2017 website: <http://www.ispsd2017.com>).
- ◆ A PDF formatted abstract should be submitted through this website including:
 - A one page text summary in English (500 words maximum) and up to two pages of supporting figures and tables.
 - The abstract heading must include: Title, Authors, Affiliations, Postal Address, Phone/Fax numbers and Email address.
 - The abstracts must clearly state: Purpose of work, how the work is differentiated from prior work, specific results and their significance, and up-to-date references.
- ◆ **Charitat award:** If the first author as a presenter of a paper is no more than 30 years old at the time of the conference, their work will be considered for this award. The abstract must be identified at the time of submission.
- ◆ **Abstract submission deadline is ~~NOVEMBER 15, 2016~~ → NOVEMBER 24, 2016 (one time extension)**
- ◆ Author notification of acceptance will be sent out by January 25, 2017
- ◆ Final paper submission dead line is March 31, 2017

LATE NEWS

- ◆ Paper submission deadline is March 13, 2017

General Chair: Dr. Mitsuhiro Mori, Hitachi, Ltd.

Vice General Chair: Dr. Kimimori Hamada, Toyota Motor Corporation

Technical Program Chair: Prof. Ichiro Omura, Kyushu Institute of Technology

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1. High voltage devices (HV)

High voltage silicon based discrete device (> 200V), including:

- IGBTs, thyristors, GTOs and PiN diodes
- Superjunction MOSFET and new unipolar device
- High voltage power device failure mechanism
- Wafer technology and lifetime control
- New gate drive method to enhance IGBT and Superjunction MOSFET performance
- Safe operating area and current filament effect in IGBT
- New edge termination
- Simulation or measurement technology related to this category

2. Low voltage devices and power IC device technology (LVT)

Low voltage silicon base discrete power device ($\leq 200V$) and power devices for power ICs for all voltage range, including:

- High performance power MOSFET for DC-DC converters
- LIGBT, LDMOS for 600V power ICs
- SOI power devices for power ICs
- Power device design on BCD technology
- Device isolation technology
- MOSFET structure for level shifter
- Process integration for low voltage power devices
- SOA of LDMOSFET
- Simulation / measurement technology related to this category

Footnote: LVT category covers device design, device idea and device physics etc..

3. Power IC design (ICD)

Circuit design and demonstration using power IC technology platform, including:

- Gate driver IC design
- New circuit and layout design enhancing power IC performance
- Single chip inverters and converters
- New signal isolation technology on power IC such as magnetic coupling
- Power SoC and passive component integration on a chip
- ESD protection circuit
- Compact circuit model for power IC design
- New type of hybrid power ICs
- Modeling, design platform and measurement technology for power IC

Footnote: ICD category covers power IC circuit design, system integration and IC architecture etc..

4. GaN and nitride base compound materials (GaN)

GaN and nitride base power devices and ICs, including:

- AlGaN/GaN hetero device
- Vertical GaN MISFET,
- AlN power devices and ICs
- Special circuit and application for GaN and nitride base power devices
- GaN and nitride base power ICs
- Special application for GaN and nitride devices
- New process integration for GaN power IC
- Simulation / measurement technology related to this category

5. SiC and other materials (SiC)

SiC and other material base power devices and ICs, including:

- SiC power MOSFET, IGBT, SIT
- SiC power ICs
- Diamond power devices and ICs
- Gallium oxide power devices and ICs
- Special application for SiC and other material devices
- New process technology for SiC and other material devices
- Simulation / measurement technology related to this category

6. Module and Package Technologies (PK)

Module and Package technology for discrete power devices and power ICs, including

- Power module, Transfer molded package demonstration
- Power module design including wire frame
- Chip current and temperature measurement
- Pressure contact packages for high power system applications
- Thermal management and new cooling technology
- Stress and strain simulation for package structures and materials
- 3D-package and stray inductance management
- Package design against noise and switching losses
- Reliability physics and failure analysis related to package design and material
- Package insulation technology and material, high temperature endurance
- Power SiP hardware design
- Simulation / measurement technology related to this category

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