ISAPP2019 program

October 7th, Monday

Time			
9:50	Opening	Katsuaki Suganuma	Osaka University
	World trends of WGB technology (Chairman: K. Suganuma & L. Lorenz)		
10:00	(Plenary) JAXA's research and technologies on electric aircraft	Akira Nishizawa	JAXA
	(Plenary) Progress of Vehicle Electrification and Adoption of Next-generation Power Semiconductors	Keiji Toda	TOYOTA MOTOR CORPORATION
11:00	(i) Power Electronics in Siemens – Challenges and Chances using Wide Bandgap Semiconductors	Lennart Baruschka	Siemens AG
	(i)SiC Power Module for Automotive Applications	Kazuhiro Tsuruta	DENSO CORPORATION
	(i)New concepts of multi-sintering and SMD packages enabled by SiC products in EV applications	Filippo Di Giovanni	STMicroelectronics
12:00	Lunch		
	(Chairman: T. Funaki & C. Bayer)		
13:00	(i)Prototype of high heat dissipation J1-Series modules for electric and hybrid vehicles	Noboru Miyamoto	MITSUBISHI ELECTRIC CORPORATION
	(i)3D Packaging of Low-parasitic WBG Power Modules	GQ Lu	Virginia Polytechnic Institute and State University
	(i)Packaging Technology for High-Speed SiC Power Module Operated at High-Temperature	Hiroshi Yamaguchi	National Institute of Advanced Industrial Science and Technology
14:00	(i)Compact packaging power module	Andreas Schelz & Christoph Bayer	Fraunhofer Institute for Integrated Systems and Device Technology IISB
	(i)Development of 3.3kV High Power Density Full-SiC Power Modules with Sintered Copper Die Attach Technology	Kan Yasui	Hitachi Power Semiconductor Device, Ltd.
	(i) Technical Challenge and Exploration of High Voltage and High Power SiC Device Packaging	Yu-Feng Qiu	Global Energy Interconnection Research Institute
15:00	Coffee		
15:20	(i)Development Status of WBG Power Module and Interconnection Technology for Automotive	Won Sik Hong	Korea Electronics Technology Institute
	(i)Propagation of Cavities Caused by Surface Discharges in Silicone Gel for Encapsulation of Power Modules	Akiko Kumada	Tokyo University
16:00	Poster session		
17:30	Banquet		

October 8th, Tuesday

Time	Title	Speaker	Affiliation
	Testing method standardization and road map (Chairman : T. Harder)		
9:00	(Plenary) ECPE WBG Roadmap - Lead Applications for SiC and GaN	Leo Lorenz	European Center for Power Electronics e.V.
	(Plenary) A study on parasitic inductance and thermal resistance of multi-layered ceramic power module substrate	Tsuyoshi Funaki & Shuhei Fukunaga	Osaka University
	(i)Thermal performance evaluation standardization	Naoki Wakasugi	Yamato Scientific co., ltd.
10:20	Coffee break		
	Sinter joining (Chairman: K. Suganuma)		
10:40	(i)Sintering with the highest quality control	Johan Hamelink	Boschman
11:00	(i)Sintering under hydrogen – Evaluation of best process parameters	Aaron Hutzler	Bond Pulse
	(i)Sinter joining using micro-sized metal particles	Hiroshi Nishikawa	Osaka University
	(i)Silver sinter paste developed for direct bonding to aluminum and nickel surfaces	Ly May Chew	Heraeus
12:20	Lunch		
	Component & Reliability (Chairman: F. Iannuzzo & H. Nishikawa)		
13:20	(i)Development of Quick Screening Test of Metallized Ceramic Substrates for SiC Power Modules	Hiroyuki Miyazaki	National Institute of Advanced Industrial Science and Technology
	(i)Ultrasonic welder for advance power packaging	Wayne Ng	Kulicke & Soffa Industries, Inc.
14:00	(i)Fe-based Composite Magnetic Core for GaN Power Device Switching Converter	Toshio Sato	Shinshu University
	(i)Evaluation of Electrical Characteristics of Electrical Insulating Materials for Next Generation Power Module	Masahiro Kosako	Kyushu Institute of Technology
	(i) Package-Level Normal and Abnormal Condition Testing of Modern Silicon Carbide Power MOSFETs	Francesco Iannuzzo	Aalborg University
15:00	Coffee		
	Coating and surface treatment (Chairman : Toshio Sato)		
15:20	(i)Parylene Coatings in Power Electronic Modules	Antonia Diepgen	Fraunhofer Institute for Integrated Systems and Device Technology IISB
	(i)Quality test for susceptibility of encapsulated power electronics to harmful gas corrosion and humidity	Markus R. Meier	ZESTRON Europe
16:00	Closing	Tsuyoshi Funaki	Osaka University

Poster

Poster	Electric, Thermal, and Mechanical FEM Simulation – Best Practice on Power Electronics Issues	Christoph Friedrich Bayer	Fraunhofer Institute for Integrated Systems and Device Technology IISB
Poster	A novel micron-sized Ag paste for realizing pressureless Ag sinter joining on different surface finishes	Zheng Zhang	Institute of Scientific and Industrial Research, Osaka University
Poster	High Temperature High Humidity Reverse Bias (H^3TRB) Test on 1200 V SiC Schottky Diodes	Felix Hoffmann	University of Bremen
Poster	A Reliability Assessment on Busbar Joint with Ultrasonic Bonding in Power Module for Thermal Stress	Shuhei Fukunaga	Osaka University
Poster	Low temperature pressure-less direct die bonding on Ni-P finished substrate by micron-scale sinter Ag particles joining	Chuantong Chen	Osaka University
Poster	Copper clip bonding technology for high-temperature SiC modules using silver sinter paste and its PCT reliability	Chanyang Choe	Osaka University
Poster	Evaluation the bonding quality and reliability of sinter Cu joining with different metal metallization substrate	Shuhei Takata	Institute of Scientific and Industrial Research, Osaka University
Poster	Direct thermal characterization method of the junction temperature of active 4H-SiC device for an interconnection of wide band gap power modules	Dongjin Kim	Institute of Scientific and Industrial Research, Osaka University
Poster	Thermal shock reliability of pressure-less sintering using multi-modal micron Ag particle.	Tetsu Takemasa	Senju Metal Industry Co., Ltd.
Poster	Reliability Evaluation of SiC Power Module in Severe Thermal	Haoran Ding	Osaka University
Poster	Electric Field Shaping in Double-Sided Cooled Power Packages	Ciro Scognamillo	Power Electronics, Machines and Control Group, University of Nottingham
Poster	A Contribution to the Unified Electro-Thermo-Mechanical Design of SiC Power Modules	Antonio Pio Catalano	Department of Electrical Engineering and Information Technology, University of Naples “Federico II”
Poster	Optimum Thermal Management Design for Compact PCB-Based High Frequency GaN Assemblies	Roberto Trani	Power Electronics, Machines and Control Group, University of Nottingham
Poster	Micro Roughening of Copper Substrate with Additive Spraying of Copper Particles for Low Temperature Solid Phase Bonding	Yuki Takada	Osaka University
Poster	Co-W-P metallization technology for SiC package at high temperature operation	Tomohito Iwashige	DENSO CORPORATION
Poster	Research on Co-simulation Method of Power Electronic Devices and Equipment for Power System	Cenzhongyuan	Global energy interconnection research institute

Poster	Comparison of PCB and DBC substrates concering ECM and Dendrite Formation	Victoria Zimmermann	Fraunhofer Institue for Integrated Systems and Device Technology
Poster	Effect of Bonding Conditions on Shear Strength of Joints Using Sn-coated Cu Powders	Sijie Huang	Osaka University
Poster	High temperature die attach using silver particles pastes – mass-produce, composition and bonding process	JINTING JIU	Senju metal Industry Co., Ltd
Poster	Process Development of a Piezoresistive Pressure Sensor with Empty-Space-in-Silicon	JialeSu	Southeast University
Poster	Thermal Conductivity and Phase Structure of Liquid Crystalline Epoxy Resin/ MgO Filler Composites	Saki Ota	Kansai University
Poster	Reliability Test Results of Advanced Packaging GaN Medium Power Half Bridge Modules	Jörg Franke	Chemnitz University of Technology
Poster	Fast and Tunable Overcurrent Breaker for DC	Alexander Würfel	University of Bremen
Poster	Characterization of the Gate Oxide of SiC-MOSFETs – planar and trench	Sarah Rugen	University of Bremen
Poster	Automatized Layout Design Optimization for Power Modules	Mario Groccia	Fraunhofer Institue for Integrated Systems and Device Technology
Poster	Reliabilities of Cu sinter paste for pressure sintering at low temperature	Jung-Lae Jo	Mitsui Mining & Smelting Co., Ltd.
Poster	Thermal stable Cu-to-Cu bonding using Ga Submicron particle-based pastes	Shih-kang Lin	National Cheng Kung University
Poster	New insights to the mechanism of electromigration effect: an in situ experimental study"	Yu-chen Liu	National Cheng Kung University
Poster	Modified micro-size Ag sinter paste for Wide Band Gap device packaging	Jeyun Yeom	Osaka University
Poster	Sinterability improvement of hybrid silver sintering joining paste by adding silver nanoparticles	Tomoya Egawa	Daicel Corporation
Poster	Heat transfer characteristics evaluation by the steady-state thermal gradient method	Sato Naoki	Institute of Scientific and Industrial Research, Osaka University
Poster	High-performance solder preforms for Power devices	Kaichi Tsuruta	Senju Metal Industry Co., Ltd.
Poster	A Pressureless All-Cu Bonding Method by Reduction of Preoxidized Cu Particles	Runhua Gao	Osaka University