18th Research Meeting





## - Make full use of next-generation power devices! - Circuit design,

## peripheral technology, and applications for controlling high-speed devices

ÿ Date and time: May 27, 2021 (Thursday) 9:55-16:50 ÿ Location: Online

New wide bandgap power semiconductors such as SiC and GaN are no longer rare and expensive devices. airco They are quietly creeping into the interiors of home appliances such as computers, information devices such as PCs, automobiles, railways, and various industrial power equipment. death However, because their performance is superior to that of Si semiconductor devices, unprecedented control is required when handling them. Ru. This study group will explain the latest information from each application field regarding the spread of new material semiconductors, as well as explain the high-speed speed of new material semiconductors. We will broadly discuss technologies for controlling switching and high power density (devices, packaging, circuits, materials, evaluation and analysis technologies). .....program..... 9:55-10:00 1. Opening remarks Takashi Nakamura (Representative organizer) 10:00-10:30 2. "Low loss in automotive SiC-MOSFETs using active gate technology"

10:30ÿ11:00 3. "Noise generation mechanism in ultrahigh-speed GaN power semiconductor applications and effective method for suppressing noise caused by high-speed switching"

Masayoshi Yamamoto (Nagoya University)

4. "Expectations for power electronics and power devices that support nextgeneration power systems" Tatsuto Nakajima (Tokyo City University)

11:30-12:00 5 "Development of SiC applicable converter for social infrastructure systems" Atsuhiko Kuzumaki (Toshiba Infrastructure Systems)

\*Due to unforeseen circumstances, Mr. Kuzumaki's lecture has been canceled. I'm sorry.

Lunch break (12:00-13:20)

8. "Active power decoupling technology that realizes high power density" 13:20-13:50 Junichi Ito (Nagaoka University of Technology)

13:50-14:20 9. "Work style reform in power cycle testing and thermal evaluation" Tomoaki Hara (Siemens Corporation)

Ten. "Double-sided cooling with built-in Si-CR snubber"

Switching evaluation of SiC power modules" Ryotaro Hata (Murata Manufacturing)

14:20-15:10

Hironori Akiyama (Denso)

11:00-11:30

11. ``By silicon carbide avalanche diode

Surge suppression during switching" Masayuki Yamamoto (AIST/University of Yamanashi)

12. Special lecture

"Design of integrated WBG power electronics" Alberto Castellazzi (Kyoto University of Advanced Science)

## 14. Closing remarks

16:50-17:00

Jun Suda (Subcommittee Secretary-General)

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\*Those who are supporting members of the Advanced Power Semiconductor Subcommittee will be treated as members of the Advanced Power Semiconductor Subcommittee.

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Participation application QR code



15:50-16:20

16:20-16:50