

SESSION 12b: POWER SWITCHES

Chair: Scott Sheppard, *CREE*

The Power Switch session contains two invited, one student and one regular paper. Each paper addresses different aspects of the use of wide bandgap compound semiconductors for high-power devices. The session begins with an invited paper. Peter Friedrichs of SiCED Electronics Development gives a survey on SiC power device development and prospects of commercialization over the past 10 years. The second paper will be a student presentation by Tsung-Ting Kao of Georgia Tech who reports the high voltage device performance of AlGaIn/GaN Heterojunction Field Effect Transistors (HFETs) grown on Si substrates with low specific on-resistance and high breakdown voltage. Next in an invited talk, Tsutomu Uesugi of Toyota central R&D Laboratories, Inc. will compare the lateral structures and the vertical structures of the GaN on Si power devices and discuss their application to future power devices. Finally, Mrinal Das of Cree, Inc. gives a very comprehensive overview of commercially available silicon carbide power devices. It will include a treatise on SiC JBS diodes and future power switching commercial devices in SiC.