

Recent Progress in High-Voltage SiC Devices and its Application Development

Abstract—The development of high-voltage power devices using silicon carbide, a next-generation semiconductor material, is progressing. Devices with a rated voltage of up to 3.3 kV have been put into practical use. In recent years, the development of devices with higher withstand voltages up to 13 kV have been developed at the laboratory. In addition, evaluation of the conduction and the switching characteristics have been carried out. Applications development such as inverter circuits have also been studied. In the presentation, we report on the development status of these high-voltage SiC devices and its application.