Preface

The relentless advancement in the creation of high-power electronics is driving the need for innovative materials and new device architectures. This special edition delves readers into the cutting-edge developments and challenges in the field, with a focus on silicon carbide (SiC) technology. The edition provides a comprehensive overview of the critical aspects of SiC MOSFETs, highlighting their superior switching characteristics, etc., compared to traditional silicon-based devices.

To enhance devices' efficiency and performance, a complex solid-state structure and effective package architecture are used. Such approaches in the design of high-power electronics are necessary for the provision of the ability to withstand high voltages and currents while maintaining parameters' stability.

Collected articles not only focus on the theoretical underpinnings but also provide practical insights for engineers in design and real-world applications. The relation between device characteristics and circuit design is illustrated through research results. This makes this edition an invaluable resource for engineers, researchers, and students in the design and applications of high-power solid-state electronic devices.