

Status and Perspective of GaN-based Transistor Technology in Japan

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We have hot activities of GaN-HEMT development and production in Japan for both RF and power switching applications. RF devices include power amplifiers for cellular base stations and microwave and millimeter-wave commercial wireless systems. For power switching applications, great efforts are being devoted to develop low-loss and high-voltage switching devices. A GaN-on-Si epitaxial technology is receiving major attention for low-cost solution, while GaN on a free-standing GaN substrate is receiving increased attention for possible super-low-loss and/or ultra-high-voltage applications. In addition, the development of normally-off operation has been a target of continuous research. In this presentation, technology trends to overcome these related issues in Japan are overviewed.