

## **SiC and GaN Power Semiconductor Market, Opportunity, Growth Drivers, Industry Trend Analysis and Forecast, 2024-2032**

Market Report | 2024-07-24 | 210 pages | Global Market Insights

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### **Report description:**

SiC and GaN power semiconductor market size is anticipated to grow at over 25% CAGR between 2024 and 2032 fueled by the rising demand for efficient power conversion and energy savings across diverse industries. SiC and GaN semiconductors outshine traditional silicon-based devices, boasting features like heightened voltage tolerance, superior thermal conductivity, and faster switching speeds. For instance, in June 2024, SK keyfoundry unveiled its 650V GaN High Electron Mobility Transistor (HEMT) specifications.

The automotive sector is also rapidly integrating these semiconductors, boosting the efficiency of power electronics in electric drivetrains and charging systems. Moreover, advancements in cost-effective manufacturing processes and expanded production capabilities for SiC and GaN devices are propelling market growth.

The overall industry is divided into processor, power range, vertical, and region.

Based on processor, the SiC and GaN power semiconductor market value from the discrete GaN segment is poised to grow between 2024 and 2032 due to its ability to offer significant performance improvements in power electronics. Discrete GaN devices provide high-efficiency, fast switching capabilities, and superior thermal management compared to traditional silicon-based semiconductors. These advantages make them ideal for applications requiring high power density and efficiency, such as electric vehicles, industrial power supplies, and advanced telecommunications.

In terms of vertical, the SiC and GaN power semiconductor market from the power supplies segment is set to witness a significant CAGR from 2024 to 2032. This uptick is driven by the quest for enhanced efficiency and performance in power conversion systems. With their rapid switching speeds, reduced conduction losses, and superior thermal management, SiC and GaN semiconductors play a pivotal role in boosting the efficiency and reliability of power supplies.

North America SiC and GaN power semiconductor industry is expected to accrue notable expansion from 2024 to 2032. This is led by the emphasis on technological innovation and the increasing demand for high-performance, energy-efficient power solutions. The region with its robust industrial base and advanced research capabilities, has emerged as a leader in adopting cutting-edge technologies across sectors, such as automotive, aerospace, and renewable energy.

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