

Global SiC AI Server Power Supply Market Growth 2026-2032

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Abstracts

The global SiC AI Server Power Supply market size is predicted to grow from US\$ 2249 million in 2025 to US\$ 9420 million in 2032; it is expected to grow at a CAGR of 22.8% from 2026 to 2032.

SiC AI Server Power Supply is a high-efficiency power supply unit designed for artificial intelligence server platforms, using silicon carbide power devices and high-frequency magnetic components to improve conversion efficiency, power density, thermal performance, and system stability under intensive computing loads. Compared with conventional server power supplies, its advantages lie in lower switching loss, higher operating frequency, smaller passive component size, better heat dissipation, stronger dynamic load response, and higher suitability for GPU-intensive and mission-critical AI computing environments. In 2025, production was approximately 8.21 million units and the average price was USD 280 per unit. The industry's capacity utilization rate in 2025 was about 73% and the average gross margin was around 28%. Upstream, the key inputs include SiC MOSFETs, SiC diodes, PFC inductors, and LLC transformers, with representative suppliers including Infineon Technologies, Wolfspeed, providing core wide-bandgap power devices and magnetic components. The midstream segment focuses on high-efficiency power topology design, power factor correction, resonant conversion, thermal structure optimization, electromagnetic compatibility control, digital monitoring, reliability testing, and automated assembly, which together determine conversion efficiency, power density, heat control, load response, and long-term operating reliability. Downstream, SiC AI Server Power Supply is mainly used in general servers and GPU servers, where general servers emphasize stable power supply, energy efficiency, and system reliability, while GPU servers require higher power density, faster dynamic response, stronger thermal control, and more reliable operation under high-computing-load conditions.

SiC AI Server Power Supply is becoming more important as AI computing platforms move toward higher rack power, denser GPU configurations, and stricter data center energy-efficiency requirements. In general servers, its value is reflected in stable output, lower conversion loss, and improved system reliability. In GPU servers, the stronger driver comes from fast load transients, concentrated heat, and continuous high-power operation. As operators focus on power usage efficiency and cabinet-level power density, competition will shift toward SiC device integration, high-frequency magnetic design, thermal control, digital monitoring, and long-term reliability. Suppliers with stronger power electronics engineering can create differentiated value in high-performance computing infrastructure.

LP Information, Inc. (LPI) ' newest research report, the "SiC AI Server Power Supply Industry Forecast" looks at past sales and reviews total world SiC AI Server Power Supply sales in 2025, providing a comprehensive analysis by region and market sector of projected SiC AI Server Power Supply sales for 2026 through 2032. With SiC AI Server Power Supply sales broken down by region, market sector and sub-sector, this report provides a detailed analysis in US\$ millions of the world SiC AI Server Power Supply industry.

This Insight Report provides a comprehensive analysis of the global SiC AI Server Power Supply landscape and highlights key trends related to product segmentation, company formation, revenue, and market share, latest development, and M&A activity. This report also analyzes the strategies of leading global companies with a focus on SiC AI Server Power Supply portfolios and capabilities, market entry strategies, market positions, and geographic footprints, to better understand these firms' unique position in an accelerating global SiC AI Server Power Supply market.

This Insight Report evaluates the key market trends, drivers, and affecting factors shaping the global outlook for SiC AI Server Power Supply and breaks down the forecast by Type, by Application, geography, and market size to highlight emerging pockets of opportunity. With a transparent methodology based on hundreds of bottom-up qualitative and quantitative market inputs, this study forecast offers a highly nuanced view of the current state and future trajectory in the global SiC AI Server Power Supply.

This report presents a comprehensive overview, market shares, and growth opportunities of SiC AI Server Power Supply market by product type, application, key manufacturers and key regions and countries.

Segmentation by Type:

Power

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