

Global SiC Server Power Supply for AI Infrastructure Market Growth 2026-2032

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Abstracts

The global SiC Server Power Supply for AI Infrastructure 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 Server Power Supply for AI Infrastructure is a high-efficiency server power supply unit designed for AI computing infrastructure, using silicon carbide power devices and high-frequency magnetic components to support high rack power, dense server deployment, fast load fluctuation, and stable long-duration operation. 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 high-density 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 and Wolfspeed providing core wide-bandgap power devices and magnetic component support. The midstream segment focuses on high-efficiency server 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 Server Power Supply for AI Infrastructure 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 Server Power Supply for AI Infrastructure will be mainly driven by the replacement cycle of GPU server power systems. As GPU servers move toward higher computing density and higher single-rack power, conventional server power supplies face greater pressure in efficiency, heat dissipation, dynamic response, and power density. SiC-based designs can reduce switching loss, support higher-frequency conversion, shrink passive components, and improve thermal performance, making them more suitable for next-generation GPU server platforms. The key demand will come from new AI server deployment and the upgrade of existing power architectures. Competition will focus on SiC device efficiency, high-frequency topology, magnetic component design, thermal structure, and long-term reliability verification.

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

This Insight Report provides a comprehensive analysis of the global SiC Server Power Supply for AI Infrastructure 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 Server Power Supply for AI Infrastructure portfolios and capabilities, market entry strategies, market positions, and geographic footprints, to better understand these firms' unique position in an accelerating global SiC Server Power Supply for AI Infrastructure market.

This Insight Report evaluates the key market trends, drivers, and affecting factors shaping the global outlook for SiC Server Power Supply for AI Infrastructure 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 Server Power Supply for AI Infrastructure.

This report presents a comprehensive overview, market shares, and growth

opportunities of SiC Server Power Supply for AI Infrastructure market by product type, application, key manufacturers and key regions and countries.

Segmentation by Type:

Power

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