

Global SiC Power Supply for AI Data Centers Market Growth 2026-2032

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Abstracts

The global SiC Power Supply for AI Data Centers 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 Power Supply for AI Data Centers is a high-efficiency power supply unit designed for AI data center infrastructure, using silicon carbide power devices and high-frequency magnetic components to improve conversion efficiency, power density, thermal performance, and operating stability under intensive computing loads. Compared with conventional data center 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, high-density, and mission-critical 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 Power Supply for AI Data Centers 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 Power Supply for AI Data Centers is increasingly tied to the power architecture upgrade of high-density computing infrastructure. In general servers, its value is reflected in stable output, lower conversion loss, and improved system energy efficiency. In GPU servers, the stronger application driver comes from rapid load transients, concentrated heat, and continuous high-power operation. As AI data centers pursue higher rack power density and stricter energy-efficiency targets, competition will shift toward silicon carbide device integration, high-frequency magnetic design, thermal control, digital monitoring, and long-term reliability. Suppliers with strong power electronics engineering capability can create differentiated value in high-performance data center power systems.

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

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

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

This report presents a comprehensive overview, market shares, and growth opportunities of SiC Power Supply for AI Data Centers market by product type,

application, key manufacturers and key regions and countries.

Segmentation by Type:

Power

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