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Global SiC Server Power Supply for AI Infrastructure Supply, Demand and Key Producers, 2026-2032

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Abstracts

The global SiC Server Power Supply for AI Infrastructure market size is expected to reach $ 9277 million by 2032, rising at a market growth of 21.5% CAGR during the forecast period (2026-2032).

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.

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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.

This report studies the global SiC Server Power Supply for AI Infrastructure production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for SiC Server Power Supply for AI Infrastructure and provides market size (US$ million) and Year-over-Year (YoY) Growth, considering 2025 as the base year. This report explores demand trends and competition, as well as details the characteristics of SiC Server Power Supply for AI Infrastructure that contribute to its increasing demand across many markets.

Highlights and key features of the study
Global SiC Server Power Supply for AI Infrastructure total production and demand, 2021-2032, (K Units)
Global SiC Server Power Supply for AI Infrastructure total production value, 2021-2032, (USD Million)
Global SiC Server Power Supply for AI Infrastructure production by region & country, production, value, CAGR, 2021-2032, (USD Million) & (K Units), (based on production site)
Global SiC Server Power Supply for AI Infrastructure consumption by region & country, CAGR, 2021-2032 & (K Units)
U.S. VS China: SiC Server Power Supply for AI Infrastructure domestic production, consumption, key domestic manufacturers and share
Global SiC Server Power Supply for AI Infrastructure production by manufacturer, production, price, value and market share 2021-2026, (USD Million) & (K Units)
Global SiC Server Power Supply for AI Infrastructure production by Type, production, value, CAGR, 2021-2032, (USD Million) & (K Units)
Global SiC Server Power Supply for AI Infrastructure production by Application,

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production, value, CAGR, 2021-2032, (USD Million) & (K Units)

This report profiles key players in the global SiC Server Power Supply for AI Infrastructure market based on the following parameters - company overview, production, value, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Delta Electronics (China), LITEON Technology (China), AcBel Polytech (China), Shenzhen Honor Electronic (China), Aohai Technology (China), GreatWall (China), Gospower Electric (China), Dell (USA), Murata (Japan), Huntkey (China), etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the World SiC Server Power Supply for AI Infrastructure market

Detailed Segmentation:

Each section contains quantitative market data including market by value (US$ Millions), volume (production, consumption) & (K Units) and average price (US$/Unit) by manufacturer, by Type, and by Application. Data is given for the years 2021-2032 by year with 2025 as the base year, 2026 as the estimate year, and 2027-2032 as the forecast year.

Global SiC Server Power Supply for AI Infrastructure Market, By Region:

United States

China

Europe

Japan

South Korea

ASEAN

India

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Rest of World

Global SiC Server Power Supply for AI Infrastructure Market, Segmentation by Type:

Power

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