

Global SiC PFC Power Devices Market Growth 2026-2032

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Abstracts

The global SiC PFC Power Devices market size is predicted to grow from US\$ 585 million in 2025 to US\$ 1326 million in 2032; it is expected to grow at a CAGR of 12.4% from 2026 to 2032.

SiC PFC Power Devices are silicon carbide power semiconductor devices used in PFC stages, enabling high-speed switching, efficient rectification, and precise current shaping to reduce harmonic distortion, improve conversion efficiency, and enhance grid-side power quality. Compared with silicon-based PFC devices or ordinary rectifier and switching devices, their advantages lie in lower switching loss, higher operating frequency, better thermal performance, higher power density, and stronger suitability for server power supplies, communication power supplies, and industrial power systems. In 2025, production was approximately 133 million units and the average price was USD 4.5 per unit. The industry's capacity utilization rate in 2025 was about 85% and the average gross margin was around 33%. Upstream, the key inputs include power semiconductor wafers and packaging materials, with representative suppliers such as Wolfspeed, GlobalWafers, and Heraeus providing silicon carbide substrate materials, semiconductor wafers, and advanced packaging materials. The midstream segment focuses on silicon carbide device structure design, wafer processing, chip fabrication, packaging integration, electrical performance testing, thermal reliability verification, and application matching, which together determine switching efficiency, voltage and current endurance, heat dissipation, reliability, and cost competitiveness. Downstream, SiC PFC Power Devices are mainly used in server power supplies, communication power supplies, and industrial power supplies.

SiC PFC Power Devices are gaining value as high-density power systems demand lower loss, higher switching frequency, and stronger thermal performance. In server

power supplies, they support higher power density and more stable operation under continuous high-load conditions. In communication power supplies, their role is tied to grid-side power quality, efficiency, and long service life. In industrial power supplies, they help equipment manufacturers reduce energy loss and improve operating stability. As downstream designs move toward compact, high-efficiency architectures, competition will focus on silicon carbide wafer quality, switching performance, packaging reliability, heat dissipation, and application matching. Suppliers with stronger device engineering and system-level validation can build more durable margin advantages.

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

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

This Insight Report evaluates the key market trends, drivers, and affecting factors shaping the global outlook for SiC PFC Power Devices 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 PFC Power Devices.

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

Segmentation by Type:

600V

650V

1200V

Others

Segmentation by Package:

TO-220

TO-247

Others

Segmentation by Current:

Current

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