

Global SiC PFC Power Devices Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

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Abstracts

According to our (Global Info Research) latest study, the global SiC PFC Power Devices market size was valued at US\$ 616 million in 2025 and is forecast to a readjusted size of US\$ 1341 million by 2032 with a CAGR of 11.7% during review period.

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.

This report is a detailed and comprehensive analysis for global SiC PFC Power Devices market. Both quantitative and qualitative analyses are presented by manufacturers, by region & country, by Type and by Application. As the market is constantly changing, this report explores the competition, supply and demand trends, as well as key factors that contribute to its changing demands across many markets. Company profiles and product examples of selected competitors, along with market share estimates of some of the selected leaders for the year 2025, are provided.

Key Features:

Global SiC PFC Power Devices market size and forecasts, in consumption value (\$ Million), sales quantity (K Units), and average selling prices (US\$/Unit), 2021-2032

Global SiC PFC Power Devices market size and forecasts by region and country, in consumption value (\$ Million), sales quantity (K Units), and average selling prices (US\$/Unit), 2021-2032

Global SiC PFC Power Devices market size and forecasts, by Type and by Application, in consumption value (\$ Million), sales quantity (K Units), and average selling prices (US\$/Unit), 2021-2032

Global SiC PFC Power Devices market shares of main players, shipments in revenue (\$ Million), sales quantity (K Units), and ASP (US\$/Unit), 2021-2026

The Primary Objectives in This Report Are:

To determine the size of the total market opportunity of global and key countries

To assess the growth potential for SiC PFC Power Devices

To forecast future growth in each product and end-use market

To assess competitive factors affecting the marketplace

This report profiles key players in the global SiC PFC Power Devices market based on the following parameters - company overview, sales quantity, revenue, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Wolfspeed (USA), ROHM (Japan), Infineon (Germany), onsemi (USA), STMicroelectronics (Switzerland), CRMICRO (China), Global Power Technology (China), Vishay (USA), BASiC (China), Microchip (USA), etc.

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

Market Segmentation

SiC PFC Power Devices market is split by Type and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and forecasts for consumption value by Type, and by Application in terms of volume and value. This analysis can help you expand your business by targeting qualified niche markets.

Market segment by Type

600V

650V

1200V

Others

Market segment by Package

TO-220

TO-247

Others

Market segment by Current

Current

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