

Global SiC PFC Rectifier Device 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 Rectifier Device market size was valued at US\$ 234 million in 2025 and is forecast to a readjusted size of US\$ 507 million by 2032 with a CAGR of 11.2% during review period.

SiC PFC Rectifier Device is a silicon carbide rectifier device designed for PFC front-end circuits, supporting high-efficiency rectification, low reverse-recovery loss, stable current conduction, and improved power factor correction in high-density server power architectures. Compared with silicon-based rectifier devices or general switching devices, its advantages lie in lower recovery loss, higher operating frequency, better thermal performance, higher power density, and stronger suitability for high-load server power supplies. In 2025, production was approximately 65 million units and the average price was USD 3.5 per unit. The industry's capacity utilization rate in 2025 was about 80% and the average gross margin was around 30%. Upstream, the key inputs include SiC Schottky diodes and packaging materials, with representative suppliers such as Wolfspeed, Infineon Technologies, and Heraeus providing silicon carbide rectifier device materials and advanced packaging materials. The midstream segment focuses on SiC rectifier structure design, wafer processing, chip fabrication, junction and barrier optimization, packaging integration, electrical performance testing, thermal reliability verification, and PFC circuit application matching, which together determine rectification efficiency, voltage and current endurance, heat dissipation, reliability, and cost competitiveness. Downstream, SiC PFC Rectifier Device is mainly used in GPU server power supplies, general server power supplies, and storage server power supplies.

SiC PFC Rectifier Device is becoming more important as server power supplies pursue lower rectification loss, higher switching frequency, and stronger thermal stability. In

GPU server power supplies, its value is reflected in reducing recovery loss, improving efficiency, and supporting continuous high-load operation. In general server power supplies, it helps stabilize front-end conversion and improve reliability. In storage server power supplies, long service life and stable conduction are especially important for uninterrupted operation. As power architectures move toward higher density and compact design, competition will focus on SiC Schottky diode performance, packaging reliability, heat dissipation, voltage endurance, and PFC circuit matching. Suppliers with stronger device consistency can build deeper customer stickiness.

This report is a detailed and comprehensive analysis for global SiC PFC Rectifier Device 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 Rectifier Device market size and forecasts, in consumption value (\$ Million), sales quantity (K Units), and average selling prices (US\$/Unit), 2021-2032

Global SiC PFC Rectifier Device 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 Rectifier Device 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 Rectifier Device 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 Rectifier Device

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 Rectifier Device 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 Rectifier Device 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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