

Global SiC PFC Rectifier Device Market Growth 2026-2032

<https://marketpublishers.com/r/G730F036A72DEN.html>

Date: July 2026

Pages: 122

Price: US\$ 3,660.00 (Single User License)

ID: G730F036A72DEN

Abstracts

The global SiC PFC Rectifier Device market size is predicted to grow from US\$ 223 million in 2025 to US\$ 500 million in 2032; it is expected to grow at a CAGR of 11.9% from 2026 to 2032.

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.

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

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

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

This report presents a comprehensive overview, market shares, and growth opportunities of SiC PFC Rectifier Device 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

Contents

1 SCOPE OF THE REPORT

- 1.1 Market Introduction
- 1.2 Years Considered
- 1.3 Research Objectives
- 1.4 Market Research Methodology
- 1.5 Research Process and Data Source
- 1.6 Economic Indicators
- 1.7 Currency Considered
- 1.8 Market Estimation Caveats

2 EXECUTIVE SUMMARY

- 2.1 World Market Overview
 - 2.1.1 Global SiC PFC Rectifier Device Annual Sales 2021-2032
 - 2.1.2 World Current & Future Analysis for SiC PFC Rectifier Device by Geographic Region, 2021, 2025 & 2032
 - 2.1.3 World Current & Future Analysis for SiC PFC Rectifier Device by Country/Region, 2021, 2025 & 2032
- 2.2 SiC PFC Rectifier Device Segment by Type
 - 2.2.1 600V
 - 2.2.2 650V
 - 2.2.3 1200V
 - 2.2.4 Others
 - 2.2.5 SiC PFC Rectifier Device Sales by Type
 - 2.2.5.1 Global SiC PFC Rectifier Device Sales Market Share by Type (2021-2026)
 - 2.2.5.2 Global SiC PFC Rectifier Device Revenue and Market Share by Type (2021-2026)
 - 2.2.5.3 Global SiC PFC Rectifier Device Sale Price by Type (2021-2026)
- 2.3 SiC PFC Rectifier Device Segment by Package
 - 2.3.1 TO-220
 - 2.3.2 TO-247
 - 2.3.3 Others
 - 2.3.4 SiC PFC Rectifier Device Sales by Package
 - 2.3.4.1 Global SiC PFC Rectifier Device Sales Market Share by Package (2021-2026)
 - 2.3.4.2 Global SiC PFC Rectifier Device Revenue and Market Share by Package

(2021-2026)

2.3.4.3 Global SiC PFC Rectifier Device Sale Price by Package (2021-2026)

2.4 SiC PFC Rectifier Device Segment by Current

2.4.1 Current

List Of Tables

LIST OF TABLES

Table 1. SiC PFC Rectifier Device Annual Sales CAGR by Geographic Region (2021, 2025 & 2032) & (\$ millions)

Table 2. SiC PFC Rectifier Device Annual Sales CAGR by Country/Region (2021, 2025 & 2032) & (\$ millions)

Table 3. Major Players of 600V

Table 4. Major Players of 650V

Table 5. Major Players of 1200V

Table 6. Major Players of Others

Table 7. Global SiC PFC Rectifier Device Sales by Type (2021-2026) & (K Units)

Table 8. Global SiC PFC Rectifier Device Sales Market Share by Type (2021-2026)

Table 9. Global SiC PFC Rectifier Device Revenue by Type (2021-2026) & (\$ million)

Table 10. Global SiC PFC Rectifier Device Revenue Market Share by Type (2021-2026)

Table 11. Global SiC PFC Rectifier Device Sale Price by Type (2021-2026) & (US\$/Unit)

Table 12. Major Players of TO-220

Table 13. Major Players of TO-247

Table 14. Major Players of Others

Table 15. Global SiC PFC Rectifier Device Sales by Package (2021-2026) & (K Units)

Table 16. Global SiC PFC Rectifier Device Sales Market Share by Package (2021-2026)

Table 17. Global SiC PFC Rectifier Device Revenue by Package (2021-2026) & (\$ million)

Table 18. Global SiC PFC Rectifier Device Revenue Market Share by Package (2021-2026)

Table 19. Global SiC PFC Rectifier Device Sale Price by Package (2021-2026) & (US\$/Unit)

Table 20. Major Players of Current

List Of Figures

LIST OF FIGURES

- Figure 1. Picture of SiC PFC Rectifier Device
- Figure 2. SiC PFC Rectifier Device Report Years Considered
- Figure 3. Research Objectives
- Figure 4. Research Methodology
- Figure 5. Research Process and Data Source
- Figure 6. Global SiC PFC Rectifier Device Sales Growth Rate 2021-2032 (K Units)
- Figure 7. Global SiC PFC Rectifier Device Revenue Growth Rate 2021-2032 (\$ millions)
- Figure 8. SiC PFC Rectifier Device Sales by Geographic Region (2021, 2025 & 2032) & (\$ millions)
- Figure 9. SiC PFC Rectifier Device Sales Market Share by Country/Region (2025)
- Figure 10. SiC PFC Rectifier Device Sales Market Share by Country/Region (2021, 2025 & 2032)
- Figure 11. Product Picture of 600V
- Figure 12. Product Picture of 650V
- Figure 13. Product Picture of 1200V
- Figure 14. Product Picture of Others
- Figure 15. Global SiC PFC Rectifier Device Sales Market Share by Type in 2026
- Figure 16. Global SiC PFC Rectifier Device Revenue Market Share by Type (2021-2026)
- Figure 17. Product Picture of TO-220
- Figure 18. Product Picture of TO-247
- Figure 19. Product Picture of Others
- Figure 20. Global SiC PFC Rectifier Device Sales Market Share by Package in 2026
- Figure 21. Global SiC PFC Rectifier Device Revenue Market Share by Package (2021-2026)
- Figure 22. Product Picture of Current

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