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Global 48V AI Server Fan Driver Chip 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 48V AI Server Fan Driver Chip market size was valued at US$ million in 2025 and is forecast to a readjusted size of US$ million by 2032 with a CAGR of %during review period.

The 48V AI server fan driver chip is a semiconductor integrated circuit specifically designed for controlling high-voltage fan motors inside AI servers. This chip can drive brushless DC fans or three-phase fan motors under a 48V power supply architecture, achieving efficient heat dissipation. Due to the rapid increase in computing power and power consumption of AI servers, the requirements for heat dissipation performance have significantly increased, thus the demand for 48V fan drive solutions continues to grow. In 2024, global sales of such chips were approximately 18 million units, with an average unit price of approximately $20 and a single-line monthly production capacity of approximately 200,000 units. In terms of upstream and downstream companies, the upstream mainly belongs to the semiconductor design and manufacturing field, including dedicated control IP designers, wafer foundries and packaging and testing service providers, and power semiconductor and power management chip manufacturers; the downstream mainly consists of AI server manufacturers, large data center operators, and heat dissipation system integrators. Gross profit margins are typically between 35% and 45%. The product cost structure mainly consists of wafer manufacturing costs, packaging and testing costs, power device and passive component costs, and R&D and design investment. Products can be categorized by parameters into types with varying voltage adaptability, such as those supporting only 48V input and those supporting higher voltage withstand and stronger overvoltage protection. They can also be categorized by control algorithm, such as sensorless FOC control, square wave control, and highly integrated DC-DC converters. On the demand

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side, downstream needs include high-efficiency temperature-controlled fan drivers, adjustable speed control, high-reliability protection functions, low electromagnetic interference design, and interfaces compatible with various fan topologies. Downstream customers include hyperscale cloud service providers, enterprise-level AI server manufacturers, data center operation and maintenance service providers, and high-performance computing platform integrators. In terms of business opportunities, policy drivers include countries promoting data center energy efficiency standards and green computing infrastructure upgrades; technological innovation drivers include more efficient control algorithms, more integrated power management, and more intelligent fault diagnosis functions; and changing consumer demands reflect customers' continued pursuit of solutions with higher heat dissipation efficiency, lower energy consumption, and longer lifecycles. These factors collectively drive the growth potential of 48V AI server fan driver chips.

This report is a detailed and comprehensive analysis for global 48V AI Server Fan Driver Chip 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 48V AI Server Fan Driver Chip market size and forecasts, in consumption value ($ Million), sales quantity (K Units), and average selling prices (US$/Unit), 2021-2032

Global 48V AI Server Fan Driver Chip 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 48V AI Server Fan Driver Chip 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 48V AI Server Fan Driver Chip 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:

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

To assess the growth potential for 48V AI Server Fan Driver Chip

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 48V AI Server Fan Driver Chip 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 Nuvoton, Melexis, Microchip, RICHTEK, Silergy Technology, Shanghai Bright Power Semiconductor, Halo Microelectronics, Fortior Technology (Shenzhen), etc.

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

Market Segmentation

48V AI Server Fan Driver Chip 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

Single Phase Driver Chip

Three Phase Driver Chip

Market segment by Maximum Voltage

HQFN-32 Package

QFN Package

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Other

Market segment by LDO

Supports LDO

Does Not Support LDO

Market segment by Application

GPU Server

TPU Server

ASIC Server

Others

Major players covered

Nuvoton

Melexis

Microchip

RICHTEK

Silergy Technology

Shanghai Bright Power Semiconductor

Halo Microelectronics

Fortior Technology (Shenzhen)

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Market segment by region, regional analysis covers

North America (United States, Canada, and Mexico)

Europe (Germany, France, United Kingdom, Russia, Italy, and Rest of Europe)

Asia-Pacific (China, Japan, Korea, India, Southeast Asia, and Australia)

South America (Brazil, Argentina, Colombia, and Rest of South America)

Middle East & Africa (Saudi Arabia, UAE, Egypt, South Africa, and Rest of Middle East & Africa)

The content of the study subjects, includes a total of 15 chapters:

Chapter 1, to describe 48V AI Server Fan Driver Chip product scope, market overview, market estimation caveats and base year.

Chapter 2, to profile the top manufacturers of 48V AI Server Fan Driver Chip, with price, sales quantity, revenue, and global market share of 48V AI Server Fan Driver Chip from 2021 to 2026.

Chapter 3, the 48V AI Server Fan Driver Chip competitive situation, sales quantity, revenue, and global market share of top manufacturers are analyzed emphatically by landscape contrast.

Chapter 4, the 48V AI Server Fan Driver Chip breakdown data are shown at the regional level, to show the sales quantity, consumption value, and growth by regions, from 2021 to 2032.

Chapter 5 and 6, to segment the sales by Type and by Application, with sales market share and growth rate by Type, by Application, from 2021 to 2032.

Chapter 7, 8, 9, 10 and 11, to break the sales data at the country level, with sales quantity, consumption value, and market share for key countries in the world, from 2021 to 2026.and 48V AI Server Fan Driver Chip market forecast, by regions, by Type, and

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by Application, with sales and revenue, from 2027 to 2032.

Chapter 12, market dynamics, drivers, restraints, trends, and Porters Five Forces analysis.

Chapter 13, the key raw materials and key suppliers, and industry chain of 48V AI Server Fan Driver Chip.

Chapter 14 and 15, to describe 48V AI Server Fan Driver Chip sales channel, distributors, customers, research findings and conclusion.

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4 CONSUMPTION ANALYSIS BY REGION

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