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Global 48V AI Server Fan Driver Chip Market Growth 2026-2032

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Abstracts

The global 48V AI Server Fan Driver Chip market size is predicted to grow from US$ million in 2025 to US$ million in 2032; it is expected to grow at a CAGR of %from 2026 to 2032.

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 side, downstream needs include high-efficiency temperature-controlled fan drivers,

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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.

United States market for 48V AI Server Fan Driver Chip is estimated to increase from US$ million in 2025 to US$ million by 2032, at a CAGR of % from 2026 through 2032.

China market for 48V AI Server Fan Driver Chip is estimated to increase from US$ million in 2025 to US$ million by 2032, at a CAGR of % from 2026 through 2032.

Europe market for 48V AI Server Fan Driver Chip is estimated to increase from US$ million in 2025 to US$ million by 2032, at a CAGR of % from 2026 through 2032.

Global key 48V AI Server Fan Driver Chip players cover Nuvoton, Melexis, Microchip, RICHTEK, Silergy Technology, etc. In terms of revenue, the global two largest companies occupied for a share nearly % in 2025.

LP Information, Inc. (LPI) ' newest research report, the “48V AI Server Fan Driver Chip Industry Forecast” looks at past sales and reviews total world 48V AI Server Fan Driver Chip sales in 2025, providing a comprehensive analysis by region and market sector of projected 48V AI Server Fan Driver Chip sales for 2026 through 2032. With 48V AI Server Fan Driver Chip sales broken down by region, market sector and sub-sector, this report provides a detailed analysis in US$ millions of the world 48V AI Server Fan Driver Chip industry.

This Insight Report provides a comprehensive analysis of the global 48V AI Server Fan Driver Chip 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 48V AI Server Fan Driver Chip portfolios and capabilities, market entry strategies,

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market positions, and geographic footprints, to better understand these firms' unique position in an accelerating global 48V AI Server Fan Driver Chip market.

This Insight Report evaluates the key market trends, drivers, and affecting factors shaping the global outlook for 48V AI Server Fan Driver Chip 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 48V AI Server Fan Driver Chip.

This report presents a comprehensive overview, market shares, and growth opportunities of 48V AI Server Fan Driver Chip market by product type, application, key manufacturers and key regions and countries.

Segmentation by Type:

Single Phase Driver Chip

Three Phase Driver Chip

Segmentation by Maximum Voltage:

HQFN-32 Package

QFN Package

Other

Segmentation by LDO:

Supports LDO

Does Not Support LDO

Segmentation by Application:

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GPU Server

TPU Server

ASIC Server

Others

This report also splits the market by region:

Americas

United States

Canada

Mexico

Brazil

APAC

China

Japan

Korea

Southeast Asia

India

Australia

Europe

Germany

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France

UK

Italy

Russia

Middle East & Africa

Egypt

South Africa

Israel

Turkey

GCC Countries

The below companies that are profiled have been selected based on inputs gathered from primary experts and analysing the company's coverage, product portfolio, its market penetration.

Nuvoton

Melexis

Microchip

RICHTEK

Silergy Technology

Shanghai Bright Power Semiconductor

Halo Microelectronics

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Fortior Technology (Shenzhen)

Key Questions Addressed in this Report

What is the 10-year outlook for the global 48V AI Server Fan Driver Chip market?

What factors are driving 48V AI Server Fan Driver Chip market growth, globally and by region?

Which technologies are poised for the fastest growth by market and region?

How do 48V AI Server Fan Driver Chip market opportunities vary by end market size?

How does 48V AI Server Fan Driver Chip break out by Type, by Application?

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