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Global AI Server Fan Driver Chip Supply, Demand and Key Producers, 2026-2032

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Abstracts

The global AI Server Fan Driver Chip market size is expected to reach $ million by 2032, rising at a market growth of %CAGR during the forecast period (2026-2032).
AI server fan driver chips are key control chips in the cooling systems of AI server chassis. They precisely regulate fan speed by controlling PWM signals and fan motor drive current, thereby maintaining stable internal server temperatures and ensuring the reliable operation of high-heat computing units such as GPUs, TPUs, and ASICs. Industry forecasts indicate that global shipments of AI server fan driver chips will reach approximately 120 million units by 2024, with an average unit price of approximately $2.5. A typical production line, including a wafer foundry and packaging/testing facilities, has an annual capacity of approximately 3 million chips. The upstream and downstream supply chains include upstream silicon wafer and semiconductor raw material suppliers, power transistor and MOSFET manufacturers, and packaging substrate and passive component suppliers. The midstream supply chain includes semiconductor design and chip manufacturing companies, such as chip companies specializing in motor drive and PWM control IP. The downstream supply chain includes server OEMs, cooling module suppliers, AI server foundries, fan manufacturers, and system integrators. Server OEMs typically have gross margins between 20% and 30%. The cost structure primarily consists of wafer manufacturing costs, followed by intellectual property licensing costs, packaging and testing costs, wafer processing energy and labor costs, and quality inspection and reliability testing fees. AI server fan driver chips can be categorized by the number of phases (single-phase and three-phase), by supported functions (LDO and non-LDO power supply drivers), by maximum drive voltage (low-voltage (2-24V), medium-voltage (24-48V), and high-voltage (greater than 48V) chips), and by application scenario (GPU server-specific chips, TPU server-specific chips, ASIC server-specific chips, and general-purpose chips). Downstream demand includes massively parallel computer clusters, AI training and inference servers, cloud computing data

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centers, edge computing nodes, high-performance servers, deep learning workstations, and high-performance network storage devices. Downstream customers include cloud service operators, large data center builders, AI training platform deployment companies, server original design manufacturers (ODMs), and fan and heat dissipation module suppliers. From a business opportunity perspective, the market is driven by multiple factors. First, policies and initiatives implemented by various countries to promote energy-saving and environmentally friendly data center green computing standards have increased the demand for high-efficiency fan driver chips. Secondly, technological innovation has made driver chips with higher integration, lower energy consumption, and more refined temperature control algorithms highly sought after, driving product upgrades. Finally, changing consumer and customer demands, such as the continued growth of AI training workloads and increased requirements for system reliability and stability, have prompted server cooling solutions to evolve from simple air cooling to intelligent air-cooling and liquid-cooling hybrid solutions, thus continuously increasing the demand for fan driver chips, the core control unit of the heat dissipation chain. In conclusion, driven by data center expansion, improved AI computing power, and iterative improvements in cooling technology, the AI ??server fan driver chip market will continue to grow, providing long-term development opportunities for related chip design companies and system integrators.

This report studies the global AI Server Fan Driver Chip production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for AI Server Fan Driver Chip and provides market size (US$ million) and Year-over-Year (YoY) Growth, considering 2025 as the base year. This report explores demand trends and competition, as well as details the characteristics of AI Server Fan Driver Chip that contribute to its increasing demand across many markets.

Highlights and key features of the study

Global AI Server Fan Driver Chip total production and demand, 2021-2032, (K Units)

Global AI Server Fan Driver Chip total production value, 2021-2032, (USD Million)

Global AI Server Fan Driver Chip production by region & country, production, value, CAGR, 2021-2032, (USD Million) & (K Units), (based on production site)

Global AI Server Fan Driver Chip consumption by region & country, CAGR, 2021-2032 & (K Units)

U.S. VS China: AI Server Fan Driver Chip domestic production, consumption, key domestic manufacturers and share

Global AI Server Fan Driver Chip production by manufacturer, production, price, value and market share 2021-2026, (USD Million) & (K Units)

Global AI Server Fan Driver Chip production by Type, production, value, CAGR, 2021-2032, (USD Million) & (K Units)

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Global AI Server Fan Driver Chip production by Application, production, value, CAGR, 2021-2032, (USD Million) & (K Units)
This report profiles key players in the global AI Server Fan Driver Chip market based on the following parameters - company overview, production, value, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Nuvoton, Melexis, Microchip, Minebea Mitsumi, RICHTEK, Silergy Technology, Shanghai Bright Power Semiconductor, Halo Microelectronics, Fortior Technology (Shenzhen), Shenzhen SGKS Technology, etc. This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.
Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the World AI Server Fan Driver Chip market
Detailed Segmentation:
Each section contains quantitative market data including market by value (US$ Millions), volume (production, consumption) & (K Units) and average price (US$/Unit) by manufacturer, by Type, and by Application. Data is given for the years 2021-2032 by year with 2025 as the base year, 2026 as the estimate year, and 2027-2032 as the forecast year.
Global AI Server Fan Driver Chip Market, By Region:

United States

China

Europe

Japan

South Korea

ASEAN

India

Rest of World

Global AI Server Fan Driver Chip Market, Segmentation by Type:

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Single Phase Driver Chip

Three Phase Driver Chip

Global AI Server Fan Driver Chip Market, Segmentation by Maximum Voltage:

Maximum Voltage: 12?24V

Maximum Voltage: 24?48V

Maximum Voltage: Above 48V

Global AI Server Fan Driver Chip Market, Segmentation by LDO:

Supports LDO

Does Not Support LDO

Global AI Server Fan Driver Chip Market, Segmentation by Application:

GPU Server

TPU Server

ASIC Server

Others

Companies Profiled:

Nuvoton

Melexis

Microchip

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Minebea Mitsumi

RICHTEK

Silergy Technology

Shanghai Bright Power Semiconductor

Halo Microelectronics

Fortior Technology (Shenzhen)

Shenzhen SGKS Technology

Key Questions Answered:

1. How big is the global AI Server Fan Driver Chip market?
2. What is the demand of the global AI Server Fan Driver Chip market?
3. What is the year over year growth of the global AI Server Fan Driver Chip market?
4. What is the production and production value of the global AI Server Fan Driver Chip market?
5. Who are the key producers in the global AI Server Fan Driver Chip market?
6. What are the growth factors driving the market demand?

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