

# Power GaN Device Market to Surpass USD 35.85 Billion by 2032 Owing to Rising Applications in EVs

*The Power GaN Device Market is witnessing significant growth due to its increasing adoption in EVs, solar inverters, and high-efficiency power applications.*

AUSTIN, TX, UNITED STATES, January 7, 2025 /EINPresswire.com/ -- Market Size & Industry Insights

As Per the SNS Insider, "The [Power GaN Device Market](#) was USD 21.22 Billion in 2023 and is expected to reach USD

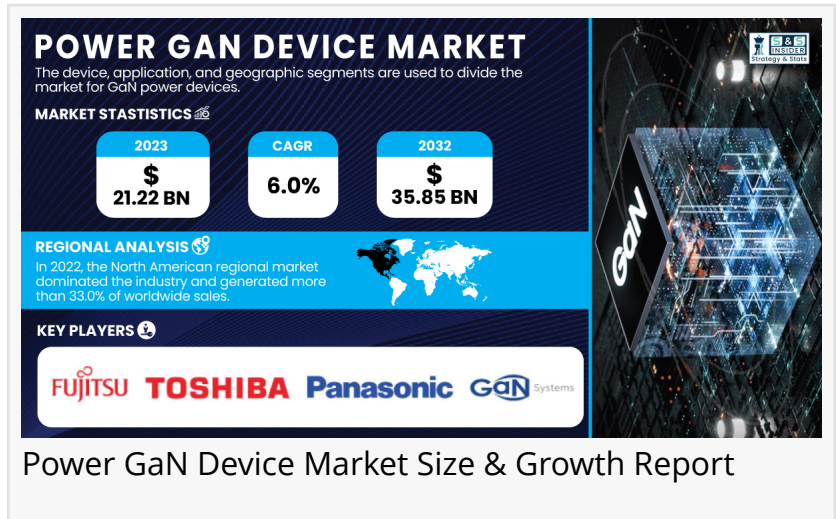
35.85 Billion by 2032, growing at a CAGR of 6% over the forecast period of 2024-2032."

## Power GaN Device Market Soars as GaN Transistors Revolutionize High-Efficiency Power Applications

With their outstanding performance characteristics of compact design, low resistance, and high-frequency switching, GaN transistors are gradually becoming the substitute for silicon transistors. GaN devices can be widely used in applications such as high-efficiency power supplies, electric vehicles (EVs), hybrid electric vehicles (HEVs), solar inverters, and RF switching. Apart from that, they are an important application of servers, IT equipment, and reliable energy systems.

Increased adoption of the devices into emerging technologies and industries has promoted the growth of the Power GaN Device Market. Innovations of key players that provide higher efficiency and reliability are some of the major advancements that are propelling this Power GaN Device Market with high potential for growth and penetration in the consumer electronics and automotive segments.

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SWOT Analysis of Key Players as follows:

- GaN Systems Inc.
- Toshiba Corporation
- TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LTD.
- Efficient Power Conversion Corporation Inc.
- FUJITSU Limited
- ON SEMICONDUCTOR CORPORATION
- PANASONIC CORPORATION
- VISIC TECHNOLOGIES LTD
- TEXAS INSTRUMENTS INC.
- Infineon Technologies AG

The Increasing Adoption of GaN Devices In Electric Vehicles Is The Main Market Driver.

These devices allow motors to work at higher voltages without any leakage of current, thus efficiently managing power. High-voltage battery systems in EVs and HEVs require advanced power management solutions, which further fuels the demand for GaN devices.

Another major growth factor is the increased deployment of GaN devices in high-efficiency power supplies. Sales of electric vehicles are projected to reach 41 million by 2040, creating a huge business opportunity for market players. The increasing use of GaN technology in renewable energy systems, such as solar inverters, is in tandem with the global shift towards sustainable sources of energy and is fueling market growth.

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Driven by Rising Demand for High-Performance and Energy-Efficient Solutions in Data Centers and Cloud Computing

In 2023, The Information & Communication Technology segment was the largest shareholder in the Power GaN Device Market. This leadership position can be attributed to rapid technological advancement and higher demand for high-performance and energy-efficient components in data centers, telecommunication equipment, and cloud computing infrastructures.

The high power densities that can be handled with elevated temperatures make GaN devices an ideal fit for these applications. The growth of the segment is further supported by the growing need for faster and more reliable data processing systems.

## REGIONAL ANALYSIS

In 2023, North America dominated the Power GaN Device Market, accounting for more than 33% of the sales in the world. This growth is mainly due to the increasing investments by the defense

and aerospace sectors in research and development. Government initiatives, including plans by the U.S. to offer more than USD 22.8 billion as subsidies to semiconductor manufacturers are further driving the market of the region. These policies, in turn, help stabilize the domestic chip manufacturing industry so that semiconductors stay available in the country as well.

The Asia-Pacific market is estimated to have the fastest growth rate over the forecast period 2024-2032. With high performance in terms of consumer electronics, leading-edge technologies in that sector require advanced RF components. Moreover, countries like China and Japan are well known for their leadership in developing LED displays, smartphones, and gaming consoles, which, at present, are pushing for high demand growth rates.

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## RECENT DEVELOPMENTS

-In March 2024, Infineon, one of the biggest semiconductor giants in Germany, took over Canadian Gallium Nitride specialist GaN Systems for a cost of \$830 million (US). This acquisition has been made with almost 60,000 employees. Infineon already has a powerful presence in the worldwide market for GaN power semiconductors as well as in Silicon Carbide devices.

-In May 2024, Toshiba Electronic Devices & Storage Corp. finished its 300mm wafer fabrication facility for power semiconductors and an office building at Kaga Toshiba Electronics Corp. in Ishikawa Prefecture, Japan, one of the key group companies of Toshiba.

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