

# GaN Power Device Market: Top Trends and Key Players Analysis Report

GaN Power Device Market | Know the Prominent Factors That Will Help in Reshaping the Market Growth

WILMINGTON, DELAWARE, UNITED STATES, May 13, 2024 /EINPresswire.com/ -- GaN power discrete devices and GaN power ICs are gaining wide acceptance and are witnessing significant growth due to an increase in advancements and a decline in cost. Among the segments, the GaN power modules segment dominated the global market.



Furthermore, investment in charging and power technologies drives the demand for these devices. In addition, an increase in advanced activities in the consumer electronics vertical across the globe is expected to fuel the growth of the <u>GaN power device market</u>. projects that the global GaN power device market size is estimated to reach \$1.24 billion by 2027. In 2019, North

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Gallium nitride (GaN) transistors excel over silicon, enabling compact, highperformance devices. Widely used in power supplies, EVs, and RF switching, driving market growth."

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America dominated the GaN power device market share, contributing more than 35% share of the overall revenue, followed by Europe. Furthermore, growth in the adoption of GaN devices for wireless charging, across the world, propels the growth of the market. Moreover, automobile companies globally are adopting GaN power devices in electric vehicles for various applications, which fuels the global GaN power device market growth.

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GaN has gradually emerged as a sustainable semiconductor material in imminent power electronic converters, owing to its beneficial properties, such as a wide band gap and the prospect of forming heterostructures that make the optimization of the power conversion possible. Although the GaN power devices market is in its initial phase, still it has surpassed its silicon counterparts. GaN is majorly applied in optical and high-speed electronic devices and has gained considerable impetus in recent years for power electronics applications. High-voltage transistors over 600V are reported to gain a high growth rate in terms of revenue. Over the past decade, the performance of GaN power devices has improved significantly.

GaN is preferred over other wide band gap materials such as Silicon Carbide (SiC) and Diamond as GaN devices offer similar characteristics as their counterparts at comparatively lower prices. In addition, their advantageous properties such as high frequency switching and compact size drive their demand in the GaN power devices market. GaN switching devices anticipate are to replace MOSFETs in the majority of the switching power supply applications in the coming years. These advantages are expected to increase the GaN power device market size.

Consumer electronics refers to home electronic devices. These devices are developed for everyday use. The rise in investment in R&D for charging devices is lucrative to create future opportunities for the GaN power device market. For instance, WiTricity Corp., demonstrated wireless charging using a GaN field effect transistor (FET). The switching speed of GAN FET allows enhanced efficiency of resonant wireless power transfer as compared to silicon MOSFETs. The technology is in the initial phase of adaption in the smartphone market and is lucrative for further penetration.

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The GaN Power Device industry's key market players adopt various strategies such as product launch, product development, collaboration, partnership, and agreements to influence the market. It includes details about the key players in the market's strengths, product portfolio, market size and share analysis, operational results, and market positioning.

Efficient Power Conversion Corporation Inc. FUJITSU limited TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD. GaN Systems Inc. Toshiba Corporation Infineon Technologies AG PANASONIC CORPORATION VISIC TECHNOLOGIES LTD TEXAS INSTRUMENTS INC. ON SEMICONDUCTOR CORPORATION Among various regions, North America was the major revenue generator in 2019 and is expected to maintain its dominance in the future. This is attributed to the rapid transformation from the usage of SiC Power devices to GaN Power devices in the latest electronics adopted in the future.

Asia-Pacific is the highest revenue-generating region due to the availability of huge power stations for high-voltage power, the increase in demand for power modules, and population growth. Moreover, around 70% of the total electrical energy is estimated to be processed by power electronics systems that incorporate GaN devices. These devices are extensively adopted in industry verticals such as automotive, renewable energy stations, and electric grid infrastructures. These organizations take various initiatives to build power infrastructure with advanced technologies.

The global GaN power devices market is segmented based on device, application, and region. Based on the device, the market is categorized into GaN power discrete devices, GaN power ICs, and GaN power modules. By application, the market is classified into consumer electronics, IT & telecommunication, automotive, aerospace & defense, and others. Region-wise, it is analyzed across North America (the U.S., Mexico, and Canada), Europe (the UK, Germany, France, and the rest of Europe), Asia-Pacific (China, Japan, Taiwan, South Korea, and the rest of Asia-Pacific), and LAMEA (Latin America, the Middle East, and Africa).

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- By device, the GaN power modules segment accounted for the highest share of the market in 2019 with \$52.2 million, growing at a CAGR of 32.2% from 2020 to 2027.

- Based on industry vertical, the IT & telecommunication segment generated the highest revenue, accounting for \$36.3 million in 2019.

- By region, North America is expected to dominate the GaN power devices industry, garnering a 40.1% share during the forecast period.

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