

GaN Semiconductor Device Market by Type (Opto-semiconductor, RF Semiconductor, Power Semiconductor), Device (Discrete, Integrated, HEMT, MMIC), Application (Lighting and Lasers, Power Drives), Voltage Range, Vertical and Region- Global Forecast to 2028

<https://marketpublishers.com/r/GCED5062639EN.html>

Date: September 2023

Pages: 246

Price: US\$ 4,950.00 (Single User License)

ID: GCED5062639EN

Abstracts

The GaN semiconductor device market is projected to reach USD 28.3 billion by 2028 from USD 21.1 billion in 2023, at a CAGR of 6.1% from 2023 to 2028. The major factors driving the market growth of the GaN semiconductor device market include the growing adoption of GaN semiconductor devices in consumer & business enterprises, increasing government-led schemes for boosting adoption of GaN semiconductor devices, ever changing demand for more compact sized systems, rising applications of GaN semiconductor devices in energy & power industry. Moreover, continuous technological advancement in GaN semiconductor devices and growing deployment of GaN semiconductor devices in automotive industry is expected to provide several growth opportunities for market players in the GaN semiconductor device market.

Consumer & Business Enterprises is expected to account for the largest market share in GaN semiconductor device market during the forecast period

Consumer electronics is one of the prominent growth-oriented end-user domains for GaN semiconductor devices, with notable income streams originating from the domain of GaN opto-semiconductor devices. The increasing integration of GaN semiconductor devices into laptops, displays and mobile devices is expected to majorly contribute to the market share of GaN semiconductor devices.

Integrated Semiconductor segment is expected to account for the highest CAGR in GaN semiconductor device market during the forecast period

Integrated GaN semiconductors include GaN MMICs and GaN amplifiers. These solutions entail the integration of GaN transistors with essential components like gate drivers, protection circuits, and temperature sensors within a unified package. This strategic integration offers many advantages, such as accelerated switching speeds, compact magnetics, and heightened power density.

North America is expected to account for the second- largest market share during the forecast period

The growing market for electric and hybrid electric vehicles (EVs and HEVs) significantly contributes to the market growth of the region. GaN semiconductor devices have revolutionized the entire electronic system landscape of these vehicles, as their integration delivers more compact systems that reduce the overall vehicle weight and enhance battery management. Key players in the GaN semiconductor device market in North America include GaN Systems (Canada), Wolfspeed, Inc. (US), Qorvo, Inc. (US), and Analog Devices (US).

The break-up of profile of primary participants in the GaN semiconductor device market-

By Company Type: Tier 1 – 30%, Tier 2 – 50%, Tier 3 – 20%

By Designation Type: C Level – 25%, Director Level – 35% , Others – 40%

By Region Type: North America – 30%, Europe – 25%, Asia Pacific – 35%, Rest of the World (RoW) – 10%

The major players of GaN semiconductor device market are are Qorvo, Inc. (US), Wolfspeed, Inc. (US), Sumitomo Electric Industries, Ltd. (Japan), MACOM Technology Solutions Holdings, Inc. (US) and Infineon Technologies AG (Germany) among others.

Research Coverage

The report segments the GaN semiconductor device market and forecasts its size based on type, device, application, vertical, voltage range and region. The report also provides a comprehensive review of drivers, restraints, opportunities, and challenges

influencing the market growth. The report also covers qualitative aspects in addition to the quantitative aspects of the market.

Reasons to buy the report:

The report will help the market leaders/new entrants in this market with information on the closest approximate revenues for the overall GaN semiconductor device market and related segments. This report will help stakeholders understand the competitive landscape and gain more insights to strengthen their position in the market and plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, opportunities, and challenges.

The report provides insights on the following pointers:

Analysis of key drivers (growing adoption of GaN semiconductor devices in consumer & business enterprises, increasing government-led schemes for boosting adoption of GaN semiconductor devices, ever changing demand for more compact sized systems, rising applications of GaN semiconductor devices in energy & power industry), restraints (High manufacturing cost and excellent efficacy of alternative technologies in high-voltage semiconductor applications), opportunities (continuous technological advancement in GaN semiconductor devices and growing deployment of GaN semiconductor devices in automotive industry), and challenges (Designing complexities associated with GaN semiconductor devices) influencing the growth of the GaN semiconductor device market.

Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product launches in the GaN semiconductor device market.

Market Development: Comprehensive information about lucrative markets – the report analyses the GaN semiconductor device market across varied regions

Market Diversification: Exhaustive information about new products, untapped geographies, recent developments, and investments in the GaN semiconductor device market

Competitive Assessment: In-depth assessment of market shares, growth

strategies and product offerings of leading players like are Qorvo, Inc. (US), Wolfspeed, Inc. (US), Sumitomo Electric Industries, Ltd. (Japan), MACOM Technology Solutions Holdings, Inc. (US) and Infineon Technologies AG (Germany)

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