

Global GaN Semiconductor Devices Market: Size, Trend, Share, Opportunity Analysis & Forecast, 2014-2025

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Abstracts

Gallium nitride (GaN) semiconductor devices are best alternatives for the silicon-based semiconductor devices. These feature higher power density and have the ability to switch at high frequencies, as well as achieve highest efficiency through novel topologies, such as the totem pole PFC. Higher frequency operation can increase power density by reducing the size of passive components as well as saving energy on cooling the complete system. It enables power management to enhance energy conservation in various applications, such as industrial systems, consumer electronic, and electric vehicle. The global GaN semiconductor devices market is expected to grow at a CAGR of 27.2% from 2017 to 2025.

The global GaN semiconductor devices market is segmented based on type, devices, application, and geography. Based on type, the market is bifurcated into power semiconductor and opto semiconductor. Based on devices, the market is segmented into rectifier, transistor, diodes, and power IC. Based on application, the market is classified as medical, automotive, aerospace, defense, and consumer electronics. Geographic breakdown and deep analysis of each of the aforesaid segments is included for North America, Europe, Asia-Pacific, and LAMEA.

MARKET DYNAMICS:

Drivers:

More efficient operation in today's applications at existing frequencies over other semiconductor devices.

Increase in demand for electric vehicle.

Aggrandized need for high voltage operating devices.

Restraints:

Preference of silicon carbide (Sic) in high-voltage semiconductor applications.

MARKET PLAYERS:

The top players in the global GaN semiconductor devices market include RF Micro Devices Incorporated, Fujitsu Ltd., Toshiba Corp., Texas Instruments Inc., Cree Incorporated, Aixtron SE, Mitsubishi Chemical Corporation, Koninklijke Philips N.V., GaN Systems Inc., and Epigan NV.

KEY TAKEAWAYS

MARKET LANDSCAPE

By Type

Power Semiconductor

Opto Semiconductor

By Device

Rectifier

Transistor

Diodes

Power IC

By Application

Medical

Automotive

Aerospace

Defense

Consumer Electronics

By Geography

North America

U.S.

Canada

Mexico

Europe

UK

Germany

France

Spain

Italy

Rest of Europe

Asia-Pacific

China

Japan

India

Australia

South Korea

Rest of Asia-Pacific

LAMEA

Brazil

Saudi Arabia

South Africa

Rest of LAMEA

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COMPANIES MENTIONED

Cree Incorporated, Aixtron SE, Mitsubishi Chemical Corporation, Koninklijke Philips N.V., GaN Systems Inc., and Epigan NV.

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