

Gate Driver IC Market Forecast, 2020-2030: A Decade of Transformation in Power Management

Gate Driver IC Market to Reach \$1.88 Billion by 2030

WILMINGTON, DE, UNITED STATES,
December 2, 2024 /EINPresswire.com/
-- Allied Market Research, titled, "Gate
Driver IC Market Is Segmented As
Transistor Type, Semiconductor
Material, Mode of Attachment,
Isolation Technique and Application:
Global Opportunity Analysis and
Industry Forecast, 2021–2030," the gate
driver IC market size will reach \$1.88
billion by 2030 at a CAGR of 5.0% from



2021 to 2030. By transistor type, MOSFET accounted for more market share than IGBT in 2020 and is expected to maintain this trend during the forecast period.

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Growth in smart home and smart grid technologies, and the need for high voltage devices drive the gate driver IC market. Electrification of cars and renewable energy present opportunities."

Allied Market Research

The key factor that drives the gate driver IC market growth includes the growing adoption of smart home and smart grid technologies and the increase in the need for high-voltage operating devices. The key factor that hamper the growth of this market is the design complexities of gate driver ICs. The opportunity lies in the rapid electrification of automobiles and a surge of power transistors in various renewable energy systems.

A gate driver is a power amplifier that accepts a low-power input from a controller IC and produces a high-current drive input for the gate of a high-power transistor such as an IGBT gate driver IC or power MOSFET gate driver IC. Gate driver MOSFET is widely used for switching

purposes and, hence is comparatively popular than IGBT. Gate drivers can be provided either onchip or as a discrete module. In recent years, a much greater percentage of home appliances, electric vehicles, hybrid vehicles, including mild hybrids, and renewable energy products have implemented dedicated power semiconductors devices on-board, which are creating demand for the gate driver ICs market and the gate driver IC industry globally.

The supply chain of the gate driver is evolving, pushed by higher integration needs, as well as an increasing need for more complete product solutions. In addition to gate driver IC manufacturers, other players emerged along the supply chain to offer alternative solutions for various power management needs.

North America is the largest region, in terms of revenue generation, in the global gate driver IC market. The consumer electronics industry is well-established in North America, which has led to increased adoption of enhanced technologies. In addition, rapid growth in the sales of smart consumer electronic products supplements the market growth. Moreover, the increase in the adoption of electric vehicles across the world drives the global gate driver IC market share.

The Gate Driver IC 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.

TOSHIBA CORPORATION (TOSHIBA TEC CORPORATION)
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NXP SEMICONDUCTOR
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ON SEMICONDUCTOR
STMicroelectronics
RENESAS ELECTRONICS
TEXAS INSTRUMENTS
MITSUBISHI ELECTRIC CORPORATION
INFINEON TECHNOLOGIES AG

COVID-19 has caused the overall semiconductor industry to mobilize quickly and make short-term decisions with long-term implications. Semiconductor companies operate in a complex ecosystem, working across the value chain with numerous raw materials, assembly, test,

package, and equipment suppliers & partners across the globe.

Demand from the wireless communication segment is expected to increase, owing to factors such as a rise in broadband usage, higher demand for cloud services, and video streaming. In addition, in the medium to long term, COVID-19 is expected to further push the need for digital transformation and technologies, such as 5G, IoT, AI, and intelligent edge computing, for future optimization.

Some of the gate driver IC manufacturers have witnessed temporary delays in driver IC production, increased costs, and revenue losses due to the pandemic.

The manufacturing sector witnessed severe loss, and thus no new orders have been placed during the pandemic. In addition, this impact is estimated to continue till 2021. Moreover, international consumer electronics and electric devices markets are in a very weak state, owing to lockdowns imposed to tackle the pandemic. Although the markets in the U.S. and Europe witnessed mild recovery in the second half of 2020, they are still significantly down on pre-crisis levels. Therefore, the gate driver IC market share is facing major obstacles from the emergence of the COVID-19 pandemic.

The overall impact of the pandemic is impacting the production process of several industries, including semiconductors and electronics. Trade barriers are further constraining the demand and supply outlook. The overall production process is adversely affected as governments of different countries have already announced a total lockdown and temporary shutdown of industries.

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- The commercial sector is projected to be the major application during the forecast period.
- Asia-Pacific and Europe dominate the market in 2020.
- Europe is anticipated to witness the highest growth rate during the forecast period.
- The U.S. was the major shareholder in 2020 in the North American gate driver IC market.

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