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Global EV High-Voltage Gate Driver ICs Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

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Abstracts

According to our (Global Info Research) latest study, the global EV High-Voltage Gate Driver ICs market size was valued at US$ 365 million in 2025 and is forecast to a readjusted size of US$ 555 million by 2032 with a CAGR of 6.2% during review period.

EV High-Voltage Gate Driver ICs are specialized automotive integrated circuits designed to manage high-voltage power transistors in electric vehicles, providing fast, precise gate control with integrated protection to ensure safe and efficient switching under demanding operating conditions. Their advantages include enhanced voltage tolerance, low power loss, high integration, and improved reliability for high-voltage automotive systems. The capacity utilization rate in 2025 was 82%, and the industry?s average gross margin was about 45%. In 2025, production was 222 million units and the average price was USD 1.6 per unit. Upstream, key inputs include silicon wafers and photoresist materials, with representative suppliers such as Shin-Etsu Chemical, SUMCO, GlobalWafers, and Ibiden. The midstream segment focuses on IC architecture design, gate drive circuit integration, layout optimization, packaging, and automotive-grade testing. Downstream applications target passenger and commercial electric vehicles, with key customers including Tesla, BYD, Volkswagen, General Motors, SAIC Motor, and NIO.

EV High-Voltage Gate Driver ICs play a critical role in the control and protection of high-voltage power modules in electric vehicles, directly influencing efficiency, safety, and system responsiveness. Increasing adoption of high-voltage architectures and compact inverter designs emphasizes the need for reliable, low-loss, and highly integrated driver ICs. Their performance in harsh automotive environments, including thermal and electrical stress, determines the operational stability of battery and powertrain systems.

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As vehicle electrification accelerates and power density requirements grow, the demand for high-quality gate drivers is shaped more by technical reliability and system compatibility than simple volume growth, highlighting the importance of precision design and supplier expertise.

This report is a detailed and comprehensive analysis for global EV High-Voltage Gate Driver ICs market. Both quantitative and qualitative analyses are presented by manufacturers, by region & country, by Type and by Application. As the market is constantly changing, this report explores the competition, supply and demand trends, as well as key factors that contribute to its changing demands across many markets. Company profiles and product examples of selected competitors, along with market share estimates of some of the selected leaders for the year 2025, are provided.

Key Features:

Global EV High-Voltage Gate Driver ICs market size and forecasts, in consumption value ($ Million), sales quantity (Million Units), and average selling prices (US$/Unit), 2021-2032

Global EV High-Voltage Gate Driver ICs market size and forecasts by region and country, in consumption value ($ Million), sales quantity (Million Units), and average selling prices (US$/Unit), 2021-2032

Global EV High-Voltage Gate Driver ICs market size and forecasts, by Type and by Application, in consumption value ($ Million), sales quantity (Million Units), and average selling prices (US$/Unit), 2021-2032

Global EV High-Voltage Gate Driver ICs market shares of main players, shipments in revenue ($ Million), sales quantity (Million Units), and ASP (US$/Unit), 2021-2026

The Primary Objectives in This Report Are:

To determine the size of the total market opportunity of global and key countries

To assess the growth potential for EV High-Voltage Gate Driver ICs

To forecast future growth in each product and end-use market

To assess competitive factors affecting the marketplace

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This report profiles key players in the global EV High-Voltage Gate Driver ICs market based on the following parameters - company overview, sales quantity, revenue, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include STMicroelectronics, Infineon, Rohm Semiconductor, ON Semiconductor, Microchip Technology, Renesas Electronics, NXP Semiconductors, Power Integrations, Skyworks, Analog Devices, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Market Segmentation

EV High-Voltage Gate Driver ICs market is split by Type and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and forecasts for consumption value by Type, and by Application in terms of volume and value. This analysis can help you expand your business by targeting qualified niche markets.

Market segment by Type

High-Side Driver

Low-Side Driver

Market segment by Isolation Type

Non-isolated

Isolated

Market segment by Package

SOIC Package

TSSOP Package

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Others

Market segment by Application

Passenger Cars

Commercial Vehicle

Major players covered

STMicroelectronics

Infineon

Rohm Semiconductor

ON Semiconductor

Microchip Technology

Renesas Electronics

NXP Semiconductors

Power Integrations

Skyworks

Analog Devices

Power Integrations

IXYS

Diodes

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Market segment by region, regional analysis covers

North America (United States, Canada, and Mexico)

Europe (Germany, France, United Kingdom, Russia, Italy, and Rest of Europe)

Asia-Pacific (China, Japan, Korea, India, Southeast Asia, and Australia)

South America (Brazil, Argentina, Colombia, and Rest of South America)

Middle East & Africa (Saudi Arabia, UAE, Egypt, South Africa, and Rest of Middle East & Africa)

The content of the study subjects, includes a total of 15 chapters:

Chapter 1, to describe EV High-Voltage Gate Driver ICs product scope, market overview, market estimation caveats and base year.

Chapter 2, to profile the top manufacturers of EV High-Voltage Gate Driver ICs, with price, sales quantity, revenue, and global market share of EV High-Voltage Gate Driver ICs from 2021 to 2026.

Chapter 3, the EV High-Voltage Gate Driver ICs competitive situation, sales quantity, revenue, and global market share of top manufacturers are analyzed emphatically by landscape contrast.

Chapter 4, the EV High-Voltage Gate Driver ICs breakdown data are shown at the regional level, to show the sales quantity, consumption value, and growth by regions, from 2021 to 2032.

Chapter 5 and 6, to segment the sales by Type and by Application, with sales market share and growth rate by Type, by Application, from 2021 to 2032.

Chapter 7, 8, 9, 10 and 11, to break the sales data at the country level, with sales quantity, consumption value, and market share for key countries in the world, from 2021 to 2026.and EV High-Voltage Gate Driver ICs market forecast, by regions, by Type, and by Application, with sales and revenue, from 2027 to 2032.

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Chapter 12, market dynamics, drivers, restraints, trends, and Porters Five Forces analysis.

Chapter 13, the key raw materials and key suppliers, and industry chain of EV High-Voltage Gate Driver ICs.

Chapter 14 and 15, to describe EV High-Voltage Gate Driver ICs sales channel, distributors, customers, research findings and conclusion.

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