

# Power Transistors Market Expected to Reach USD 23.3 Billion by 2032

*The automotive segment is the leading application of the power transistors market during the forecast period.*

WILMINGTON, DELAWARE, UNITED STATES, July 29, 2024 /EINPresswire.com/ -- The power



Power transistor market growth is forecasted to rise significantly due to greater reliance on electrical equipment and a focus on energy efficiency."

*Allied Market Research*

transistor market is expected to grow during the forecast period, owing to increased dependence on electrical equipment and machinery, and an increase in emphasis on power saving. Moreover, an increase in the transition towards electric vehicles (EVs) is expected to provide lucrative opportunities for the growth of the power transistor market during the forecast period. Allied Market Research, titled, "[Power Transistors Market](#) by Type, Application: Global Opportunity Analysis and Industry Forecast, 2023-2032" The power transistors market was

valued at \$13.7 billion in 2022, and is estimated to reach \$23.3 billion by 2032, growing at a CAGR of 5.5% from 2023 to 2032.

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A power transistor is a specialized semiconductor component designed for the management and regulation of high power levels in electronic circuits. Its primary function involves amplifying and manipulating electrical signals, making it indispensable in situations where dealing with significant currents or voltages is paramount. Prime vendors, globally, provide power transistors in various types, such as bipolar junction transistors (BJTs) and metal-oxide-semiconductor field-effect transistors (MOSFETs), each tailored to specific performance characteristics.

End users of power transistors include a diverse spectrum, ranging from individuals interested in electronics as a hobby to experienced engineers and established manufacturers. In the realm of consumer electronics, power transistors play a crucial role in tasks like amplifying audio, regulating voltage, and managing power supply, ensuring the efficient functioning of devices like televisions, audio systems, and smartphones. In the automotive sector, they are pivotal in controlling motors, managing lighting systems, and overseeing other components with high power demands, thereby contributing to vehicle efficiency and safety. In addition, power transistors are integral components in renewable energy systems like solar inverters and wind

turbine generators, as well as in industrial automation for tasks like motor control and power regulation.

The power transistor market is segmented into type, application, and region. Based on type, the market is divided into bipolar junction transistors, metal oxide semiconductor field effect transistors, and insulated gate bipolar transistors. In 2022, the metal oxide semiconductor field effect transistor segment dominated the market, and the insulated gate bipolar transistor segment is expected to grow at a significant CAGR from 2023 to 2032. Metal-oxide semiconductor Field-Effect Transistors, or MOSFETs, offer a multitude of growth prospects and opportunities in the field of power transistors. MOSFETs are renowned for their swift switching speeds and high efficiency, proving invaluable in applications that require rapid on-off switching, such as power inverters and switching regulators. This efficiency leads to minimized power losses, contributing to overall energy conservation. Moreover, MOSFETs have seen continual advancements in semiconductor technology, resulting in elevated voltage and current capacities, coupled with reduced physical sizes. This development aligns with the trend toward compact, high-performing electronic devices and systems. In the automotive electronics sector, MOSFETs are flourishing due to the increasing shift towards electric and hybrid vehicles, causing efficient power management solutions. They play a pivotal role in tasks such as battery management, motor control, and power conversion in these vehicles.

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Based on application, the market is categorized into automotive, consumer electronics, industrial, IT, and telecommunication. The automotive segment acquired the largest share in 2022 and it is expected to grow at a significant CAGR from 2023 to 2032. The automotive industry is experiencing a notable increase in the demand for [power transistors market trends](#), fueled by the power transistor to electric and hybrid vehicles. Current market dynamics emphasize the adoption of wide-bandgap semiconductors such as Silicon Carbide (SiC) and Gallium Nitride (GaN) to achieve improved efficiency and performance. There are significant opportunities in creating power transistors specifically tailored for automotive applications like electric drivetrains, power management systems, and advanced driver-assistance systems (ADAS). In addition, the incorporation of power transistors in electric vehicle charging infrastructure is anticipated to propel the growth of the automotive power transistor market positively, during the forecast period

Based on region, the power transistors market analysis is analyzed across North America (the U.S., Canada, and Mexico), Europe (the UK, Germany, France, and the rest of Europe), Asia-Pacific (China, Japan, India, South Korea, and rest of Asia-Pacific), and LAMEA (Latin America, Middle East, and Africa).

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- The global power transistors market size was valued at \$13,660.0 million in 2022 and is projected to reach \$23,286.6 million by 2032, registering a CAGR of 5.5% from 2023 to 2032.
- The metal oxide semiconductor field effect transistor segment was the highest revenue contributor to the power transistors market share, with \$6,280.1 million in 2022, and is estimated to reach \$10,660.5 million by 2032, with a CAGR of 5.5%.
- The automotive segment was the highest revenue contributor to the power transistors market growth, with \$4,367.1 million in 2022.
- Asia-Pacific was the highest revenue contributor, accounting for \$5,737.2 million in 2022.
- North America is estimated to reach \$5,719.2 million by 2032, in the power transistors industry.

The key players profiled in the report include [Infineon Technologies AG](#), [STMicroelectronics](#), [Rohm Semiconductor](#), [NXP Semiconductors](#), [Texas Instruments](#), [On Semiconductor](#), [Mitsubishi Electric](#), [Siemens](#), [Infineon Technologies AG](#), [STMicroelectronics](#), [Rohm Semiconductor](#), [NXP Semiconductors](#), [Texas Instruments](#), [On Semiconductor](#), [Mitsubishi Electric](#), [Siemens](#). The key strategies adopted by the major players in the Power transistor market are product launch, new product development, joint venture, and business expansion.

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