

# Global Power Electronics Market Research Report 2021-2025

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## Abstracts

To control the flow of energy, the switching electronic circuits are used. These switching electronic circuits are called power electronics. Power electronics are also considered for the conversion of electric power. Such conversions are performed by semiconductor devices like diodes, transistors and thyristors etc. Power electronics devices have several advantages including optimum forward and reverse backing capabilities, simplified circuits, compact designs etc. Moreover, power electronics find its applications in connection of renewable energy resources to power grids, transportation in electric trains, motor drives and lighting. The major use of power electronics devices is heat sinking as well as soft starting of an equipment deploying power electronic devices.

The global Power Electronics market is anticipated to reach USD\$ 20.11 billion by 2021, expanding at a CAGR of 7.9% between 2017 and 2021. The major factors driving the growth of the power electronics market include increasing demand for energy-efficient battery-powered portable devices, rising trend of energy harvesting technologies, enhancement of power infrastructure, and the growing focus toward using renewable power sources.

The applications of power electronic devices are expanding across various sectors, especially in the automobile industry. The evolution of electric vehicles (EVs) and hybrid electric vehicles (HEVs) is driving the demand for power electronic devices in the automotive industry. In addition, the increase in infotainment applications in automobiles is driving the demand for power electronic devices with high power density. The power electronics devices are increasingly being used in the defense and renewable energy sectors. These devices offer conservation and a reliable source of energy to fill the military's communication and weapon needs. Other sectors where the applications of

power electronic devices are increasing, include consumer electronics, healthcare, manufacturing, and telecom.

However, the power electronics market is facing challenges such as high initial expenditures and deposition of Gallium Nitride (GaN), Gallium Arsenide (GaAs), and Silicon Carbide (SiC) on the silicon materials which is a quite tedious and complex procedure, especially to reach while in high voltage ranges. Expensive & time-consuming processes and complexity issues involved in manufacturing power devices are anticipated to restrain the market growth.

Asia-Pacific (APAC) is expected to hold the largest share of the power electronics market during 2016–2022. The high growth of this market can be attributed to the emergence of APAC as a strong manufacturing hub with leading manufacturers of consumer goods increasing their manufacturing activities in this region. Cost advantages and initiatives by different countries in this region are expected to boost the domestic manufacturing and provide further impetus for the growth of the power electronics market.

The power electronics ecosystem comprises power electronics devices manufacturers and providers such as Infineon Technologies AG (Germany), Texas Instruments, Inc. (U.S.), ON Semiconductor Corp. (U.S.), STMicroelectronics N.V. (Switzerland), Maxim Integrated Products, Inc. (U.S.), Fuji Electric Co., Ltd. (Japan), NXP Semiconductors N.V. (The Netherlands), Qualcomm, Inc. (U.S.), Vishay Intertechnology, Inc. (U.S.), Renesas Electronics Corp. (Japan), and Mitsubishi Electric Corp. (Japan).

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