

# Global IGBT and Super Junction MOSFET Market Size Study by Type (IGBT, Super Junction MOSFET), by Application (Energy & Power, Electric Vehicle, Consumer Electronics, Inverter & UPS), and Regional Forecasts 2022-2032

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## Abstracts

The Global IGBT and Super Junction MOSFET Market is valued at approximately USD 14.68 billion in 2023 and is projected to experience a robust compound annual growth rate (CAGR) of 12.2% over the forecast period 2024-2032. Insulated Gate Bipolar Transistors (IGBTs) and Super Junction MOSFETs are pivotal components that serve as the backbone of modern power electronic systems. These semiconductor devices are indispensable for efficient energy conversion and management in a wide spectrum of applications, ranging from renewable energy systems to electric vehicles (EVs) and industrial automation.

The surging adoption of electric vehicles is a primary driver fueling the growth of the IGBT and Super Junction MOSFET market. With increasing emphasis on green mobility, these components are vital for enabling high efficiency in EV powertrains, delivering optimal performance while reducing energy losses. Moreover, the exponential rise in renewable energy installations, such as wind and solar power plants, has created a strong demand for advanced power management systems, where these semiconductors play a crucial role. Consumer electronics and industrial systems, which demand compact, high-performance, and energy-efficient components, are further amplifying market growth.

Despite the promising growth outlook, the market faces challenges such as high initial costs and complex design processes associated with these devices. However, ongoing technological advancements in semiconductor materials, such as silicon carbide (SiC)

and gallium nitride (GaN), are expected to mitigate these challenges. Additionally, government initiatives promoting the adoption of clean energy and energy-efficient technologies are likely to create significant growth opportunities for market players.

Geographically, the Asia-Pacific region is anticipated to dominate the market during the forecast period, driven by rapid industrialization, increasing EV adoption, and strong investments in renewable energy infrastructure. China and India, in particular, are leading contributors to this growth. North America, characterized by its robust focus on technological innovation and a well-established renewable energy sector, also holds substantial market share. Meanwhile, Europe is poised to witness significant growth, fueled by stringent environmental regulations and a growing shift toward electric mobility.

Major market players included in this report are:

Infineon Technologies AG

Mitsubishi Electric Corporation

Fuji Electric Co., Ltd.

STMicroelectronics

ON Semiconductor Corporation

ABB Ltd.

Toshiba Corporation

Renesas Electronics Corporation

Hitachi Ltd.

Vishay Intertechnology, Inc.

ROHM Semiconductor

SEMIKRON International GmbH

Littelfuse, Inc.

Microchip Technology Inc.

IXYS Corporation

The detailed segments and sub-segments of the market are explained below:

#### By Type

IGBT

Super Junction MOSFET

#### By Application

Energy & Power

Electric Vehicle

Consumer Electronics

Inverter & UPS

#### By Region:

##### North America

U.S.

Canada

##### Europe

UK

Germany

France

Spain

Italy

Rest of Europe

Asia Pacific

China

India

Japan

Australia

South Korea

Rest of Asia Pacific

Latin America

Brazil

Mexico

Middle East & Africa

Saudi Arabia

South Africa

Rest of Middle East & Africa

Years considered for the study are as follows:

Historical year – 2022

Base year – 2023

Forecast period – 2024 to 2032

Key Takeaways:

Market estimates and forecasts for a 10-year period from 2022 to 2032.

Regional-level and annualized revenue analysis for each market segment.

Comprehensive analysis of the competitive landscape, including strategies adopted by key players.

Insights into demand-side and supply-side market dynamics.

Recommendations for stakeholders based on in-depth market research.

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