

Intelligent Power Module (IPM) Market Report by Voltage Rating (Upto 600V, 601V-1200V, More than 1200V), Current Rating (Upto 100A, 101A-600A, Above 600A), Circuit Configuration (6-PAC, 7-PAC, and Others), Power Device (IGBT, MOSFET), Application (Consumer Electronics, Servo Drives, Transportation, Renewable Energy, and Others), and Region 2024-2032

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Abstracts

The global intelligent power module (IPM) market size reached US\$ 2.1 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 3.8 Billion by 2032, exhibiting a growth rate (CAGR) of 6.8% during 2024-2032.

An intelligent power module (IPM) refers to highly integrated and complex power modules used for optimizing the distribution and utilization of electrical power in data centers and other computer systems. It combines high- and low-speed insulated gate bipolar transistors (IGBTs) and diode power devices with integrated gate drives and protection housings. It provides control over voltage supply and offers temperature monitoring, voltage regulation, current limiting and load distribution. As a result, it is commonly used in consumer electronics, servo drives and renewable energy plants for enhanced circuit protection, smart load shedding and ensuring minimal instances of downtime and system redundancy.

Rapid industrialization, along with the increasing utilization of IPMs in renewable energy plants, is one of the key factors driving the growth of the market. They are widely used in both on-shore and off-shore wind turbine inverters, photovoltaic inverters and micro-



inverters. Furthermore, the widespread utilization of IPMs in hybrid and electric vehicles (H/EVs) is also driving the market growth. They are used with high-power thyristors, which aid in minimizing the level of carbon emissions and enhancing the overall energy efficiency of the vehicle. In line with this, the increasing requirement for improved electrical monitoring systems in inductive cookers, high-frequency welding equipment, motor drives, uninterruptible power supplies (UPS) is also contributing to the market growth. Additionally, various technological advancements, such as the development of innovative IPMs integrated with artificial intelligence (AI) systems, are acting as other growth-inducing factors. These systems offer wide-area and coordinated control over large scale electrical power systems and real-time network simulation and performance analysis, which, in turn, is contributing to their increasing utilization.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global intelligent power module (IPM) market report, along with forecasts at the global, regional and country level from 2024-2032. Our report has categorized the market based on voltage rating, current rating, circuit configuration, power device and application.

Breakup by Voltage Rating:

Upto 600V 601V-1200V More than 1200V

Breakup by Current Rating:

Upto 100A 101A-600A Above 600A

Breakup by Circuit Configuration:

6-PAC 7-PAC Others

Breakup by Power Device:

IGBT

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MOSFET

Breakup by Application:

Consumer Electronics Servo Drives Transportation Renewable Energy Others

Breakup by Region:

North America

United States Canada

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Europe

Germany

France

United Kingdom

Italy

Spain

Russia

Others

Latin America

Brazil

Mexico

Others

Middle East and Africa

Competitive Landscape: The report has also analysed the competitive landscape of the market with some of the

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key players being Fuji Electric Co. Ltd., Future Electronics Inc., Infineon Technologies AG, Mitsubishi Electric Corporation, ON Semiconductor Corporation, ROHM Co. Ltd, Sanken Electric Co. Ltd, SEMIKRON Elektronik GmbH & Co. KG, STMicroelectronics N.V. and Texas Instruments Incorporated.

Key Questions Answered in This Report

1. How big is the global Intelligent Power Module (IPM) market?

2. What is the expected growth rate of the global Intelligent Power Module (IPM) market during 2024-2032?

3. What are the key factors driving the global Intelligent Power Module (IPM) market?

4. What has been the impact of COVID-19 on the global Intelligent Power Module (IPM) market?

5. What is the breakup of the global Intelligent Power Module (IPM) market based on the voltage rating?

6. What is the breakup of the global Intelligent Power Module (IPM) market based on the current rating?

7. What is the breakup of the global Intelligent Power Module (IPM) market based on the power device?

8. What is the breakup of the global Intelligent Power Module (IPM) market based on the application?

9. What are the key regions in the global Intelligent Power Module (IPM) market?10. Who are the key players/companies in the global Intelligent Power Module (IPM) market?



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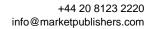
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