

# **Power Transistors Market Report by Product (Low-Voltage FETs, IGBT Modules, RF/ Microwave Transistors, High Voltage FETs, IGBT Transistors, and Others), Type (Bipolar Junction Transistor, Field Effect Transistor, Heterojunction Bipolar Transistor, and Others), End-Use (Consumer Electronics, Communication and Technology, Automotive, Manufacturing, Energy and Power, and Others), Application (OEMs, Aftermarket), and Region 2024-2032**

<https://marketpublishers.com/r/PBA50763D850EN.html>

Date: July 2024

Pages: 137

Price: US\$ 3,899.00 (Single User License)

ID: PBA50763D850EN

## **Abstracts**

The global power transistors market size reached US\$ 17.0 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 24.1 Billion by 2032, exhibiting a growth rate (CAGR) of 3.8% during 2024-2032.

Power transistors are electronic components that are used as switches or amplifiers for high-power applications. They comprise three semiconductor terminals, known as base, emitter and collector, which aid the transistor in acting as an insulator or a conductor. These semiconductor terminals can either be of NPN or PNP polarity and are available in different power and switching speed ratings. Nowadays, power transistors are gaining rapid traction across the world as they assist in improving the switching efficiency and increasing the power efficacy of electronic products.

Power transistors help in quickly dissipating heat, which aids in avoiding overheating as well as lowering CO2 emissions and electricity costs. Owing to these benefits, they form

a primary component of various electronic products. Moreover, on account of the growing global population and increasing consumption of fossil fuels, there has been a rising demand for power-efficient electronic devices. Apart from this, manufacturers are investing in various research and development activities to improve the performance parameters of power transistors and launching new semiconductor materials besides silicon and germanium. For instance, the emerging demand for silicon carbide (SiC) and gallium nitride (GaN) transistors is anticipated to catalyze the market growth in the upcoming years. Another major market trend is miniaturization in product design using the latest processes, such as technology computer aided design (TCAD) and device simulations, which have enabled manufacturers in designing miniature and highly efficient power transistors.

#### Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global power transistors market report, along with forecasts at the global, regional and country levels from 2024-2032. Our report has categorized the market based on product, type, end-use and application.

#### Breakup by Product:

- Low-Voltage FETs
- IGBT Modules
- RF/ Microwave Transistors
- High Voltage FETs
- IGBT Transistors
- Others

#### Breakup by Type:

- Bipolar Junction Transistor
- Field Effect Transistor
- Heterojunction Bipolar Transistor
- Others

#### Breakup by End-Use:

- Consumer Electronics
- Communication and Technology
- Automotive

Manufacturing  
Energy and Power  
Others

Breakup by Application:

OEMs  
Aftermarket

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 competitive landscape of the industry has also been examined with some of the key players being Champion Microelectronic Corp., Diodes Incorporated, Infineon

Technologies AG, Linear Integrated Systems, Mitsubishi Electric Corporation, NXP Semiconductors N.V., Semiconductor Components Industries, LLC, Renesas Electronics Corporation, SEMIKRON International GmbH, STMicroelectronics International N.V., Texas Instruments Incorporated, Torex Semiconductor Ltd., Toshiba Corporation, and Vishay Intertechnology Inc.

#### Key Questions Answered in This Report:

How has the global power transistors market performed so far and how will it perform in the coming years?

What are the key regional markets?

What has been the impact of COVID-19 on the global power transistors market?

What is the breakup of the market based on the product?

What is the breakup of the market based on the type?

What is the breakup of the market based on the end-use?

What is the breakup of the market based on the application?

What are the various stages in the value chain of the industry?

What are the key driving factors and challenges in the industry?

What is the structure of the global power transistors market and who are the key players?

What is the degree of competition in the industry?

## Contents

### **1 PREFACE**

### **2 SCOPE AND METHODOLOGY**

- 2.1 Objectives of the Study
- 2.2 Stakeholders
- 2.3 Data Sources
  - 2.3.1 Primary Sources
  - 2.3.2 Secondary Sources
- 2.4 Market Estimation
  - 2.4.1 Bottom-Up Approach
  - 2.4.2 Top-Down Approach
- 2.5 Forecasting Methodology

### **3 EXECUTIVE SUMMARY**

### **4 INTRODUCTION**

- 4.1 Overview
- 4.2 Key Industry Trends

### **5 GLOBAL POWER TRANSISTORS MARKET**

- 5.1 Market Overview
- 5.2 Market Performance
- 5.3 Impact Of COVID-19
- 5.4 Market Forecast

### **6 MARKET BREAKUP BY PRODUCT**

- 6.1 Low-Voltage FETs
  - 6.1.1 Market Trends
  - 6.1.2 Market Forecast
- 6.2 IGBT Modules
  - 6.2.1 Market Trends
  - 6.2.2 Market Forecast
- 6.3 RF/ Microwave Transistors

- 6.3.1 Market Trends
- 6.3.2 Market Forecast
- 6.4 High Voltage FETs
  - 6.4.1 Market Trends
  - 6.4.2 Market Forecast
- 6.5 IGBT Transistors
  - 6.5.1 Market Trends
  - 6.5.2 Market Forecast
- 6.6 Others
  - 6.6.1 Market Trends
  - 6.6.2 Market Forecast

## **7 MARKET BREAKUP BY TYPE**

- 7.1 Bipolar Junction Transistor
  - 7.1.1 Market Trends
  - 7.1.2 Market Forecast
- 7.2 Field Effect Transistor
  - 7.2.1 Market Trends
  - 7.2.2 Market Forecast
- 7.3 Heterojunction Bipolar Transistor
  - 7.3.1 Market Trends
  - 7.3.2 Market Forecast
- 7.4 Others
  - 7.4.1 Market Trends
  - 7.4.2 Market Forecast

## **8 MARKET BREAKUP BY END-USE**

- 8.1 Consumer Electronics
  - 8.1.1 Market Trends
  - 8.1.2 Market Forecast
- 8.2 Communication and Technology
  - 8.2.1 Market Trends
  - 8.2.2 Market Forecast
- 8.3 Automotive
  - 8.3.1 Market Trends
  - 8.3.2 Market Forecast
- 8.4 Manufacturing

- 8.4.1 Market Trends
- 8.4.2 Market Forecast
- 8.5 Energy and Power
  - 8.5.1 Market Trends
  - 8.5.2 Market Forecast
- 8.6 Others
  - 8.6.1 Market Trends
  - 8.6.2 Market Forecast

## **9 MARKET BREAKUP BY APPLICATION**

- 9.1 OEMs
  - 9.1.1 Market Trends
  - 9.1.2 Market Forecast
- 9.2 Aftermarket
  - 9.2.1 Market Trends
  - 9.2.2 Market Forecast

## **10 MARKET BREAKUP BY REGION**

- 10.1 North America
  - 10.1.1 United States
    - 10.1.1.1 Market Trends
    - 10.1.1.2 Market Forecast
  - 10.1.2 Canada
    - 10.1.2.1 Market Trends
    - 10.1.2.2 Market Forecast
- 10.2 Asia Pacific
  - 10.2.1 China
    - 10.2.1.1 Market Trends
    - 10.2.1.2 Market Forecast
  - 10.2.2 Japan
    - 10.2.2.1 Market Trends
    - 10.2.2.2 Market Forecast
  - 10.2.3 India
    - 10.2.3.1 Market Trends
    - 10.2.3.2 Market Forecast
  - 10.2.4 South Korea
    - 10.2.4.1 Market Trends

- 10.2.4.2 Market Forecast
- 10.2.5 Australia
  - 10.2.5.1 Market Trends
  - 10.2.5.2 Market Forecast
- 10.2.6 Indonesia
  - 10.2.6.1 Market Trends
  - 10.2.6.2 Market Forecast
- 10.2.7 Others
  - 10.2.7.1 Market Trends
  - 10.2.7.2 Market Forecast
- 10.3 Europe
  - 10.3.1 Germany
    - 10.3.1.1 Market Trends
    - 10.3.1.2 Market Forecast
  - 10.3.2 France
    - 10.3.2.1 Market Trends
    - 10.3.2.2 Market Forecast
  - 10.3.3 United Kingdom
    - 10.3.3.1 Market Trends
    - 10.3.3.2 Market Forecast
  - 10.3.4 Italy
    - 10.3.4.1 Market Trends
    - 10.3.4.2 Market Forecast
  - 10.3.5 Spain
    - 10.3.5.1 Market Trends
    - 10.3.5.2 Market Forecast
  - 10.3.6 Russia
    - 10.3.6.1 Market Trends
    - 10.3.6.2 Market Forecast
  - 10.3.7 Others
    - 10.3.7.1 Market Trends
    - 10.3.7.2 Market Forecast
- 10.4 Latin America
  - 10.4.1 Brazil
    - 10.4.1.1 Market Trends
    - 10.4.1.2 Market Forecast
  - 10.4.2 Mexico
    - 10.4.2.1 Market Trends
    - 10.4.2.2 Market Forecast



#### 10.4.3 Others

##### 10.4.3.1 Market Trends

##### 10.4.3.2 Market Forecast

#### 10.5 Middle East and Africa

##### 10.5.1 Market Trends

##### 10.5.2 Market Breakup by Country

##### 10.5.3 Market Forecast

### **11 SWOT ANALYSIS**

#### 11.1 Overview

#### 11.2 Strengths

#### 11.3 Weaknesses

#### 11.4 Opportunities

#### 11.5 Threats

### **12 VALUE CHAIN ANALYSIS**

### **13 PORTERS FIVE FORCES ANALYSIS**

#### 13.1 Overview

#### 13.2 Bargaining Power of Buyers

#### 13.3 Bargaining Power of Suppliers

#### 13.4 Degree of Competition

#### 13.5 Threat of New Entrants

#### 13.6 Threat of Substitutes

### **14 PRICE INDICATORS**

### **15 COMPETITIVE LANDSCAPE**

#### 15.1 Market Structure

#### 15.2 Key Players

#### 15.3 Profiles of Key Players

##### 15.3.1 Champion Microelectronic Corporation

###### 15.3.1.1 Company Overview

###### 15.3.1.2 Product Portfolio

###### 15.3.1.3 Financials

##### 15.3.2 Diodes Incorporated

- 15.3.2.1 Company Overview
- 15.3.2.2 Product Portfolio
- 15.3.2.3 Financials
- 15.3.3 Infineon Technologies AG
  - 15.3.3.1 Company Overview
  - 15.3.3.2 Product Portfolio
  - 15.3.3.3 Financials
  - 15.3.3.4 SWOT Analysis
- 15.3.4 Linear Integrated Systems
  - 15.3.4.1 Company Overview
  - 15.3.4.2 Product Portfolio
- 15.3.5 Mitsubishi Electric
  - 15.3.5.1 Company Overview
  - 15.3.5.2 Product Portfolio
  - 15.3.5.3 Financials
  - 15.3.5.4 SWOT Analysis
- 15.3.6 NXP Semiconductors N.V.
  - 15.3.6.1 Company Overview
  - 15.3.6.2 Product Portfolio
  - 15.3.6.3 Financials
  - 15.3.6.4 SWOT Analysis
- 15.3.7 Semiconductor Components Industries, LLC
  - 15.3.7.1 Company Overview
  - 15.3.7.2 Product Portfolio
  - 15.3.7.3 Financials
  - 15.3.7.4 SWOT Analysis
- 15.3.8 Renesas Electronics
  - 15.3.8.1 Company Overview
  - 15.3.8.2 Product Portfolio
  - 15.3.8.3 Financials
  - 15.3.8.4 SWOT Analysis
- 15.3.9 Semikron
  - 15.3.9.1 Company Overview
  - 15.3.9.2 Product Portfolio
  - 15.3.9.3 Financials
- 15.3.10 STMicroelectronics
  - 15.3.10.1 Company Overview
  - 15.3.10.2 Product Portfolio
  - 15.3.10.3 Financials

- 15.3.11 Texas Instruments
  - 15.3.11.1 Company Overview
  - 15.3.11.2 Product Portfolio
  - 15.3.11.3 Financials
  - 15.3.11.4 SWOT Analysis
- 15.3.12 Torex Semiconductor
  - 15.3.12.1 Company Overview
  - 15.3.12.2 Product Portfolio
  - 15.3.12.3 Financials
- 15.3.13 Toshiba Corporation
  - 15.3.13.1 Company Overview
  - 15.3.13.2 Product Portfolio
  - 15.3.13.3 Financials
  - 15.3.13.4 SWOT Analysis
- 15.3.14 Vishay Intertechnology Inc.
  - 15.3.14.1 Company Overview
  - 15.3.14.2 Product Portfolio
  - 15.3.14.3 Financials
  - 15.3.14.4 SWOT Analysis

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