

# **Power MOSFET Market by Type (Depletion Mode Power MOSFET and Enhancement Mode Power MOSFET), Power Rate (High Power, Medium Power, and Low Power), and Application (Energy & Power, Consumer Electronics, Inverter & UPS, Industrial System, and Others) - Global Opportunity Analysis and Industry Forecast, 2017-2023**

<https://marketpublishers.com/r/P3721889A45EN.html>

Date: August 2017

Pages: 170

Price: US\$ 4,296.00 (Single User License)

ID: P3721889A45EN

## **Abstracts**

The global power MOSFET market was valued at \$3,730 million in 2016, and is expected to reach \$6,340 million in 2023, growing at a CAGR of 7.4% from 2017 to 2023. A power metal–oxide–semiconductor field-effect transistor (MOSFET) is a type of metal-oxide semiconductor field-effect transistor designed to handle significant power levels with optimum power loss.

MOSFET is a type of insulated gate bipolar transistor with high switching speed and enhanced efficiency at low-voltage operations. It utilizes vertical structures with source and drain terminals at opposite sides of the chip. In addition, power MOSFETS are widely used in three modes: n-channel enhancement-mode, p-channel enhancement-mode, or n-channel depletion mode. Moreover, various technologies, such as vertical diffused MOS (VDMOS), double diffused MOS, trench MOS, UMOS, VMOS, and others, are used for the structuring of the MOSFET.

MOSFET has gained popularity among various applications such as electronic switches in power management, auto intensity controllers, invertors, generators, and others; power supplies such as DC to DC convertors; and low-voltage motor controllers to regulate the flow of current. The factors that drive the market growth are reduction in the on resistance (RON) of the power MOSFET structures and enhancement of breakdown voltage, which enhance the efficiency and durability of the power device. However, performance issues, such as current leakage at high-voltage operations, and power

breakdown hamper the market growth. Furthermore, irrespective of these challenges, government initiatives to establish high-voltage direct current (HVDC) & smart grid, and increase in demand for consumer electronic are expected to provide several opportunities for the market in the near future.

The global power MOSFET market is segmented on the basis of type, power rate, application, and geography. The type segment is bifurcated into depletion mode power MOSFET and enhancement mode power MOSFET. The power rate segment is divided into high power, medium power, and low power. Based on application, the market is classified into energy & power, consumer electronics, inverter & UPS, industrial system, and others (medical devices & traction). By geography, it is analyzed across North America (U.S., Mexico, and Canada), Europe (UK, Germany, France, and rest of Europe), Asia-Pacific (China, India, Japan, Australia, and rest of Asia-Pacific), and LAMEA (Latin America, Middle East, and Africa).

The major companies profiled in the report include Infineon Technologies AG, Fairchild Semiconductors, Renesas Electronics Corporation, Digi-key Electronics, Toshiba Corp., IXYS Corporation, Power Integration, STMicroelectronics, NXP Semiconductors, and Texas Instruments.

## **KEY BENEFITS FOR STAKEHOLDERS**

Comprehensive analysis of the current trends and future estimations of the global power MOSFET market is provided.

The report provides a competitive scenario of the market and growth trends, structure, driving factors, scope, opportunities, and challenges.

The report includes a detailed analysis of the key segments to provide insights on the market dynamics.

Porter's Five Forces analysis highlights the potential of buyers and suppliers and provides insights on the competitive structure of the market to devise effective growth strategies and facilitate better decision-making.

## **KEY MARKET SEGMENTS**

### **BY TYPE**

Depletion Mode Power MOSFET

Enhancement Mode Power MOSFET

### **BY POWER RATE**

High Power

Medium PowerLow Power

### **BY APPLICATION**

Energy & Power

Consumer Electronics

Inverter & UPS

Industrial System

Others (Medical Devices & Traction)

BY GEOGRAPHY

North America

U.S.

Mexico

Canada

Europe

UK

Germany

France

Rest of Europe

Asia-Pacific

China

Japan

India

South Korea

Rest of Asia-Pacific

LAMEA

Latin America

Middle East

Africa

KEY PLAYERS

Infineon Technologies AG

Fairchild Semiconductor

Renesas Electronics Corporation

Digi-Key Electronics

Toshiba Corporation

IXYS Corporation

Power Integration

STMicroelectronics

NXP Semiconductors

Texas Instruments

The other players in the value chain include (profiles not included in the report):

FUJI Electric Co, LTD.

Microsemi Corporation

Semikron International GmbH  
ABB Ltd.

## Contents

### CHAPTER 1 INTRODUCTION

- 1.1. Report Description
- 1.2. Key Benefits
- 1.3. Key Market Segments
- 1.4. Research Methodology
  - 1.4.1. Secondary Research
  - 1.4.2. Primary Research
  - 1.4.3. Analyst Tools and Models

### CHAPTER 2 EXECUTIVE SUMMARY

- 2.1. CXO Perspective

### CHAPTER 3 MARKET OVERVIEW

- 3.1. Market Definition and Scope
- 3.2. Key Findings
  - 3.2.1. Top Impacting Factors
  - 3.2.2. Top Winning Strategies
  - 3.2.3. Top Investment Pockets
- 3.3. Porters Five Forces Analysis
  - 3.3.1. Bargaining Power Of Suppliers
  - 3.3.2. Bargaining Power Of Buyers
  - 3.3.3. Threat Of Substitutes
  - 3.3.4. Threat Of New Entrants
  - 3.3.5. Intensity Of Competitive Rivalry
- 3.4. Market Share Analysis
- 3.5. Market Dynamics
  - 3.5.1. Drivers
  - 3.5.2. Opportunity
  - 3.5.3. Restraint

### CHAPTER 4 POWER MOSFET MARKET, BY TYPE

- 4.1. Overview
  - 4.1.1. Market Size and Forecast

## 4.2. Depletion Mode Power MOSFET

### 4.2.1. Introduction

### 4.2.2. Key Market Trends, Growth Factors, And Opportunities

### 4.2.3. Market Size and Forecast

## 4.3. Enhancement Mode Power MOSFET

### 4.3.1. Introduction

### 4.3.2. Key Market Trends, Growth Factors, And Opportunities

### 4.3.3. Market Size and Forecast

## **CHAPTER 5 POWER MOSFET MARKET, BY POWER RATE**

### 5.1. Overview

#### 5.1.1. Market Size and Forecast

### 5.2. High Power

#### 5.2.1. Introduction

#### 5.2.2. Key Market Trends, Growth Factors, and Opportunities

#### 5.2.3. Market Size and Forecast

### 5.3. Medium Power

#### 5.3.1. Introduction

#### 5.3.2. Key Market Trends, Growth Factors, And Opportunities

#### 5.3.3. Market Size And Forecast

### 5.4. Low Power

#### 5.4.1. Introduction

#### 5.4.2. Key Market Trends, Growth Factors, And Opportunities

#### 5.4.3. Market Size And Forecast

## **CHAPTER 6 POWER MOSFET MARKET, BY APPLICATION**

### 6.1. Overview

#### 6.1.1. Market Size And Forecast

### 6.2. Energy & Power

#### 6.2.1. Introduction

#### 6.2.2. Key Market Trends, Growth Factors, And Opportunities

#### 6.2.3. Market Size And Forecast

### 6.3. Consumer Electronics

#### 6.3.1. Introduction

#### 6.3.2. Key Market Trends, Growth Factors, And Opportunities

#### 6.3.3. Market Size And Forecast

### 6.4. Inverter & UPS

- 6.4.1. Introduction
- 6.4.2. Key Market Trends, Growth Factors, And Opportunities
- 6.4.3. Market Size And Forecast
- 6.5. Industrial System
  - 6.5.1. Introduction
  - 6.5.2. Key Market Trends, Growth Factors, And Opportunities
  - 6.5.3. Market Size And Forecast
- 6.6. Others
  - 6.6.1. Introduction
  - 6.6.2. Key Market Trends, Growth Factors, And Opportunities
  - 6.6.3. Market Size And Forecast

## **CHAPTER 7 POWER MOSFET MARKET, BY GEOGRAPHY**

- 7.1. Overview
- 7.2. North America
  - 7.2.1. Introduction
  - 7.2.2. Key Market Trends, Growth Factors, And Opportunities
  - 7.2.3. Market Size And Forecast
  - 7.2.4. U.S.
    - 7.2.4.1. Market size and forecast
  - 7.2.5. Canada
    - 7.2.5.1. Market size and forecast
  - 7.2.6. Mexico
    - 7.2.6.1. Market size and forecast
- 7.3. Europe
  - 7.3.1. Introduction
  - 7.3.2. Key Market Trends, Growth Factors, And Opportunities
  - 7.3.3. Market Size And Forecast
  - 7.3.4. Uk
    - 7.3.4.1. Market Size And Forecast
  - 7.3.5. Germany
    - 7.3.5.1. Market Size And Forecast
  - 7.3.6. France
    - 7.3.6.1. Market Size And Forecast
  - 7.3.7. Rest Of Europe
    - 7.3.7.1. Market size and forecast
- 7.4. Asia-Pacific
  - 7.4.1. Introduction

#### 7.4.2. Key Market Trends, Growth Factors, And Opportunities

#### 7.4.3. Market Size And Forecast

#### 7.4.4. China

##### 7.4.4.1. Market Size And Forecast

#### 7.4.5. Japan

##### 7.4.5.1. Market Size And Forecast

#### 7.4.6. India

##### 7.4.6.1. Market Size And Forecast

#### 7.4.7. South Korea

##### 7.4.7.1. Market Size And Forecast

#### 7.4.8. Rest Of Asia-Pacific

##### 7.4.8.1. Market Size And Forecast

### 7.5. LAMEA

#### 7.5.1. Introduction

#### 7.5.2. Key market trends, growth factors, and opportunities

#### 7.5.3. Market size and forecast

#### 7.5.4. Latin America

##### 7.5.4.1. Market Size And Forecast

#### 7.5.5. Middle East

##### 7.5.5.1. Market Size And Forecast

#### 7.5.6. Africa

##### 7.5.6.1. Market Size And Forecast

## CHAPTER 8 RELATED INDUSTRY INSIGHTS

### 8.1. Microcontroller Market

#### 8.1.1. Executive Summary

### 8.2. Programmable Logic Controller (PLC) Market

#### 8.2.1. Executive Summary

## CHAPTER 9 COMPANY PROFILE

### 9.1. STMicroelectronics N.V.

#### 9.1.1. Company Overview

#### 9.1.2. Operating Business Segments

#### 9.1.3. Business Performance

#### 9.1.4. Key Strategic Moves And Developments

### 9.2. Texas Instruments Inc.

#### 9.2.1. Company Overview



- 9.2.2. Operating Business Segments
- 9.2.3. Business Performance
- 9.2.4. Key Strategic Moves And Developments
- 9.3. NXP Semiconductors N.V.
  - 9.3.1. Company Overview
  - 9.3.2. Operating Business Segments
  - 9.3.3. Business Performance
  - 9.3.4. Key Strategic Moves And Developments
- 9.4. DIGI-Key Electronics
  - 9.4.1. Company Overview
  - 9.4.2. Operating Business Segments
  - 9.4.3. Key Strategic Moves And Developments
- 9.5. Power Integrations Inc.
  - 9.5.1. Company Overview
  - 9.5.2. Business Performance
- 9.6. IXYS Corporation
  - 9.6.1. Company Overview
  - 9.6.2. Operating Business Segments
  - 9.6.3. Business Performance
  - 9.6.4. Key Strategic Moves And Developments
- 9.7. Mitsubishi Electric Corp
  - 9.7.1. Company Overview
  - 9.7.2. Operating Business Segments
  - 9.7.3. Business Performance
  - 9.7.4. Key Strategic Moves And Developments
- 9.8. Infineon Technologies AG
  - 9.8.1. Company Overview
  - 9.8.2. Operating Business Segments
  - 9.8.3. Business Performance
  - 9.8.4. Key Strategic Moves And Developments
- 9.9. Renesas Electronics Corporation
  - 9.9.1. Company Overview
  - 9.9.2. Business Performance
  - 9.9.3. Key Strategic Moves And Developments
- 9.10. Toshiba Corporation
  - 9.10.1. Company Overview
  - 9.10.2. Operating Business Segments
  - 9.10.3. Business Performance
  - 9.10.4. Key Strategic Moves And Developments



## List Of Tables

### LIST OF TABLES

TABLE 1. GLOBAL POWER MOSFET MARKET, BY TYPE, 2016-2023 (\$MILLION)

TABLE 2. POWER MOSFET MARKET FOR DEPLETION MODE POWER MOSFET, BY GEOGRAPHY, 2016-2023 (\$MILLION)

TABLE 3. POWER MOSFET MARKET FOR ENHANCEMENT MODE POWER MOSFET, BY GEOGRAPHY, 2016-2023 (\$MILLION)

TABLE 4. GLOBAL POWER MOSFET MARKET, BY POWER RATE, 2016-2023 (\$MILLION)

TABLE 5. POWER MOSFET MARKET FOR HIGH POWER, BY GEOGRAPHY, 2016-2023 (\$MILLION)

TABLE 6. POWER MOSFET MARKET FOR MEDIUM POWER, BY GEOGRAPHY, 2016-2023 (\$MILLION)

TABLE 7. POWER MOSFET MARKET FOR LOW POWER, BY GEOGRAPHY, 2016-2023 (\$MILLION)

TABLE 8. GLOBAL POWER MOSFET MARKET, BY APPLICATION, 2016-2023 (\$MILLION)

TABLE 9. POWER MOSFET MARKET FOR ENERGY & POWER, BY GEOGRAPHY, 2016-2023 (\$MILLION)

TABLE 10. POWER MOSFET MARKET FOR CONSUMER ELECTRONICS, BY GEOGRAPHY, 2016-2023 (\$MILLION)

TABLE 11. POWER MOSFET MARKET FOR INVERTER & UPS, BY GEOGRAPHY, 2016-2023 (\$MILLION)

TABLE 12. POWER MOSFET MARKET FOR INDUSTRIAL SYSTEM, BY GEOGRAPHY, 2016-2023 (\$MILLION)

TABLE 13. POWER MOSFET MARKET FOR OTHER, BY GEOGRAPHY, 2016-2023 (\$MILLION)

TABLE 14. POWER MOSFET MARKET, BY GEOGRAPHY, 2016-2023 (\$MILLION)

TABLE 15. NORTH AMERICA POWER MOSFET MARKET, BY TYPE, 2016-2023 (\$MILLION)

TABLE 16. NORTH AMERICA POWER MOSFET MARKET, BY APPLICATION, 2016-2023 (\$MILLION)

TABLE 17. NORTH AMERICA POWER MOSFET MARKET, BY COUNTRY, 2016-2023 (\$MILLION)

TABLE 18. EUROPE POWER MOSFET MARKET, BY TYPE, 2016-2023 (\$MILLION)

TABLE 19. EUROPE POWER MOSFET MARKET, BY APPLICATION, 2016-2023 (\$MILLION)

TABLE 20. EUROPE POWER MOSFET MARKET, BY COUNTRY, 2016-2023  
(\$MILLION)

TABLE 21. ASIA-PACIFIC POWER MOSFET MARKET, BY TYPE, 2016-2023  
(\$MILLION)

TABLE 22. ASIA-PACIFIC POWER MOSFET MARKET, BY APPLICATION, 2016-2023  
(\$MILLION)

TABLE 23. ASIA-PACIFIC POWER MOSFET MARKET, BY COUNTRY, 2016-2023  
(\$MILLION)

TABLE 24. LAMEA POWER MOSFET MARKET, BY TYPE, 2016-2023 (\$MILLION)

TABLE 25. LAMEA POWER MOSFET MARKET, BY APPLICATION, 2016-2023  
(\$MILLION)

TABLE 26. LAMEA POWER MOSFET MARKET, BY COUNTRY, 2016-2023  
(\$MILLION)

TABLE 27. STMICROELECTRONICS N.V.: COMPANY SNAPSHOT

TABLE 28. STMICROELECTRONICS N.V.: OPERATING SEGMENTS

TABLE 29. TEXAS INSTRUMENTS INC.: COMPANY SNAPSHOT

TABLE 30. TEXAS INSTRUMENTS INC.: OPERATING SEGMENTS

TABLE 31. NXP SEMICONDUCTORS N.V.: COMPANY SNAPSHOT

TABLE 32. NXP SEMICONDUCTORS N.V.: OPERATING SEGMENTS

TABLE 33. DIGI-KEY ELECTRONICS: COMPANY SNAPSHOT

TABLE 34. DIGI-KEY ELECTRONICS: OPERATING SEGMENTS

TABLE 35. POWER INTEGRATIONS INC.: COMPANY SNAPSHOT

TABLE 36. IXYS CORPORATION: COMPANY SNAPSHOT

TABLE 37. IXYS CORPORATION: OPERATING SEGMENTS

TABLE 38. MITSUBISHI ELECTRIC CORP: COMPANY SNAPSHOT

TABLE 39. MITSUBISHI ELECTRIC CORP: OPERATING SEGMENTS

## List Of Figures

### LIST OF FIGURES

FIGURE 1. SEGMENTATION

FIGURE 2. TOP WINNING STRATEGIES: PERCENTAGE DISTRIBUTION  
(2013-2016)

FIGURE 3. TOP INVESTMENT POCKETS IN GLOBAL POWER MOSFET MARKET,  
BY INDUSTRY VERTICAL

FIGURE 4. PORTERS FIVE FORCES ANALYSIS

FIGURE 5. KEY MARKET PLAYER POSTIONING, 2016

FIGURE 6. POWER MOSFET MARKET REVENUE, BY TYPE

FIGURE 7. COMPARATIVE REGIONAL SHARE ANALYSIS OF POWER MOSFET  
MARKET FOR DEPLETION MODE POWER MOSFET, 2016 & 2023 (%)

FIGURE 8. GLOBAL POWER MOSFET MARKET FOR DEPLETION MODE POWER  
MOSFET, 2016-2023 (\$MILLION)

FIGURE 9. COMPARATIVE REGIONAL SHARE ANALYSIS OF POWER MOSFET  
MARKET FOR ENHANCEMENT MODE POWER MOSFET, 2016 & 2023 (%)

FIGURE 10. GLOBAL POWER MOSFET MARKET FOR ENHANCEMENT MODE  
POWER MOSFET, 2016-2023 (\$MILLION)

FIGURE 11. POWER MOSFET MARKET REVENUE, BY POWER RATE

FIGURE 12. COMPARATIVE REGIONAL SHARE ANALYSIS OF POWER MOSFET  
MARKET FOR HIGH POWER, 2016 & 2023 (%)

FIGURE 13. GLOBAL POWER MOSFET MARKET FOR HIGH POWER, 2016-2023  
(\$MILLION)

FIGURE 14. COMPARATIVE REGIONAL SHARE ANALYSIS OF POWER MOSFET  
MARKET FOR MEDIUM POWER, 2016 & 2023 (%)

FIGURE 15. GLOBAL POWER MOSFET MARKET FOR MEDIUM POWER, 2016-2023  
(\$MILLION)

FIGURE 16. COMPARATIVE REGIONAL SHARE ANALYSIS OF GLOBAL POWER  
MOSFET MARKET FOR LOW POWER, 2016 & 2023 (%)

FIGURE 17. GLOBAL POWER MOSFET MARKET FOR LOW POWER, 2016-2023  
(\$MILLION)

FIGURE 18. COMPARATIVE REGIONAL SHARE ANALYSIS OF POWER MOSFET  
MARKET FOR ENERGY & POWER, 2016 & 2023 (%)

FIGURE 19. GLOBAL POWER MOSFET MARKET FOR ENERGY & POWER,  
2016-2023 (\$MILLION)

FIGURE 20. COMPARATIVE REGIONAL ANALYSIS OF POWER MOSFET MARKET  
FOR CONSUMER ELECTRONICS, 2016 & 2023 (%)

FIGURE 21. GLOBAL POWER MOSFET MARKET FOR CONSUMER ELECTRONICS, 2016-2023 (\$MILLION)

FIGURE 22. COMPARATIVE REGIONAL SHARE ANALYSIS OF POWER MOSFET MARKET FOR INVERTER & UPS, 2016 & 2023 (%)

FIGURE 23. GLOBAL POWER MOSFET MARKET FOR INVERTER & UPS, 2016-2023 (\$MILLION)

FIGURE 24. COMPARATIVE REGIONAL SHARE ANALYSIS OF POWER MOSFET MARKET FOR INDUSTRIAL SYSTEM, 2016 & 2023 (%)

FIGURE 25. GLOBAL POWER MOSFET MARKET FOR INDUSTRIAL SYSTEM, 2016-2023 (\$MILLION)

FIGURE 26. COMPARATIVE REGIONAL SHARE ANALYSIS OF POWER MOSFET MARKET FOR OTHER, 2016 & 2023 (%)

FIGURE 27. GLOBAL POWER MOSFET MARKET FOR OTHER, 2016-2023 (\$MILLION)

FIGURE 28. U.S. POWER MOSFET MARKET SIZE, 2016-2023 (\$MILLION)

FIGURE 29. CANADA POWER MOSFET MARKET SIZE, 2016-2023 (\$MILLION)

FIGURE 30. MEXICO POWER MOSFET MARKET SIZE, 2016-2023 (\$MILLION)

FIGURE 31. UK POWER MOSFET MARKET SIZE, 2016-2023 (\$MILLION)

FIGURE 32. GERMANY POWER MOSFET MARKET SIZE, 2016-2023 (\$MILLION)

FIGURE 33. FRANCE POWER MOSFET MARKET SIZE, 2016-2023 (\$MILLION)

FIGURE 34. REST OF EUROPE POWER MOSFET MARKET SIZE, 2016-2023 (\$MILLION)

FIGURE 35. CHINA POWER MOSFET MARKET SIZE, 2016-2023 (\$MILLION)

FIGURE 36. JAPAN POWER MOSFET MARKET SIZE, 2016-2023 (\$MILLION)

FIGURE 37. INDIA POWER MOSFET MARKET SIZE, 2016-2023 (\$MILLION)

FIGURE 38. SOUTH KOREA POWER MOSFET MARKET SIZE, 2016-2023 (\$MILLION)

FIGURE 39. REST OF ASIA-PACIFIC POWER MOSFET MARKET SIZE, 2016-2023 (\$MILLION)

FIGURE 40. LATIN AMERICA POWER MOSFET MARKET SIZE, 2016-2023 (\$MILLION)

FIGURE 41. MIDDLE EAST POWER MOSFET MARKET SIZE, 2016-2023 (\$MILLION)

FIGURE 42. AFRICA POWER MOSFET MARKET SIZE, 2016-2023 (\$MILLION)

FIGURE 43. STMICROELECTRONICS N.V.: COMPANY SNAPSHOT

FIGURE 44. TEXAS INSTRUMENTS INC.: COMPANY SNAPSHOT

FIGURE 45. NXP SEMICONDUCTORS N.V.: COMPANY SNAPSHOT

FIGURE 46. POWER INTEGRATIONS INC.: COMPANY SNAPSHOT

FIGURE 47. IXYS CORPORATION: COMPANY SNAPSHOT

FIGURE 48. MITSUBISHI ELECTRIC CORP.: COMPANY SNAPSHOT

## I would like to order

Product name: Power MOSFET Market by Type (Depletion Mode Power MOSFET and Enhancement Mode Power MOSFET), Power Rate (High Power, Medium Power, and Low Power), and Application (Energy & Power, Consumer Electronics, Inverter & UPS, Industrial System, and Others) - Global Opportunity Analysis and Industry Forecast, 2017-2023

Product link: <https://marketpublishers.com/r/P3721889A45EN.html>

Price: US\$ 4,296.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/P3721889A45EN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:  
Last name:  
Email:  
Company:  
Address:  
City:  
Zip code:  
Country:  
Tel:  
Fax:  
Your message:

**\*\*All fields are required**

Customer signature \_\_\_\_\_

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below  
and fax the completed form to +44 20 7900 3970