+357 96 030922
info@marketpublishers.com

Global MOSFET for Charging Pile Market Growth 2026-2032

https://marketpublishers.com/r/G21E0FD06F1AEN.html
Date: April 2026
Pages: 169
Price: US$ 3,660.00 (Single User License)
ID: G21E0FD06F1AEN

Abstracts

The global MOSFET for Charging Pile market size is predicted to grow from US$ 159 million in 2025 to US$ 546 million in 2032; it is expected to grow at a CAGR of 19.4% from 2026 to 2032.

MOSFET for charging pile refers to power MOSFET devices used as the main high-frequency switching elements inside EV charging equipment (AC chargers / DC fast chargers). A MOSFET (metal-oxide-semiconductor field-effect transistor) is a voltage-controlled transistor: applying gate voltage controls the drain-to-source conduction, enabling efficient power switching.

The upstream supply chain starts from semiconductor substrates and processes: silicon (Si) wafers for conventional power MOSFETs (including superjunction technologies) and silicon-carbide (SiC) wafers for high-efficiency/high-power charging architectures, followed by epitaxy, oxidation/gate dielectric formation, doping/implantation, metallization, and wafer test. It then extends to packaging materials and processes (leadframes/copper clips, bond wires, mold compounds, thermal interface materials) and?when delivered as power modules?substrates such as DBC/AMB and module assembly.

Downstream, these MOSFETs are designed into the charging pile?s power conversion stages: front-end AC-DC rectification / PFC (e.g., two-level PFC or Vienna rectifier) and isolated DC-DC conversion (often LLC-type resonant stages) to deliver regulated DC to the vehicle battery. They are used by charging power-module makers and charger OEMs to improve efficiency, power density, and thermal management?especially in DC fast-charging architectures where higher power and higher bus voltages are common.

+357 96 030922
info@marketpublishers.com

In 2025, global sales of MOSFET for charging pile reached approximately 31 million Pcs, with an average global market price of around US$ 5.2/Pcs. Production capacity varies significantly among manufacturers, with gross profit margins ranging from approximately 30% to 60%.

Demand for MOSFETs in charging piles is fundamentally driven by the combination of higher charging power density and broader network coverage. As public fast-charging networks expand, operators increasingly optimize for station throughput, lifetime energy loss, and maintenance cost?raising the value of high-efficiency power devices in the overall BOM. In parallel, the migration toward higher-voltage vehicle platforms and higher charge currents pushes charging modules toward higher switching frequencies, smaller magnetics, and more compact thermal designs, reinforcing the need for low-loss MOSFET solutions (both silicon and SiC).

On the technology path, mainstream charger architectures are shifting from diode rectification plus IGBT-based stages toward active PFC and high-frequency isolated DC-DC topologies (e.g., Vienna, totem-pole PFC, LLC). In these designs, MOSFETs are not only the main power switches but also enable efficiency and power-density gains via synchronous rectification and auxiliary stages. SiC MOSFET adoption accelerates particularly in high-power, wide input range, and high ambient-temperature conditions thanks to reduced switching loss and higher junction-temperature headroom, while superjunction silicon MOSFETs remain highly competitive in cost-sensitive and mid-power segments.

Competition is shaped by material capability, packaging/thermal know-how, and reliability qualification. Global leaders retain advantages in SiC substrates, advanced packaging, and certification experience, supporting entry into high-end charger module supply chains. Meanwhile, local suppliers are catching up quickly through supply assurance, faster delivery, and tighter system-level co-optimization, intensifying price pressure. Going forward, key variables include tightening grid-connection and safety requirements, the pace of SiC cost-down and capacity expansion, and utilization economics that feed back into charger system design choices.

LP Information, Inc. (LPI) ' newest research report, the ?MOSFET for Charging Pile Industry Forecast? looks at past sales and reviews total world MOSFET for Charging Pile sales in 2025, providing a comprehensive analysis by region and market sector of projected MOSFET for Charging Pile sales for 2026 through 2032. With MOSFET for Charging Pile sales broken down by region, market sector and sub-sector, this report provides a detailed analysis in US$ millions of the world MOSFET for Charging Pile

+357 96 030922
info@marketpublishers.com

industry.

This Insight Report provides a comprehensive analysis of the global MOSFET for Charging Pile landscape and highlights key trends related to product segmentation, company formation, revenue, and market share, latest development, and M&A activity. This report also analyzes the strategies of leading global companies with a focus on MOSFET for Charging Pile portfolios and capabilities, market entry strategies, market positions, and geographic footprints, to better understand these firms? unique position in an accelerating global MOSFET for Charging Pile market.

This Insight Report evaluates the key market trends, drivers, and affecting factors shaping the global outlook for MOSFET for Charging Pile and breaks down the forecast by Type, by Application, geography, and market size to highlight emerging pockets of opportunity. With a transparent methodology based on hundreds of bottom-up qualitative and quantitative market inputs, this study forecast offers a highly nuanced view of the current state and future trajectory in the global MOSFET for Charging Pile.

This report presents a comprehensive overview, market shares, and growth opportunities of MOSFET for Charging Pile market by product type, application, key manufacturers and key regions and countries.

Segmentation by Type:

Silicon Power MOSFET

Silicon Carbide MOSFET

Segmentation by Drain-Source Voltage:

Low-Voltage MOSFET (

+357 96 030922
info@marketpublishers.com

Contents

1 SCOPE OF THE REPORT

1.1 Market Introduction
1.2 Years Considered
1.3 Research Objectives
1.4 Market Research Methodology
1.5 Research Process and Data Source
1.6 Economic Indicators
1.7 Currency Considered
1.8 Market Estimation Caveats

2 EXECUTIVE SUMMARY

2.1 World Market Overview
  2.1.1 Global MOSFET for Charging Pile Annual Sales 2021-2032
  2.1.2 World Current & Future Analysis for MOSFET for Charging Pile by Geographic Region, 2021, 2025 & 2032
  2.1.3 World Current & Future Analysis for MOSFET for Charging Pile by Country/Region, 2021, 2025 & 2032
2.2 MOSFET for Charging Pile Segment by Type
  2.2.1 Silicon Power MOSFET
  2.2.2 Silicon Carbide MOSFET
  2.2.3 MOSFET for Charging Pile Sales by Type
    2.2.3.1 Global MOSFET for Charging Pile Sales Market Share by Type (2021-2026)
    2.2.3.2 Global MOSFET for Charging Pile Revenue and Market Share by Type (2021-2026)
    2.2.3.3 Global MOSFET for Charging Pile Sale Price by Type (2021-2026)
2.3 MOSFET for Charging Pile Segment by Drain-Source Voltage
  2.3.1 Low-Voltage MOSFET (

+357 96 030922
info@marketpublishers.com

List Of Tables

LIST OF TABLES

Table 1. MOSFET for Charging Pile Annual Sales CAGR by Geographic Region (2021, 2025 & 2032) & ($ millions)
Table 2. MOSFET for Charging Pile Annual Sales CAGR by Country/Region (2021, 2025 & 2032) & ($ millions)
Table 3. Major Players of Silicon Power MOSFET
Table 4. Major Players of Silicon Carbide MOSFET
Table 5. Global MOSFET for Charging Pile Sales by Type (2021-2026) & (K Pcs)
Table 6. Global MOSFET for Charging Pile Sales Market Share by Type (2021-2026)
Table 7. Global MOSFET for Charging Pile Revenue by Type (2021-2026) & ($ million)
Table 8. Global MOSFET for Charging Pile Revenue Market Share by Type (2021-2026)
Table 9. Global MOSFET for Charging Pile Sale Price by Type (2021-2026) & (US$/Pcs)
Table 10. Major Players of Low-Voltage MOSFET (

+357 96 030922
info@marketpublishers.com

List Of Figures

LIST OF FIGURES

Figure 1. Picture of MOSFET for Charging Pile
Figure 2. MOSFET for Charging Pile Report Years Considered
Figure 3. Research Objectives
Figure 4. Research Methodology
Figure 5. Research Process and Data Source
Figure 6. Global MOSFET for Charging Pile Sales Growth Rate 2021-2032 (K Pcs)
Figure 7. Global MOSFET for Charging Pile Revenue Growth Rate 2021-2032 ($ millions)
Figure 8. MOSFET for Charging Pile Sales by Geographic Region (2021, 2025 & 2032) & ($ millions)
Figure 9. MOSFET for Charging Pile Sales Market Share by Country/Region (2025)
Figure 10. MOSFET for Charging Pile Sales Market Share by Country/Region (2021, 2025 & 2032)
Figure 11. Product Picture of Silicon Power MOSFET
Figure 12. Product Picture of Silicon Carbide MOSFET
Figure 13. Global MOSFET for Charging Pile Sales Market Share by Type in 2026
Figure 14. Global MOSFET for Charging Pile Revenue Market Share by Type (2021-2026)
Figure 15. Product Picture of Low-Voltage MOSFET (

+357 96 030922
info@marketpublishers.com

I would like to order

Product name: Global MOSFET for Charging Pile Market Growth 2026-2032

Product link: https://marketpublishers.com/r/G21E0FD06F1AEN.html

Price: US$ 3,660.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:
info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/G21E0FD06F1AEN.html