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Global Transfer Molded SiC Power Module Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

https://marketpublishers.com/r/GA1746A53642EN.html
Date: May 2026
Pages: 154
Price: US$ 3,480.00 (Single User License)
ID: GA1746A53642EN

Abstracts

According to our (Global Info Research) latest study, the global Transfer Molded SiC Power Module market size was valued at US$ 1191 million in 2025 and is forecast to a readjusted size of US$ 4920 million by 2032 with a CAGR of 22.2% during review period.

Transfer Molded SiC Power Modules are power modules built around SiC MOSFETs, and in some cases paired SiC diodes, using molded / transfer-molded / overmolded package architectures rather than conventional gel-filled, potted, or open-case module formats. The value proposition is not limited to a packaging change. It is fundamentally a platform upgrade that combines higher power density, lower parasitic inductance, improved thermal efficiency, more compact form factors, better manufacturability, and stronger suitability for automotive-grade qualification. Public product positioning from leading vendors reflects this clearly: STMicroelectronics markets ACEPACK DMT-32 as a molded SiC module for OBC, DC-DC and auxiliary automotive/industrial uses; onsemi positions APM32 as a transfer-molded SiC module family for high-power onboard chargers; ROHM has extended its molded SiC lineup through TRCDRIVE pack?, HSDIP20 and DOT-247; and Mitsubishi Electric?s J3-T-PM explicitly identifies the transfer-molded route as a compact automotive power-module solution. In practical industry terms, the category has evolved from a packaging niche into a high-end power-electronics platform where device technology, package design, cooling architecture, interconnect scheme and system integration are co-optimized.

The growth profile indicates that the industry is transitioning from the very volatile, early-stage hyper-growth phase into a still-high-growth industrialization phase, rather than approaching maturity. The core demand engine remains vehicle electrification.

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According to the IEA, global EV sales exceeded 17 million units in 2024, surpassed 20% share of global light-vehicle sales, and are expected to exceed 20 million units in 2025, with first-quarter 2025 EV sales up 35% year on year. At the same time, product development is widening from OBC/DC-DC into traction inverters and adjacent high-efficiency conversion applications, while leading manufacturers are expanding vertically integrated SiC ecosystems and 200mm manufacturing programs. The medium-term industry outlook therefore remains structurally positive, supported by continued EV penetration, 1200V platform deepening, packaging-driven system value creation, and a broader industrialization of SiC-based high-efficiency power conversion.

By voltage class, the market is highly concentrated around the 1200V segment, which accounts for roughly 90% of industry revenue and is expected to remain the dominant product platform through the forecast period. The 650?900V segment remains relevant in selected 400V vehicle architectures and medium-power converter designs, but its share is structurally smaller and trends toward the high-single-digit range over time. 1700V and above remains a niche segment, mainly serving specialized high-voltage industrial, traction, grid and heavy-duty applications. This structure is consistent with public product portfolios. ST?s molded SiC platform centers on 650V and 1200V but is commercially anchored in 1200V automotive use cases; ROHM?s newest molded module roadmap is concentrated in 750V and 1200V; Bosch?s automotive SiC module portfolio addresses 750V and 1200V EV inverter architectures; while Mitsubishi Electric and Fuji Electric retain capabilities in higher-voltage SiC module classes for specialized applications rather than mainstream transfer-molded automotive scale. The commercial implication is clear: the market is not broadening evenly across voltage classes, but instead is consolidating around the most scalable automotive and electrification platform voltages, with 1200V as the long-duration industry standard and lower- or higher-voltage bands serving more selective roles.

The application mix is now overwhelmingly dominated by automotive, whose revenue share has already risen into the mid-to-high 80% range and is projected to move above 90% by the early 2030s. This is a materially more concentrated structure than in many other power-semiconductor categories. The main adoption points are traction inverters, onboard chargers, HV DC/DC converters, auxiliary power stages, fluid pumps, and thermal-management subsystems, all of which benefit directly from the package-level advantages of transfer-molded SiC modules. Public product targeting confirms this concentration: ST?s ACEPACK DMT-32 is positioned for OBC, DC-DC and EV auxiliaries; onsemi?s APM32 directly addresses high-power OBC; Bosch?s SiC module offering is aimed at inverter, OBC and DC/DC architectures; and ROHM?s HSDIP20 family was explicitly developed for PFC and LLC stages in xEV onboard chargers.

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Renewable energy, storage, industrial motor drives, UPS, data-center power and other industrial uses still matter strategically, but increasingly function as the second growth curve rather than the primary revenue anchor. In other words, the main incremental opportunity is not broad application diversification, but deeper penetration within vehicle power architectures, especially as high-voltage platforms proliferate and OEMs push harder on efficiency, thermal performance and packaging density.

The competitive landscape is shifting from a single-leader dominated structure to a more plural market led by incumbent international suppliers but increasingly challenged by fast-rising Chinese players. STMicroelectronics remains the market leader, but its share has been declining as competitors scale faster. onsemi has emerged as the most visible share gainer in transfer-molded automotive power modules, while Wolfspeed retains strategic importance through SiC technology depth and upstream positioning. Bosch has become a more consequential participant through its automotive inverter-centric SiC module platforms, and Japanese suppliers such as ROHM, Mitsubishi Electric, Fuji Electric and DENSO continue to matter in automotive and high-reliability power electronics. On the China side, the competitive field is broadening quickly, led by companies such as BYD Semiconductor (??????), SiEn Integrated, STARPOWER, BASiC Semiconductor, Suzhou Sico Semiconductor, CRRC Times Electric, Guangdong AccoPower Semiconductor, CR Micro and others. The next phase of competitive differentiation is likely to depend less on headline device performance alone and more on platform definition, AQG-324-capable qualification, long-cycle customer design-ins, assembly consistency, yield improvement, and cost-down execution across the full module value chain.

Regionally, the market is becoming increasingly China-centric on the demand side, while manufacturing is shifting from a historically Europe-heavy structure toward a more multipolar footprint. China has already become the largest end-market and is expected to further widen its lead over the forecast period. Europe remains the second-largest demand center, underpinned by automotive electrification and industrial electrification, while North America remains important but relatively smaller in end-market share than in upstream and manufacturing significance. On the supply side, Europe still holds the leading production position today, thanks to long-established automotive power-module ecosystems and companies such as ST, Bosch, and other European-linked production footprints. However, China is rapidly building share and is on track to become the most important incremental manufacturing base over the medium term. North America retains strategic relevance through advanced SiC materials and manufacturing programs, while Japan remains a meaningful high-reliability and high-voltage specialty production base. This regional evolution is consistent with both EV market geography and supplier capital

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allocation: ST is building out the Catania SiC Campus as a vertically integrated site from substrate to module; Bosch continues to industrialize its automotive SiC module platforms; and China?s accelerating EV and charging ecosystem is creating the strongest local pull for domestic transfer-molded SiC module demand and manufacturing localization.

The global Transfer Molded SiC Power Module industry is entering a decisive scale-up decade. Market expansion remains robust, the 1200V platform is firmly established as the dominant commercial standard, automotive remains the overwhelming demand anchor, and China is moving toward the center of both consumption and incremental manufacturing. At the same time, the industry is becoming more competitive and more industrialized: the key battle is shifting away from whether molded SiC modules will be adopted, and toward which suppliers can industrialize them at automotive grade, at scale, and at acceptable cost. The most likely medium-term industry trajectory is continued rapid growth led by EV traction-side and charging-side applications, followed by broader adoption in charging infrastructure, storage, industrial power conversion and selected high-efficiency adjacent segments. Over the next five to ten years, Transfer Molded SiC Power Modules are positioned to remain one of the most attractive and strategically important growth segments within the global power semiconductor landscape.

This report is a detailed and comprehensive analysis for global Transfer Molded SiC Power Module market. Both quantitative and qualitative analyses are presented by manufacturers, by region & country, by Voltage and by Application. As the market is constantly changing, this report explores the competition, supply and demand trends, as well as key factors that contribute to its changing demands across many markets. Company profiles and product examples of selected competitors, along with market share estimates of some of the selected leaders for the year 2025, are provided.

Key Features:

Global Transfer Molded SiC Power Module market size and forecasts, in consumption value ($ Million), sales quantity (K Units), and average selling prices (US$/Unit), 2021-2032

Global Transfer Molded SiC Power Module market size and forecasts by region and country, in consumption value ($ Million), sales quantity (K Units), and average selling prices (US$/Unit), 2021-2032

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Global Transfer Molded SiC Power Module market size and forecasts, by Voltage and by Application, in consumption value ($ Million), sales quantity (K Units), and average selling prices (US$/Unit), 2021-2032

Global Transfer Molded SiC Power Module market shares of main players, shipments in revenue ($ Million), sales quantity (K Units), and ASP (US$/Unit), 2021-2026

The Primary Objectives in This Report Are:

To determine the size of the total market opportunity of global and key countries

To assess the growth potential for Transfer Molded SiC Power Module

To forecast future growth in each product and end-use market

To assess competitive factors affecting the marketplace

This report profiles key players in the global Transfer Molded SiC Power Module market based on the following parameters - company overview, sales quantity, revenue, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include STMicroelectronics, onsemi, Wolfspeed, Bosch, Rohm, BYD Semiconductor, Guangdong AccoPower Semiconductor, United Nova Technology (UNT), BASiC Semiconductor, Zhuzhou CRRC Times Electric, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Market Segmentation

Transfer Molded SiC Power Module market is split by Voltage and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and forecasts for consumption value by Voltage, and by Application in terms of volume and value. This analysis can help you expand your business by targeting qualified niche markets.

Market segment by Voltage

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1200V Transfer Molded SiC Module

650?900V Transfer Molded SiC Module

1700V and Above Transfer Molded SiC Module

Market segment by Topology

Sixpack

Half-bridge

Full-Bridge

Others

Market segment by Application

Automotive

Industrial

Household Appliances

PV/Wind Power/Energy Storage/Power Grid

UPS/Data Center/Communication

Others

Major players covered

STMicroelectronics

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Wolfspeed

Bosch

Rohm

BYD Semiconductor

Guangdong AccoPower Semiconductor

United Nova Technology (UNT)

BASiC Semiconductor

Zhuzhou CRRC Times Electric

Suzhou Sko Semiconductor

Fuji Electric

StarPower

Denso

InventChip Technology (IVCT)

Shenzhen Aishite Technology

SanRex

Hitachi Energy

Suzhou Xizhi Technology

SemiQ

Leadrive Technology

Toshiba

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China Resources Microelectronics Limited

Archimedes Semiconductor (Hefei)

Market segment by region, regional analysis covers

North America (United States, Canada, and Mexico)

Europe (Germany, France, United Kingdom, Russia, Italy, and Rest of Europe)

Asia-Pacific (China, Japan, Korea, India, Southeast Asia, and Australia)

South America (Brazil, Argentina, Colombia, and Rest of South America)

Middle East & Africa (Saudi Arabia, UAE, Egypt, South Africa, and Rest of Middle East & Africa)

The content of the study subjects, includes a total of 15 chapters:

Chapter 1, to describe Transfer Molded SiC Power Module product scope, market overview, market estimation caveats and base year.

Chapter 2, to profile the top manufacturers of Transfer Molded SiC Power Module, with price, sales quantity, revenue, and global market share of Transfer Molded SiC Power Module from 2021 to 2026.

Chapter 3, the Transfer Molded SiC Power Module competitive situation, sales quantity, revenue, and global market share of top manufacturers are analyzed emphatically by landscape contrast.

Chapter 4, the Transfer Molded SiC Power Module breakdown data are shown at the regional level, to show the sales quantity, consumption value, and growth by regions, from 2021 to 2032.

Chapter 5 and 6, to segment the sales by Voltage and by Application, with sales market share and growth rate by Voltage, by Application, from 2021 to 2032.

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Chapter 7, 8, 9, 10 and 11, to break the sales data at the country level, with sales quantity, consumption value, and market share for key countries in the world, from 2021 to 2026.and Transfer Molded SiC Power Module market forecast, by regions, by Voltage, and by Application, with sales and revenue, from 2027 to 2032.

Chapter 12, market dynamics, drivers, restraints, trends, and Porters Five Forces analysis.

Chapter 13, the key raw materials and key suppliers, and industry chain of Transfer Molded SiC Power Module.

Chapter 14 and 15, to describe Transfer Molded SiC Power Module sales channel, distributors, customers, research findings and conclusion.

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3 COMPETITIVE ENVIRONMENT: TRANSFER MOLDED SIC POWER MODULE BY MANUFACTURER

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