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Global 750V Ultra-Thin SiC Power Transistor Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

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Abstracts

According to our (Global Info Research) latest study, the global 750V Ultra-Thin SiC Power Transistor market size was valued at US$ 84.37 million in 2025 and is forecast to a readjusted size of US$ 175 million by 2032 with a CAGR of 10.4% during review period.

The 750V ultra-thin silicon carbide power transistor is a high-performance discrete power device made from silicon carbide semiconductor material, primarily used in power electronics conversion and motor drive systems. The device is mainly offered in TOLL ultra-thin surface-mount packages, with a typical thickness of approximately 2.3 millimeters, ranging from 2.2 to 2.5 millimeters. It is rated for 750 volts and has an on-resistance spanning from 13 milliohms to 65 milliohms, providing high-speed switching capability and low conduction loss. The manufacturing process involves high-quality silicon carbide epitaxial wafer fabrication, precision photolithography and ion implantation, as well as advanced gate structure design and low-thermal-resistance packaging techniques. Its key functions include efficient power switching and energy conversion control, suitable for industrial power inverters, electric vehicle traction inverters, photovoltaic inverters, and medium-to-low power DC-DC converters. In 2025, the global average gross margin for this type of device is approximately 38%, with an average unit price of 37 USD per piece.

The 750V ultra-thin silicon carbide power transistor is a high-performance wide-bandgap semiconductor discrete power device, relying on upstream high-purity SiC epitaxial wafer production, midstream advanced device processing, and thin TOLL package technology, with downstream applications in industrial power inverters, electric vehicle traction inverters, and photovoltaic inverters forming a complete supply chain. In

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2025, only one company globally achieved formal mass production of this product, resulting in highly concentrated core production capacity and relatively limited supply. As upstream material capacity expands and midstream processes mature, the supply side continues to improve, supporting broader adoption in downstream applications.

Demand is driven by high-efficiency, high-frequency power conversion and compact inverter designs, with core applications including electric vehicle traction inverters, industrial motor drives, and photovoltaic inverters. Market growth is primarily fueled by rising penetration of electric vehicles and increasing investment in renewable energy generation, while medium-to-low power DC-DC converters steadily increase demand for thin-package devices. In 2025, leading companies collaborated on process optimization and technical coordination around thin TOLL packaging, promoting high standardization. Policy measures in major economies, including energy efficiency regulations and carbon reduction targets, further accelerate the adoption of SiC devices in power electronics applications.

The industry is expected to maintain high concentration and technological barriers, with thin TOLL packaging becoming the mainstream design. Product performance will continue to evolve toward lower on-resistance, lower thermal resistance, and higher switching frequency. Supply chain collaboration, regional manufacturing adjustments, and expanded production capacity will support steady market growth, while technological iteration and the development of alternative materials represent long-term considerations. Overall, ultra-thin SiC power transistors are expected to continue expanding their applications in efficient power conversion, with the industry maintaining a robust growth trajectory.

This report is a detailed and comprehensive analysis for global 750V Ultra-Thin SiC Power Transistor market. Both quantitative and qualitative analyses are presented by manufacturers, by region & country, by Type 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 750V Ultra-Thin SiC Power Transistor market size and forecasts, in consumption value ($ Million), sales quantity (Pcs), and average selling prices (US$/Pcs), 2021-2032

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Global 750V Ultra-Thin SiC Power Transistor market size and forecasts by region and country, in consumption value ($ Million), sales quantity (Pcs), and average selling prices (US$/Pcs), 2021-2032

Global 750V Ultra-Thin SiC Power Transistor market size and forecasts, by Type and by Application, in consumption value ($ Million), sales quantity (Pcs), and average selling prices (US$/Pcs), 2021-2032

Global 750V Ultra-Thin SiC Power Transistor market shares of main players, shipments in revenue ($ Million), sales quantity (Pcs), and ASP (US$/Pcs), 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 750V Ultra-Thin SiC Power Transistor

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 750V Ultra-Thin SiC Power Transistor 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 ROHM Co., Ltd., etc.

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

Market Segmentation

750V Ultra-Thin SiC Power Transistor market is split by Type and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and forecasts for consumption value by Type, and by Application in terms of volume and value. This analysis can help you expand your business by targeting qualified niche markets.

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Market segment by Type

High Current Type (13m? - 26m?)

Medium Current Type (36m? - 45m?)

Low Current Type (65m?)

Market segment by Thermal Management Feature

Enhanced Thermal Performance (R?JC ?0.5°C/W)

Standard Thermal Performance (R?JC 0.5-1.0°C/W)

High Thermal Dissipation (>1.0°C/W)

Market segment by On Resistance Range

Ultra Low Rds(on) (4m? - 13m?)

Low Rds(on) (14m? - 30m?)

Medium Rds(on) (31m? - 60m?)

High Rds(on) (61m? - 120m?)

Market segment by Application

AI Server Power Supply

On Board Charger (OBC)

DC DC Converter

Photovoltaic Inverter

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Energy Storage System (ESS)

Industrial Power Supply

Other Applications

Major players covered

ROHM Co., Ltd.

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 750V Ultra-Thin SiC Power Transistor product scope, market overview, market estimation caveats and base year.

Chapter 2, to profile the top manufacturers of 750V Ultra-Thin SiC Power Transistor, with price, sales quantity, revenue, and global market share of 750V Ultra-Thin SiC Power Transistor from 2021 to 2026.

Chapter 3, the 750V Ultra-Thin SiC Power Transistor competitive situation, sales quantity, revenue, and global market share of top manufacturers are analyzed emphatically by landscape contrast.

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Chapter 4, the 750V Ultra-Thin SiC Power Transistor 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 Type and by Application, with sales market share and growth rate by Type, by Application, from 2021 to 2032.

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 750V Ultra-Thin SiC Power Transistor market forecast, by regions, by Type, 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 750V Ultra-Thin SiC Power Transistor.

Chapter 14 and 15, to describe 750V Ultra-Thin SiC Power Transistor sales channel, distributors, customers, research findings and conclusion.

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