Silicon Carbide Wafer Market Size Expected to Reach USD 13.12 Billion at a CAGR of 16.1%, in 2030

Silicon Carbide Wafer Market Size – USD 3.40 Billion in 2021, Market Growth – at a CAGR of 16.1%, Cost-effective alternatives in market for silicon carbide

Reports And Data

NEW YORK, NY, UNITED STATES, February 24, 2022 /EINPresswire.com/ -- Cost-effective energy storage method and growing demand for Silicon Carbide (SiC) devices in power electronics are driving silicon carbide wafer market revenue growth

The global Silicon Carbide Wafer Market size is expected to reach USD 13.12 Billion in 2030 and register a revenue CAGR of 16.1% over the forecast period, according to the latest report by Reports and Data. Growing demand for SiC devices in power electronics and increasing investments by governments, private organizations, research institutes, and manufacturers to increase SiC production are key factors driving the market's revenue growth. Growing adoption of SiC devices in automotive and power device applications, as well as cost-effective energy storage method creates a high demand for silicon carbide wafer for efficient industrial operations.

However, material and fabrication cost of silicon carbide wafer is hampering the market revenue growth. SiC materials are more expensive because they are synthesized in high-temperature environments, whereas silicon can be recovered at a lower cost from naturally occurring silica.

Hybrid and electric vehicles are gaining popularity as they are more technologically connected than standard automobiles. SiC has a lot of potential in the automotive industry, especially for hybrid and electric vehicles. It can increase the driving range per charge, reduce the time it takes to charge a battery, and improve overall efficiency by giving the same range with less battery capacity and weight. At high voltages, SiC is very efficient, allowing for quick battery charging times equivalent to filling a regular vehicle's tank. In addition, they limit the consumption of fossil fuels, such as petrol and diesel, reduce global warming and ecological harm, and offer improved fuel efficiency.

Companies profiled in global silicon carbide wafer market report include Wolfspeed, Inc., II-VI Incorporated, Showa Denko K.K., SICC Co., Ltd., Xiamen Powerway Advanced Material Co., Ltd., Atecom Technology Co., Ltd., CETC Solar Energy Holdings Co., Ltd., Entegris, Ferrotec Holdings Corporation, and SiCrystal GmbH.

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Some Key Highlights from the Report

•By wafer size, 4-inch segment accounted for largest revenue share in 2021 because of its extensive usage in the fabrication of very high-voltage and high-power devices such as diodes, power transistors, and high-power microwave devices. Silicon carbide is also becoming more popular in high-power MMIC applications, as well as in LED chips and other renewable energy devices.
•By device, SiC discrete device segment accounted for largest revenue share in 2021 and is expected to continue to account for the largest revenue share during the forecast period. The increased demand for SiC discrete devices for use in a wide range of applications, including RF and cellular base station applications, as well as power supplies and inverters, is driving revenue growth of this segment.
•By application, EV motor drive segment is expected to register fastest revenue CAGR during the forecast period because it assists in battery management and reduces weight and size. Higher silicon carbide device penetration in electric vehicles (EVs) is supporting revenue growth of this segment. Need for EV motor drives is increasing as the market for EV expands.
•Silicon carbide wafer market in Europe is expected to grow at a fast rate over the forecast period. UK accounted for largest revenue share in Europe in 2021 for high-end consumer electronics items, with around 18,000 UK-based electronics enterprises operating in the industry.
•Silicon carbide wafer market in North America accounted for second-largest revenue share in 2021 because of the increasing use of silicon carbide devices in power supplies and inverters. The US is anticipated to account for largest market revenue share in 2021 because of the region's significant increase in renewable energy output.

To understand how our Silicon Carbide Wafer Market can bring difference to your business strategy:- https://www.reportsanddata.com/download-summary-form/1106

For the purpose of this report, Reports and Data has segmented silicon carbide wafer market based on wafer size, device, application, industry, and region:

Wafer Size Outlook (Revenue, USD Million; 2019–2030)

•2-Inch
•4-Inch

- 6-Inch & Above

Device Outlook (Revenue, USD Million; 2019–2030)

- SiC Discrete Device
  - Silicon Diode
  - Silicon MOSFET
- SiC Bare Die
- SiC Module

Application Outlook (Revenue, USD Million; 2019–2030)

- Power Grid Device
- Flexible AC Transmission Systems
- RF Device & Cellular Base Station
- High-voltage, Direct Current
- Power Supply & Inverter
- Electronic Combat System
- Lighting Control
- Industrial Motor Drive
- EV Charging
- EV Motor Drive
- Solar Energy
- Wind Energy
- Flame Detector
- Others

Industry Outlook (Revenue, USD Million; 2019–2030)

- Telecommunication
  - 2-Inch
  - 4-Inch
  - 6-Inch & Above
- Energy & Power
  - 2-Inch
  - 4-Inch
  - 6-Inch & Above
- Power Electronics
  - 2-Inch
  - 4-Inch
  - 6-Inch & Above
- Automotive
  - 2-Inch

- 4-Inch
- 6-Inch & Above
- Renewable Power Generation
  - 2-Inch
  - 4-Inch
  - 6-Inch & Above
- Defense
  - 2-Inch
  - 4-Inch
  - 6-Inch & Above

Regional Outlook (Revenue, USD Billion; 2019–2030)

- North America
- Europe
- Asia Pacific
- Latin America
- Middle East & Africa

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Key Advantages of Silicon Carbide Wafer Report:

- Identification and analysis of the market size and competition
- Qualitative and quantitative analysis of the market data
- Data validated by industry experts after extensive primary and secondary research
- Extensive regional analysis of the Silicon Carbide Wafer industry
- Profiling of key players along with their business overview, business strategies, deals and partnerships, and product portfolio
- SWOT and Porter's Five Forces Analysis for in-depth understanding of the competitive landscape
- Feasibility analysis and investment analysis to enable strategic investment decisions
- Analysis of opportunities, drivers, restraints, challenges, risks, and limitations

Conclusively, all aspects of the Silicon Carbide Wafer market are quantitatively as well qualitatively assessed to study the global as well as regional market comparatively. This market study presents critical information and factual data about the market providing an overall statistical study of this market on the basis of market drivers, limitations and its future prospects.

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