

Electronics Ceramics & Electrical Ceramics Market to Observe Prominent Growth of USD 19.3 billion by 2029

Demand for electronics ceramics is being driven by miniaturisation, 5G adoption, flexible electronics, and energy storage.

LUTON, BEDFORDSHIRE, UNITED KINGDOM, November 23, 2023 /EINPresswire.com/ -- The global electronics ceramics & electrical ceramics market is expected to grow at 5.3 % CAGR from 2023 to 2029. It is expected to reach above USD 19.3 billion by 2029 from USD 12.82 billion in 2022.



Electronics ceramics and electrical ceramics are advanced ceramics that are designed specifically for electrical and electronic applications. Although they have some similarities, they also have some differences. Electronic ceramics are semiconducting or insulating materials that can be



The Electronics Ceramics & Electrical Ceramics Market is thriving with increasing demand for advanced electronic components, driven by technological advancements.

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used in electronic devices such as transistors, capacitors, and resistors. These ceramics are typically made of metal oxides such as alumina, zirconia, and titanium dioxide and can be manufactured using a variety of techniques such as sintering and chemical vapour deposition.

The global growth of the electronic ceramics market is being driven by several new technological advancements in communication, automotive, and electrical systems. Every industry has the potential to be impacted by the Internet of Things (IoT). It enables the digital transformation of numerous processes, and it can track important

operational indicators in manufacturing, healthcare, vehicle tracking, and storage monitoring using a variety of sensors. On the other hand, it is expected that the development of new electroceramics that will aid component manufacturers in terms of size and operational

effectiveness will present profitable opportunities for the growth of the global electronic ceramics market.

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Industry Development:

- CoorsTek Inc. increased its capacity for production in Southeast Asia in February 2021 by starting work on a 400,000-square-foot facility for engineered ceramics in Thailand. By doing this, it will be able to produce more electrical ceramics and electronics.
- CeramTec GmbH launched a ceramic power semiconductor module for drive inverters in e-mobility in May 2021. Chip-on heatsink technology was used to create a ceramic heat sink by CeramTec GmbH and Fraunhofer Institute for Integrated Systems and Device Technologies (IISB).

Asia Pacific accounted for the 35% market in the electronics ceramics & electrical ceramics market.

The expanding use in the home appliance and medical device industries is the key factor driving the region's rising demand for electrical and electronic ceramics. The primary consumers of electronic and electrical ceramics in the region include nations like China, Japan, India, South Korea, and Vietnam.

The largest electronics manufacturing base in the world is China, which presents South Korea, Singapore, and Taiwan with fierce rivalry. The market is dominated by electronic devices including smartphones, OLED TVs, tablets, and so on. One of the largest and fastest-growing industries in India is electronics. Several manufacturers are moving from China to India to meet domestic demand due to growing labor costs. In addition, government programs like Digital India are promoting the expansion of the nation's electronics manufacturing industry. Making sure that all government services are available to residents electronically is the major goal of this effort. These are the factors that help to propel the electronics ceramics & electrical ceramics market growth.

Key Factors Influencing the Market Include:

• Growing Electronics Industry: The demand for electronics ceramics is closely tied to the overall growth of the electronics industry. As consumer electronics, telecommunications, and other electronic devices continue to evolve, the demand for ceramics with specific electrical properties also increases.

- Advancements in Technology: Ongoing technological advancements in the electronics and electrical sectors drive the need for new materials with enhanced performance characteristics. This can boost the demand for advanced ceramics with improved electrical conductivity, thermal stability, and other desirable properties.
- Renewable Energy: The push towards renewable energy sources, such as solar and wind power, can drive the demand for electrical ceramics in applications like power generation, energy storage, and distribution.
- Automotive Industry: The automotive sector is another important market for electronics ceramics. With the increasing integration of electronic components in vehicles, there is a growing need for ceramics in sensors, ignition systems, and other electronic systems.
- Medical Electronics: The medical electronics sector is utilizing ceramics in various applications, including sensors and imaging devices. As the healthcare industry continues to advance, so does the demand for specialized ceramics.
- Global Trends: Economic conditions, trade policies, and geopolitical factors can impact the global market for electronics and electrical ceramics. The market is also influenced by factors like raw material costs and supply chain dynamics.

Electronics Ceramics & Electrical Ceramics Market <u>Technological Trends</u>

- Miniaturization and Integration: There was a trend toward miniaturization of electronic devices, leading to a demand for smaller and more integrated components. This trend requires ceramics with precise dimensions and high performance in terms of electrical and thermal properties.
- Advanced Materials and Composites: Research and development efforts were focused on developing advanced ceramic materials and composites with enhanced properties. This includes improved electrical conductivity, higher thermal stability, and increased durability, contributing to the overall efficiency and reliability of electronic components.
- Multilayer Ceramics (MLCs): Multilayer ceramics, including multilayer ceramic capacitors (MLCCs), were gaining popularity due to their compact design and high capacitance. These ceramics find extensive use in electronic devices, especially in the consumer electronics sector.
- Flexible Ceramics: With the increasing demand for flexible and wearable electronics, there was a growing interest in flexible ceramics. These materials can withstand bending and deformation, making them suitable for applications in flexible circuit boards and wearable devices.
- Ceramics for 5G Technology: The rollout and development of 5G technology were influencing

the demand for ceramics used in high-frequency applications. Ceramics with excellent dielectric properties were crucial for the efficient functioning of 5G devices and infrastructure.

Electronics Ceramics & Electrical Ceramics Market Key Players

- Coorstek Inc
- Ceramtec GmbH
- Kyocera Corporation
- Morgan Advanced Materials
- Ceradyne Inc
- · NGK Spark Plug Co. Ltd
- Rauschert Steinbach GmbH
- Murata Manufacturing Co. Ltd.
- ENRG Inc
- Mantec Technical Ceramics Ltd
- CxoorsTek
- CeramTec GmbH

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Key Market Segments: Electronics Ceramics & Electrical Ceramics Market

Electronics Ceramics & Electrical Ceramics Market By Material Type, 2023-2029, (USD Billion), (Thousand Units)

- Alumina Ceramics
- Titanate Ceramics
- Zirconia Ceramics
- Silica Ceramics
- Others

Electronics Ceramics & Electrical Ceramics Market By Product Type, 2023-2029, (USD Billion), (Thousand Units)

- Monolithic Ceramics
- Ceramic Matrix Composites
- Ceramic Coatings
- Others

Electronics Ceramics & Electrical Ceramics Market By End-Use Industry, 2023-2029, (USD Billion),

(Thousand Units)

- Home Appliances
- Power Grids
- Medical Devices
- · Mobile Phones
- Others

Market Dynamics

Drivers:

- Rising Demand for Electronic Devices: The increasing demand for electronic devices, including smartphones, laptops, and other consumer electronics, is a significant driver for the electronics ceramics market.
- Growing Industrialization and Automation: As industries become more automated and technologically advanced, there is an increased need for electrical ceramics in various applications, such as sensors, actuators, and electronic components.
- Emerging Technologies: Advancements in technologies such as 5G, Internet of Things (IoT), and electric vehicles are driving the demand for specialized ceramics used in these applications.
- Miniaturization of Electronics: The trend towards smaller and lighter electronic devices requires advanced ceramics with specific properties to meet the miniaturization requirements without compromising performance.

Restraints:

- High Cost: The production of advanced ceramics involves complex processes and high-quality raw materials, leading to relatively high production costs, which can be a restraint for some market segments.
- Limited Awareness: Some industries may not be fully aware of the benefits and applications of electronics and electrical ceramics, which can hinder market growth.

Opportunities:

- Renewable Energy: The growing focus on renewable energy sources such as solar and wind power creates opportunities for electrical ceramics in components like capacitors and insulators.
- Medical Electronics: The increasing use of electronics in medical devices creates opportunities

for ceramics in applications like sensors, imaging devices, and electronic implants.

Challenges:

- Supply Chain Disruptions: The electronics ceramics market can be affected by disruptions in the supply chain, particularly for rare earth materials and other key components.
- Competition from Alternative Materials: The market faces competition from alternative materials that may offer similar or enhanced properties, impacting the demand for ceramics in certain applications.
- Environmental Concerns: Environmental regulations and concerns about the environmental impact of ceramic production processes may pose challenges for the industry.

Key Question Answered

- 1. What is the current size of the electronics ceramics & electrical ceramics market?
- 2. What is the expected growth rate of the electronics ceramics & electrical ceramics market over the next 5 years?
- 3. Who are the major players in the electronics ceramics & electrical ceramics market and what is their market share?
- 4. What are the end-user industries driving demand for the market and what is their outlook?
- 5. What are the opportunities for growth in emerging markets such as Asia-pacific, the middle east, and Africa?
- 6. How is the economic environment affecting the electronics ceramics & electrical ceramics market, including factors such as interest rates, inflation, and exchange rates?
- 7. What is the expected impact of government policies and regulations on the electronics ceramics & electrical ceramics market?
- 8. What is the current and forecasted size and growth rate of the global electronics ceramics & electrical ceramics market?

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