

Empowering Electronics: The Continued Expansion of the Discrete Semiconductor Market

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/EINPresswire.com/ -- Discrete semiconductors are integrated components, such as diodes, transistors, and thyristors which have discrete terminals or leads. They are widely used in various electronic devices and applications including automobiles, consumer electronics, telecommunication equipment, and industrial machines.



The discrete semiconductor market is estimated to be valued at US\$ 43.85 billion in 2024 and is expected to reach US\$ 82.12 billion by 2031, exhibiting a compound annual growth rate (CAGR) of 9.4% from 2024 to 2031.

Market Dynamics:

The discrete semiconductor market is witnessing high growth owing to the increased demand from the automotive sector. Semiconductor components such as diodes, transistors, and thyristors find wide application in automotive electronics for engine control units, infotainment systems, advanced driver-assistance systems and electric vehicle battery management systems. Additionally, the rising adoption of autonomous and connected vehicles is also driving the need for discrete semiconductors. Furthermore, the growing demand for consumer electronics and presence of established players expanding their discrete product portfolio is fueling the market growth during the forecast period.

Growing Adoption of IoT and Connected Devices is Driving Demand in the Discrete Semiconductor Market

The increasing adoption of IoT devices and connected technologies is one of the major drivers boosting the discrete semiconductor market. As more consumer and industrial products are incorporating technologies like wireless connectivity, sensors and integrated circuits, the demand

for discrete semiconductors like transistors, thyristors and diode is growing exponentially. It is estimated that there will be over 50 billion IoT connected devices by 2030, up from around 10 billion in 2020. This explosion in connected devices markets means greater opportunities for discrete semiconductors that power various IoT/connected applications in sectors like consumer electronics, automotive, healthcare, industrial automation and more.

Rising Demand for More Powerful and Compact Electronics is Fueling Growth in Discrete Semiconductors Market

The relentless pursuit of designing more powerful yet compact electronic devices by OEMs is another key factor propelling the discrete semiconductor industry. Be it smartphones that are getting thinner with each generation or laptops/tablets becoming increasingly portable - they all require discrete components like MOSFETs and Schottky diodes that can deliver high-performance within stringent space constraints. Discrete semiconductors allow for more customizability and flexibility than integrated circuits in miniaturizing electronics. The ability of discrete components to withstand high voltages, frequencies and currents while taking up very little PCB space makes them indispensable in applications needing ultra-portable but powerful devices like drones, wearables, premium appliances etc.

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Key Company Profiles:

ABB, Diodes Incorporated , GeneSiC Semiconductor Inc. , Infineon Technologies AG , Nexperia , NXP Semiconductors , Renesas Electronics Corporation , ROHM CO., LTD. , Semiconductor Components Industries, LLC , StarPower Semiconductor Ltd. , STMicroelectronics , Taiwan Semiconductor , Texas Instruments Incorporated , TOSHIBA ELECTRONIC DEVICES & STORAGE CORPORATION , Vishay Intertechnology, Inc. , and WeEn Semiconductors

This Report lets you identify the opportunities in Discrete Semiconductor Market by means of a region:

- North America (the United States, Canada, and Mexico)
- Europe (Germany, UK, France, Italy, Russia and Turkey, etc.)
- Asia-Pacific (China, Japan, Korea, India, Australia, and Southeast Asia (Indonesia, Thailand, Philippines, Malaysia, and Vietnam))
- South America (Brazil etc.)
- The Middle East and Africa (North Africa and GCC Countries)

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Expanding Role of Discrete Components in Power Electronics Offers Immense Opportunities

The rising electrification of various systems and growing use of power electronics for managing and controlling electricity provides huge opportunities for discrete components makers. With the proliferation of technologies like renewable energy sources, electric vehicles, energy efficient appliances and industrial motor drives - power electronics are becoming ubiquitous. There is an imminent need for innovations in discrete components optimized for power applications - be it MOSFETs, IGBTs, Schottky diodes, SCRs or fast recovery diodes. The ability to switch and handle high voltages/currents efficiently and safely would be crucial. Getting discrete components certified for automotive-grade power electronics can open massive industrial and automotive applications. This expanding domain of power electronics presents enormous prospects for discrete semiconductor vendors to capitalize.

Emergence of 5G Networks and Growth of Data Centers Augurs Well for Discrete Semiconductors

One of the long term trends positively impacting the discrete semiconductor industry is the rollout of 5G networks and investments in new data centers. As telecom infrastructure builds out 5G connectivity worldwide over the next decade, it will fuel demand for discrete RF components used in base stations, small cells, handsets and networking equipment. Similarly, with ever growing data usage and reliance on cloud infrastructure, huge server farms housing numerous discrete semiconductors are being constructed by tech giants to meet this need. These multi-billion dollar 5G and hyperscale data center initiatives act as strong multiplier for discrete semiconductor consumption globally. Given the critical importance of semiconductors in enabling digital transformation, this trend promises to sustain discrete component demand over the long haul.

Research Scope

Scope - Highlights, Trends, Insights. Attractiveness, Forecast

Market Sizing - Product Type, End User, Offering Type, Technology, Region, Country, Others

Market Dynamics - Discrete Semiconductor Market Segmentation, Demand and Supply, Bargaining Power of Buyers and Sellers, Drivers, Restraints, Opportunities, Threat Analysis, Impact Analysis, Porters 5 Forces, Ansoff Analysis, Supply Chain

Business Framework - Case Studies, Regulatory Landscape, Pricing, Policies and Regulations,

New Product Launches. M&As, Recent Developments

Competitive Landscape - Discrete Semiconductor Market Share Analysis, Market Leaders, Emerging Players, Vendor Benchmarking, Developmental Strategy Benchmarking, PESTLE Analysis, Value Chain Analysis

Key questions answered in the report include:

- How Discrete Semiconductor Market industry market will boom in 2024?
- which are prominent key players will be growing the market?
- Which enterprise size accounted for the largest data center colocation market share?
- What is the Compound Annual Growth Rate(CAGR) of the market during the forecast period (2024-2031)?

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Mr. Shah

Coherent Market Insights Pvt. Ltd.

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