SCOTTS INTERNATIONAL

Asia Pacific Silicon EPI Wafer Market Forecast to 2028 - COVID-19 Impact and Regional Analysis - Wafer Size (6 Inch, 8 Inch, 12 Inch, and Others), Application (LED, Power Semiconductor, and MEMS-Based Device), End User (Consumer Electronics, Automotive, Healthcare, Aerospace and Defense, and Others), and Type (Heteroepitaxy and Homoepitaxy)

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- Single User Price $3000.00
- Site Price $4000.00
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Report description:

The Asia Pacific silicon EPI wafer market is expected to grow from US$ 1,635.16 million in 2022 to US$ 2,820.99 million by 2028; it is estimated to grow at a CAGR of 9.5% from 2022 to 2028.

Gallium nitride (GaN), a wide bandgap semiconductor, supports the functioning of devices at higher temperatures and voltages than silicon-based devices. The greater dielectric breakdown of GaN also makes it possible to build smaller devices with lower resistance. Lower resistance leads to smaller devices with less capacitance (on). Epitaxial GaN wafers, characterized by high efficiency and high-power output, are a base material used in power and radio frequency (RF) devices. They are used in defense radars, electric car power converters, 5G base stations, and quick chargers for IT devices. For instance, IVWorks, South Korea, makes GaN epitaxial wafers a crucial component of DC power devices and 5G communication devices by using deep learning-based artificial intelligence (AI) epitaxy technology, further attracting a US$ 6.7 million Series B investment. Due to their high electron mobility, current density, and breakdown voltage, GaN can be used to create high-efficiency, high-output power devices that operate at a high frequency. It is smaller, quicker, and more efficient than Si, SiC, and GaAs materials, and produces more power than these materials. GaN epitaxial growth is necessary on a heterogeneous substrate since GaN has not yet been adequately developed in free-standing wafer technology, unlike Si, SiC, and GaAs (Si or SiC). Although Si can affordably handle wafers with enormous diameters, a technique to manage stress and defect density is required because of the huge lattice mismatch and thermal expansion coefficient difference from GaN. Continuous advancements in AI-based GaN wafers are providing lucrative opportunities for the future growth of the silicon EPI wafer market.

Vendors in the Asia-Pacific silicon EPI wafer market can attract new customers and expand their footprints in emerging markets by providing innovative products. This is likely to drive market at a notable CAGR during the forecast period.

The Asia-Pacific Silicon EPI Wafer Market Revenue and Forecast to 2028 (US$ Million)

Asia-Pacific Silicon EPI Wafer Market Segmentation

The Asia-Pacific silicon EPI wafer market is segmented on the basis of wafer size, application, end user, type, and country. Based on wafer size, the market is segmented into 6 inch, 8 inch, 12 inch, and others. Based on application, the market is divided into led, power semiconductor, and MEMS-based devices. By end user, the Asia-Pacific silicon EPI wafer market is segmented into consumer electronics, automotive, healthcare, aerospace and defense, and others. Based on type, the market is bifurcated into heteroepitaxy and homoepitaxy. Based on country, the Asia Pacific silicon EPI wafer market is segmented into Taiwan, China, India, Japan, South Korea, and Rest of Asia Pacific.

Asia Pacific Silicon EPI Wafer Market - Companies Mentioned

Applied Materials, Inc.; II-VI Incorporated; Shin-Etsu Chemical Co., Ltd.; SUMCO CORPORATION; Siltronic AG; NICHIA CORPORATION; GlobalWafers Japan Co., Ltd.; EpiGaN nv (Soitec Belgium N.V.) and SK Siltron Co., Ltd. are among the major companies operating in the Asia-Pacific silicon EPI wafer market.

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