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Global 6-inch Semiconductor Silicon Wafers 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 6-inch Semiconductor Silicon Wafers market size was valued at US$ 907 million in 2025 and is forecast to a readjusted size of US$ 948 million by 2032 with a CAGR of 0.6% during review period.

6-inch / 150 mm semiconductor silicon wafers are semiconductor-grade silicon substrates manufactured from high-purity single-crystal silicon through crystal growth, slicing, edge grinding, lapping, etching, polishing, cleaning, inspection and, where required, epitaxy, annealing, diffusion, SOI bonding or layer-transfer processes. This research focuses on 150 mm silicon wafers used in semiconductor device fabrication, including polished wafers, epitaxial wafers, SOI wafers, float-zone wafers, annealed wafers, diffused wafers, test wafers and monitor wafers. These wafers are mainly used in power discretes, analog ICs, MEMS, sensors, RF devices, optoelectronics and selected mature-node semiconductor manufacturing processes. Although 150 mm wafers are no longer the primary platform for advanced logic and memory production, they remain structurally relevant in specialty semiconductor manufacturing, long-lifecycle device platforms and high-reliability industrial applications.

The 6-inch / 150 mm semiconductor silicon wafer market is a mature but structurally resilient segment of the semiconductor materials industry. Its growth is no longer driven by leading-edge logic or memory capacity expansion, but by specialty devices, long-lifecycle manufacturing platforms and supply-chain security requirements. Compared with 300 mm wafers, 150 mm wafers are less relevant for advanced logic, DRAM and NAND production; however, they remain important in power discretes, analog ICs, MEMS, sensors, RF devices, high-resistivity wafers, SOI platforms and selected specialty processes. The core competitive factors are not rapid scale expansion, but

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process stability, wafer consistency, customer qualification history and long-term supply reliability.

From a supply perspective, the market can be divided into three layers: global wafer groups, specialty wafer suppliers and regional manufacturers. Large silicon wafer groups maintain broad technology portfolios and multi-region manufacturing networks. Specialty suppliers focus on SOI, high-resistivity silicon, float-zone silicon, MEMS/RF substrates and engineered wafers. Chinese suppliers have become increasingly relevant in 6-inch and 8-inch wafer supply, driven by local demand from power devices, mature-node fabs, analog manufacturers and sensor companies. Because many suppliers operate across 150 mm, 200 mm and 300 mm products, a strict distinction must be made between the broad vendor pool and the revenue model for 150 mm wafers.

On the demand side, the long-term base of the market is supported by power devices, industrial electronics, automotive electronics, MEMS, sensors, RF front-end components and mature-node semiconductor production. Some legacy analog and discrete device processes remain economically suitable for 150 mm lines because equipment depreciation is low, process recipes are stable and yield learning is mature. Nevertheless, migration to 200 mm fabs will continue to replace part of the volume demand, particularly in standardized power and analog applications. High-value niches such as SOI, FZ, high-resistivity wafers and thick epitaxial wafers are expected to sustain more resilient pricing and margins.

From a regional competition standpoint, Japan, Taiwan and Europe remain strong in high-consistency wafers, engineered silicon substrates, SOI, FZ and RF/MEMS-related applications. Mainland Chinese suppliers are gaining relevance through local customer proximity, mature-node capacity expansion, power semiconductor localization and 6-inch/8-inch wafer supply chain development. Over the next several years, competition is expected to shift from simple capacity expansion to qualification speed, defect control, epitaxy and SOI capability, batch-to-batch consistency and regional supply assurance.

This report is a detailed and comprehensive analysis for global 6-inch Semiconductor Silicon Wafers market. Both quantitative and qualitative analyses are presented by manufacturers, by region & country, by Product Form 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

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share estimates of some of the selected leaders for the year 2025, are provided.

Key Features:

Global 6-inch Semiconductor Silicon Wafers market size and forecasts, in consumption value ($ Million), sales quantity (K Pcs), and average selling prices (US$/Pc), 2021-2032

Global 6-inch Semiconductor Silicon Wafers market size and forecasts by region and country, in consumption value ($ Million), sales quantity (K Pcs), and average selling prices (US$/Pc), 2021-2032

Global 6-inch Semiconductor Silicon Wafers market size and forecasts, by Product Form and by Application, in consumption value ($ Million), sales quantity (K Pcs), and average selling prices (US$/Pc), 2021-2032

Global 6-inch Semiconductor Silicon Wafers market shares of main players, shipments in revenue ($ Million), sales quantity (K Pcs), and ASP (US$/Pc), 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 6-inch Semiconductor Silicon Wafers

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 6-inch Semiconductor Silicon Wafers 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 Shin-Etsu Chemical, SUMCO, GlobalWafers, Siltronic, Wafer Works Corporation, National Silicon Industry Group (NSIG), Zhonghuan Advanced Semiconductor Materials, Hangzhou Lion Microelectronics, Hangzhou Semiconductor Wafer, GRINM Semiconductor Materials, etc.

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

Market Segmentation

6-inch Semiconductor Silicon Wafers market is split by Product Form and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and forecasts for consumption value by Product Form, and by Application in terms of volume and value. This analysis can help you expand your business by targeting qualified niche markets.

Market segment by Product Form

Polished Wafer

Epitaxial Wafer

Other

Market segment by Crystal Growth Route

CZ Silicon Wafer

FZ Silicon Wafer

MCZ Silicon Wafer

Market segment by Resistivity Class

Low-resistivity/Heavily Doped Wafer

Standard-resistivity Wafer

High-resistivity Wafer

Other

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Market segment by Application

- Power Discrete Devices
- Analog and Mixed-signal Ics
- MEMS and Sensors
- Others

Major players covered

- Shin-Etsu Chemical
- SUMCO
- GlobalWafers
- Siltronic
- Wafer Works Corporation
- National Silicon Industry Group (NSIG)
- Zhonghuan Advanced Semiconductor Materials
- Hangzhou Lion Microelectronics
- Hangzhou Semiconductor Wafer
- GRINM Semiconductor Materials
- Soitec
- Zhejiang MTCN Technology
- Hebei Puxing Electronic Technology

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Nanjing Guosheng Electronics

MCL Electronic Materials

Wafer Works (Shanghai) Corporation

Episil-Precision Inc.

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 6-inch Semiconductor Silicon Wafers product scope, market overview, market estimation caveats and base year.

Chapter 2, to profile the top manufacturers of 6-inch Semiconductor Silicon Wafers, with price, sales quantity, revenue, and global market share of 6-inch Semiconductor Silicon Wafers from 2021 to 2026.

Chapter 3, the 6-inch Semiconductor Silicon Wafers competitive situation, sales quantity, revenue, and global market share of top manufacturers are analyzed emphatically by landscape contrast.

Chapter 4, the 6-inch Semiconductor Silicon Wafers breakdown data are shown at the regional level, to show the sales quantity, consumption value, and growth by regions, from 2021 to 2032.

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Chapter 5 and 6, to segment the sales by Product Form and by Application, with sales market share and growth rate by Product Form, 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 6-inch Semiconductor Silicon Wafers market forecast, by regions, by Product Form, 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 6-inch Semiconductor Silicon Wafers.

Chapter 14 and 15, to describe 6-inch Semiconductor Silicon Wafers sales channel, distributors, customers, research findings and conclusion.

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4 CONSUMPTION ANALYSIS BY REGION

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