

Semiconductor business

The Sansha Electric Manufacturing Group does not develop or manufacture integrated circuit semiconductors such as memory or microcomputers. Instead, it develops power semiconductors. They convert high voltages or currents between direct current and alternating current and control the current and voltage levels. They are used in many different power supplies and have been adopted in different customer production systems and incorporated into a broad range of power supply products, where they play significant roles.

Contribution to net sales

23.0%

Strengths and features

Independently developed power semiconductors with high voltage resistance, high current and low power loss characteristics

In addition to the planar structure, we actively use our original mesa technologies to independently develop and manufacture power semiconductors with high voltage resistance and low power loss.

Packaging technologies for high reliability

Our original chip packaging technologies suited for power semiconductors gain high marks for their long-term reliability in key industrial applications.

Synergy with the power supply business to propose optimal solutions

Using the knowledge we have cultivated in the development and manufacturing of power supplies, we provide the solutions that are best suited to the environment power semiconductors will be used in and their applications.

Products

Modules

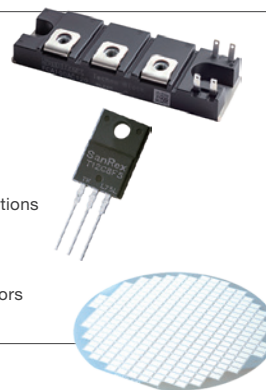
Device packages combining multiple power semiconductors

Discrete semiconductors

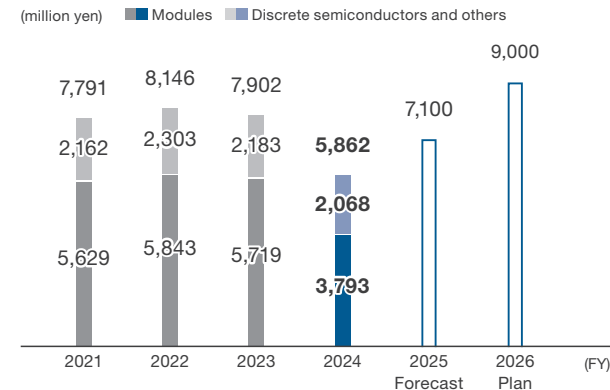
Semiconductor devices with single functions

Chips

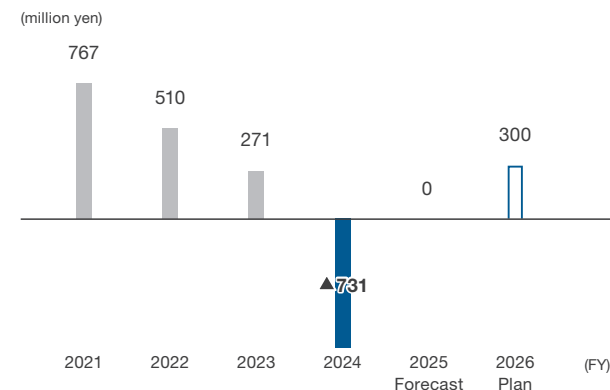
Silicon chips such as diodes and thyristors



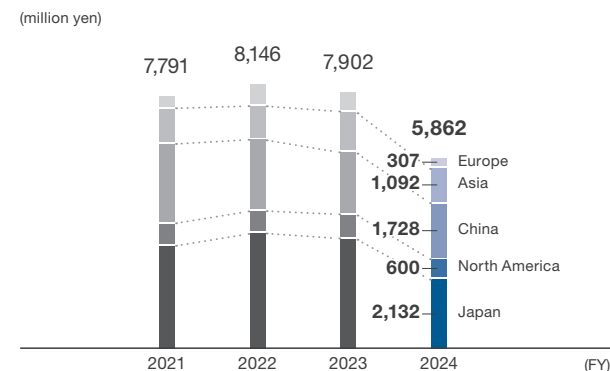
Net sales by product



Segment profit



Net sales by region (by location of sales destination)



Semiconductor business

Growth strategy explained
by the COO of
Semiconductor Business

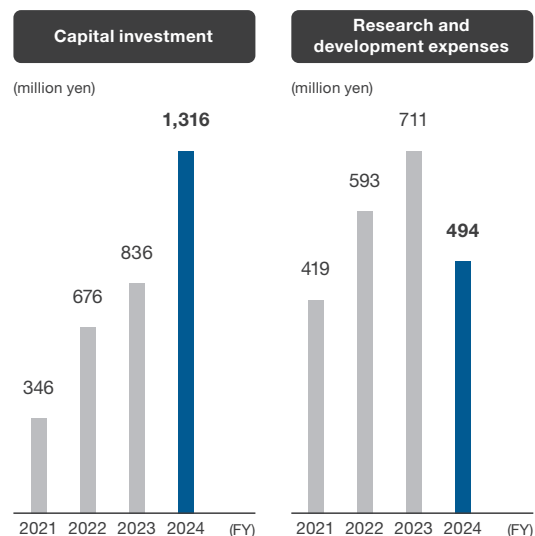
Opening a sustainable future with power semiconductors

Business overview and forecast

In FY2024, the business conditions surrounding the semiconductor business were adverse. Due chiefly to the prolongation of users' inventory adjustments, orders received were low throughout the fiscal year. Demand declined particularly for general-purpose inverters and for power modules mainly for elevators. Sales of power discrete semiconductor products mainly for use in consumer products also decreased.

As a result, net sales decreased 25.8% year on year to 5,862 million yen and segment loss of 731 million yen was posted (whereas a positive segment profit of 271 million yen was recorded for the previous fiscal year).

In the future, while keeping a close eye on recovery of demand in the existing business, we will speed up expansion into the infrastructure sector as a new sector with growth potential for building a stable revenue base.



Pillars of the growth strategy

Priority initiatives

Business expansion

Aim to achieve a 10% SiC product ratio
Expand into the medical equipment, renewable energy and mobility markets

Strengthen operations in the fields of construction and industrial equipment and differentiate products in the manners that are optimal in individual regions

Product development and production innovation

Develop high voltage resistance SiC modules (1700V/300A) and high-speed diodes
Reform the cost structure through automation and standardization

Strengthening of organization and personnel

Introduce a program for training next-generation leaders
Construct a global standard semiconductor business management structure

Changes in market conditions and an opportunity for growth arising from the shift to the next generation of power semiconductors

For many years, Sansha Electric Manufacturing's semiconductor business has been supplying thyristors, diodes and other products to aid the development of domains related to industrial equipment and construction.

In recent years, the business environment has been changing amid the prolongation of customers' inventory adjustments and the reduction of capital investments, as well as intensifying competition in the Chinese market following policy changes.

At the same time, demand for the next generation of power semiconductors, especially silicon carbide (SiC) power semiconductors, has been growing on a worldwide scale due to initiatives to achieve carbon neutrality and progress in energy distribution. This is a major opportunity for us to grow.

Semiconductor strategy based on CF26 and initiatives for sustainable growth

The Group will celebrate the 100th anniversary of its foundation in FY2033. We have a vision of "Global Power Solution Partner" for that year. P14

In the semiconductor business, we will speed up our expansion into growing areas such as mobility, energy and data centers, focusing on the infrastructure market, to diversify risks and to achieve continued growth.

In addition to long-nurtured elemental technologies and manufacturing technologies, we will utilize new materials and advance trend management methods in a bid to further improve competitiveness and quality.

In terms of products, we will develop 1700V/300A high voltage resistance SiC modules, high-speed diodes and other items that attain both high efficiency and size reduction. Regarding production, the re-form of our cost structure using automation and standardization is under way.

As a trusted Japanese power semiconductor manufacturer, we will address social issues and help customers in their creation of value to open the way to a sustainable future.