Electronic Devices

A Look at the Segment

Power semiconductors are the core business of this segment, and we are developing other operations to which semiconductor manufacturing technologies can be applied, such as those related to magnetic disks, photoconductive drums, and solar cells.

A representative example of our power semiconductors would be our IGBTs, for which we hold the leading global share. These devices play an important role in power conversion and contribute to energy savings and efficiency in a wide range of fields including industrial fields relating to inverters, machine tools, and robots; hybrid electric vehicles (HEVs) and other automotive application fields; and wind power, solar power, and other new energy fields.

Furthermore, we are developing next-generation silicon carbide (SiC) power devices in our quest to make our power electronics products smaller and more energy-efficient.

FY2011 Major Initiatives

In the semiconductor business, we developed and subsequently introduced 6th generation "V-Series" IGBTs. With industry-leading levels of loss reduction, these state-of-the-art modules can address the energy-saving needs present in industrial fields and lead to the creation of smaller, more energy-efficient power electronics. Also, we refitted our Yamanashi Factory, which formerly was used for magnetic disk production, to conduct wafer processing for semiconductors. This has enabled us to disperse risks related to earthquakes and electricity shortages.

Business restructuring initiatives progressed in the magnetic disk business as we consolidated development, production, and sales bases in Malaysia, and the business turned a profit on a full-year basis.

FY2012 Policies and Strategies

- Strengthen power semiconductor business
  - Comprehensively reduce costs
  - Expand automotive semiconductor operations
  - Increase overseas production of industrial IGBTs (Shenzhen Factory in China)

In regard to power semiconductors, as energy-saving demand grows around the world, the market for industrial and automotive IGBTs is forecasted to grow by an average of 11% per year for the next three years, and the market for semiconductors for automotive applications will grow by an average of 10% per year over the same period.

In this area, the Company is placing particular emphasis on IGBTs, and is redoubling development ventures to create modules for use in automobiles, such as EVs and HEVs, and in wind and solar power generation systems. These modules will be marketed in Japan, China, and Europe, where we are constantly targeting higher sales. We will also introduce low-capacity IGBTs for consumer products. At the same time, we are bolstering our lineup of high-capacity products and will begin mass production of SiC products.

In July 2012, the Company acquired the Tsugaru Factory of Renesas Northern Japan Semiconductor, Inc., allowing us to further expand our business portfolio by taking over this factory's automotive application product operations. Furthermore, we will commence operation of a back-end process factory in Shenzhen, China, thus enabling us to develop a system for providing products with the specifications of this market's demands, which we believe will lead to the Company achieving higher sales in this country. In addition, we are endeavoring to boost the profitability of this business through comprehensive cost-reduction measures including the expansion of overseas component procurement.

We are working to expand our photoconductive drum business by enhancing our lineup of products for use in color printers and multifunction printers, which are seeing strong growth in demand in emerging nations.

For magnetic disks, we will leverage the integrated development, production, and sales system in Malaysia to expand the business in a manner that focuses on profitability by providing high-quality, low-cost products.

(Billions of yen)

	FY2011	FY2012 Forecast	Change
Net Sales	112.2	127.6	+16.7
(Overseas Sales)	71.7	77.9	+6.2
Operating Income (Loss)	–0.2	4.0	+4.2

Power Semiconductor Market Scale Forecasts