

Customer Satisfaction Through the Pursuit of High Quality

“Quality is our message”

Akira Takai

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Fuji Electric Device Technology Co., Ltd. is organized into separate business units for semiconductor, storage device and photoconductor products. The operation of these business units is supported by high quality products, all of which are quick to incorporate new technology innovations, and are subjected to the business processes of technology development, product development, manufacturing, quality assurance and after-sales service. Fuji Electric Device Technology Co., Ltd. has the following goals,

- The abovementioned business units shall be the world-leading specialized manufacturer in their field
- The business units shall achieve high business performance by providing high-quality products and is promoting its business with the slogan, *“Quality is our message.”*

Based on its core technologies of high-voltage, high precision analog CMOS, and digital control, Fuji Electric is expanding its product lines mainly around power supply ICs, FPD (flat panel display) driver ICs, and the like. The product concept for power supply IC is based on the aims of achieving lower power consumption, higher precision, smaller size and a greater combination of functions. Using its proprietary analog CMOS technology, Fuji Electric is working to develop specific products that will be useful for its customers, in the fields of cellular phone, personal digital assistant (PDA), and digital audio portable devices. With regard to PDP (plasma display panel) driver ICs, C/DMOS technology is being commercialized for medium voltage-low current address ICs and SOI substrates for high voltage-high current scan ICs. The camera market is shifting rapidly from conventional film cameras to digital cameras, and products based on the auto-focus IC, which realizes the advantage of a short shutter release time, are being developed to meet the needs of the digital camera market based.

In the field of discrete power semiconductors, we are focusing on the four markets of industrial, automotive, information, and consumer applications, and are deploying IGBT modules, power MOSFETs and power diode products worldwide. IGBT modules are used in

industrial applications, and we are developing technology and products to meet the needs for energy savings and smaller size of these modules. Achieving a lower on-voltage through utilizing FZ wafers, thin-wafer technology used to realize non-punch-through construction, and fine pattern lithography technology to trench formation, and by developing a field stop construction, we have developed the “U Series” of 5th generation IGBT modules. In the field of power supplies for information and consumer devices, there is demand for lower power consumption during light load and standby operation, smaller size, lighter weight and higher efficiency power supplies and devices.

We are working to propose new circuits and to develop super junction devices in accordance with desired applications. In the automotive field, in addition to supplying products such as high-performance MOSFETs, intelligent power supplies for ignition systems, pressure sensors, and the like that incorporate Fuji Electric’s distinctive technology, we are also working to develop IGBT modules for propulsion.

Magnetic hard disks primarily use a 3.5-inch Al-substrate and have a capacity of 80 Gbytes per platter. The main use of these disks is in PCs and servers. This technology requires nanometer-level processing, however, and uniform control in a highly clean environment is necessary to manufacture low-noise recording media that supports high-speed revolution rates. Recording densities are increasing at an extremely rapid pace; a density of 150 Gbits/in² has been realized at the R&D phase and recording technology will soon transition from longitudinal recording, which is presently the mainstream, to perpendicular recording. Through the use of SiO₂-composite granular technology, Fuji Electric has already reached this level of achievement and is now targeting practical applications. As recording densities increase, the bit unit-price is decreasing, and the application of recording media to game devices, video recorders, car navigation systems and the like is expected to increase suddenly. We are also working to develop small-diameter glass disk media suitable for this market.

In the field of photoconductors, we are developing new products to meet the needs of a diverse market by using high-precision processing technology for the aluminum tube and the like to develop new OPC (organic photoconductor) materials such as an OPC having high-speed response, high durability and gradation suitable for a digital multi-function machine, and positively-charged OPC that produces low levels of ozone and promises to deliver high resolution. In the

field of on-demand printing, which is well suited for the onsite printing of small quantities, we are aware of the popularity of electro-photographic printing and are developing a color printer-use OPC for this application.

Fuji Electric Device Technology Co., Ltd. intends to continue advancing the quality of its business operations by providing new products based on our core technologies in order to raise the level of customer satisfaction even further.





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