Members' Profiles

Seiko Epson Corporation

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of Production Engineering & Development Division
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1. The Challenge of Micromachine Technology

Using some of the most advanced technologies in the world, Seiko Epson provides products and services in the fields of information-related equipment, electronic devices, and precision products that bring us a rich, high quality of life based on harmony with the environment. Major business activities of the corporation involve the development, production, sales, and service of information-related equipment, including computers and peripherals (printers, scanners, etc.) and imaging equipment (LCD projectors, etc.); electronic devices including semiconductor devices, displays, and quartz devices; precision products including watches, corrective lens, and factory automation equipment; and other products.

We have developed our own micromachine technologies to produce devices that we have incorporated in various products. One of our foremost products is an inkjet print head employed in inkjet printers.

2. Development of Micromachine Technology

Here, I will introduce some representative products and R&D activities we have performed on related technologies to date.

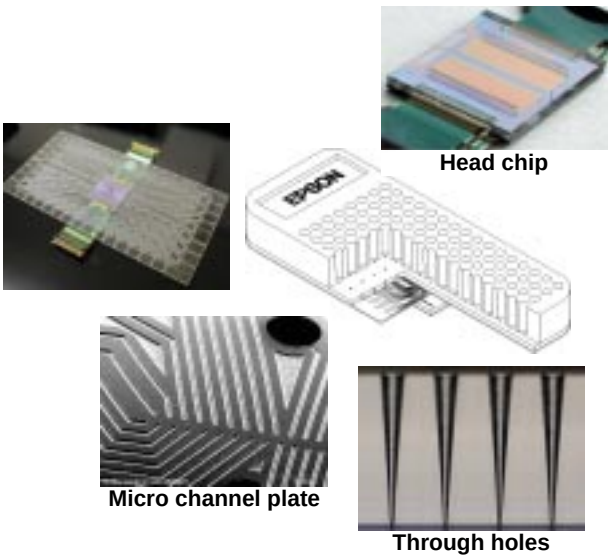

Fig. 1 Overall view and enlarged photos of a head chip for biotechnology applications

(1) Inkjet print head

Printers in our Colorio series are equipped with inkjet heads having micromachined ink channels. We have also applied our own micromachine technologies to developing biotechnology applications for assisting medical diagnoses (**Fig. 1**).

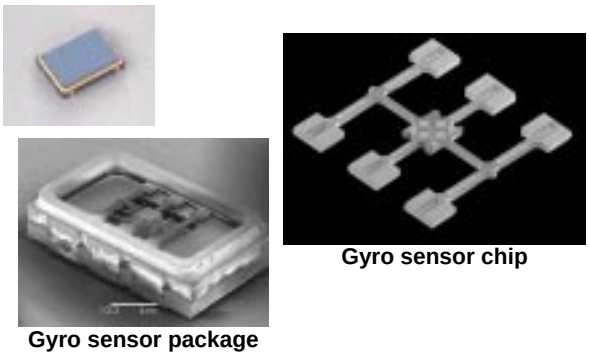

Fig. 2 Overall view and enlarged photos of a gyro sensor

(2) Electronic devices

We have incorporated micromachine technology in electronic devices and have succeeded in producing high-sensitivity micro-crystal resonators and ultra-miniature vibration gyro sensors (see **Fig. 2**). We are also conducting R&D on potential value-added products incorporating optical elements or integrated circuits and micromachined devices on a single chip.

3. Future Challenges

We are working to evolve our original ultrafine machining technology from micro- to nanotechnology in order to create innovative devices. We hope to maintain our base of satisfied customers by continuing to provide advanced products and services that are in harmony with the environment.

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