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1988

32-bit CISC microprocessors based on the TRON specifications (Hitachi, Fujitsu, Mitsubishi Electric, etc.)

~ Integrated Circuit ~

TRON (The Real-Time Operation systems Nucleus) Project which was proposed in 1984 started with participation of semiconductor companies and microcomputer industry companies and with the cooperation of universities.

The TRON Project aimed to develop a new computer architecture to facilitate cooperative operations between computerized devices foreseeing the era of "computer anywhere" where computers spread to society widely and used in daily life. As the major subprojects in the Project, the development of ITRON for embedded control OS, BTRON for business use OS, CTRON for communication equipment OS, and TRON CHIP of 32-bit microprocessor were carried out. Also, in the project, the basic principle was an open architecture that made the development results public.

The specification of TRON CHIP was based on a CISC (Complex Instruction Set Computer) type microprocessor architecture which featured the characteristics such as instruction orthogonality and extensibility to 64 bits. Microprocessor products (Gmicro series) conforming to this specification were developed by Hitachi in 1988 and followed by Fujitsu and Mitsubishi.etc. However, TRON CHIP (Gmicro) developed by each company had not prevailed in the market. The rapidly evolving RISC (Reduced Instruction Set Computer) type microprocessor technology became the mainstream of subsequent microprocessor technology due to the improved compiler performance and so on. Many overseas and domestic companies decided to focus on RISC type microprocessor development. Although TRON CHIP did not prevail in the market, domestic semiconductor companies could establish their microprocessor-related technology base through this TRON CHIP development project, and it contributed to their subsequent microprocessor business.
Meanwhile, ITRON, a real-time OS for embedded control which was developed as part of the TRON project, was subsequently adopted widely in many products such as automobile control and mobile devices. T-ENGINE equipped with this ITRON OS is now widely used as a platform for microcontroller-based equipment.

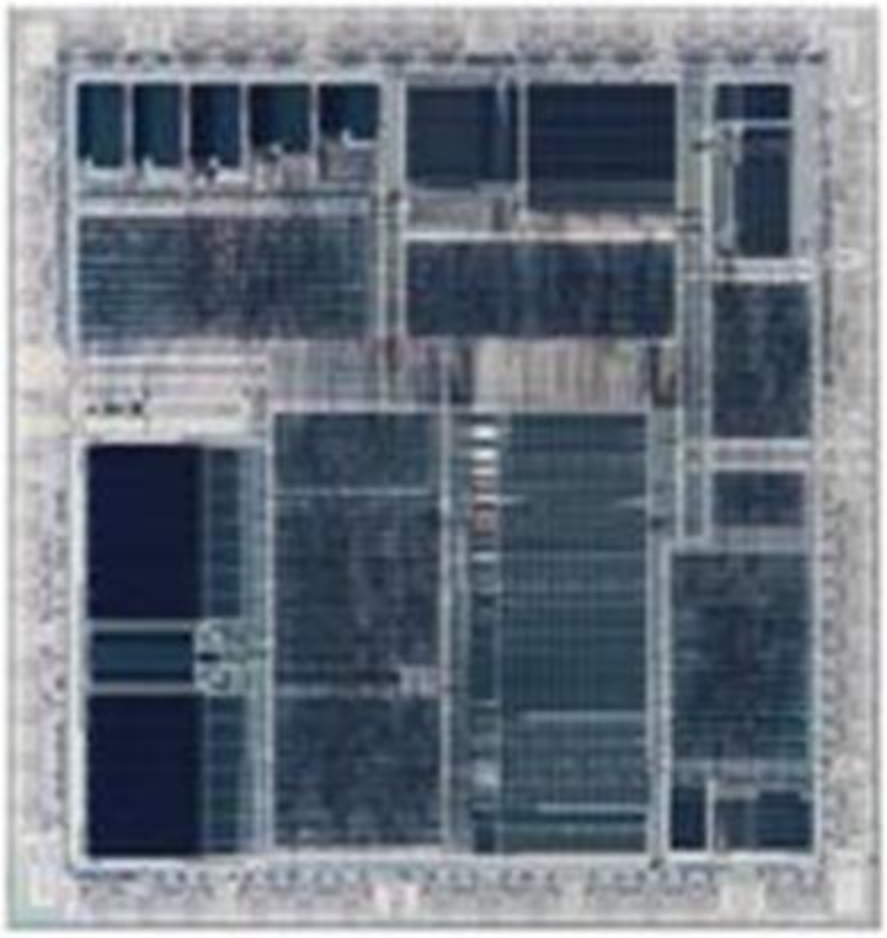

Figure: Die photo of TRON CHIP(Gmicro200)

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