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### **Practical Implementation of Integrated Circuit Technology (Processor, DRAM)**

Integrated circuit technology significantly contributed to the development of today's computer systems. In particular, the contribution of processors and memories, which have been dramatically advanced, has been remarkable. Contributions to high-integration Mbit DRAM in addition to high-performance VLSI processor have also been remarkable. In addition, these technologies have evolved into consumer devices, leading to high-performance microprocessors for digital consumer devices, as well as dynamically reconfigurable processors that can be changed to optimal configurations in real time according to the application.

DRAM: Dynamic Random Access Memory

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### **Research and Development of Digital CMOS**

For current digital LSI, CMOS, which has excellent high-integration and low-power properties, became mainstream. Making the most of these advantages, efforts to pursue high speed, e.g., BiCMOS technology—a combination of bipolar and MOS element, SIMOX—SOL technology, oxidized film embedded silicon substrate, fin type MOSFET, technology to integrate high-speed input-output on CMOS circuits—came on stage and developed into high-speed devices. In addition, digital CMOS made further developments thanks to production process/device support technology and CMOS LSI low power circuit technology also made effective use of CMOS' edge, and eventually led to a wider field of application.