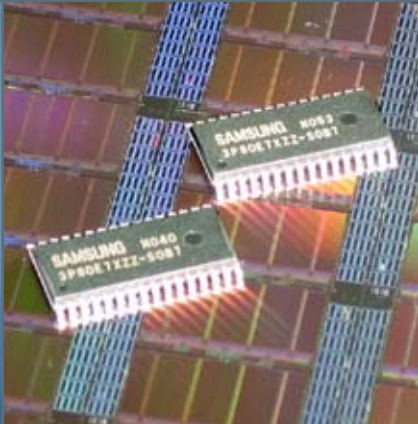




ASIC Solutions

Advanced technologies and a full range of services to optimize your products





Part of Your Design Team



Samsung delivers a total solution including 90nm design expertise, an unequalled IP portfolio, high-volume silicon manufacturing, and advanced packaging and testing capabilities. The result is a shortened design cycle, lower risk and first-time silicon success for most products.

Samsung's ASIC Solution at a Glance

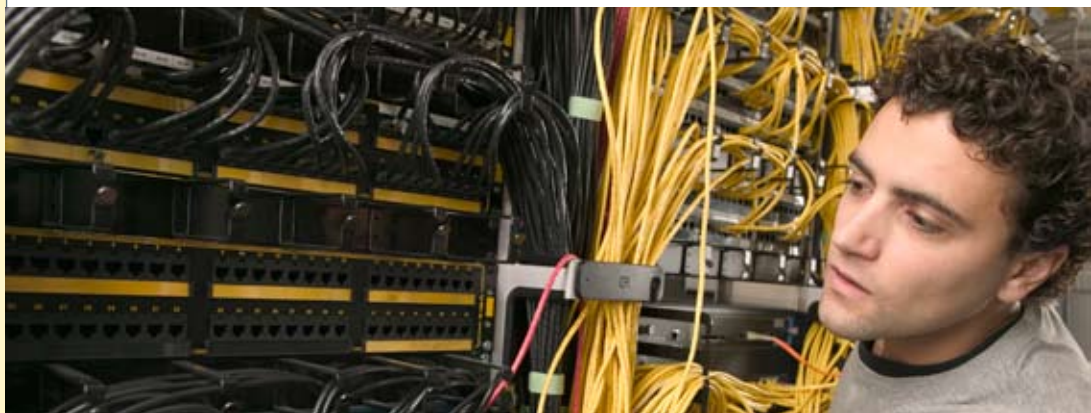
- Advanced process technologies including 90nm and complete design services
- Leader in mixed-signal designs, with silicon-proven IP
- Broad expertise to enable product differentiation:
 - SoC
 - Embedded DRAM & flash
 - SerDes
 - ARM processors
- Support of key applications such as:
 - Mobile devices
 - Storage
 - Printers
- Advanced packaging and testing services featuring:
 - System-in-Package (SiP)
 - Fine-pitch BGA
- Regional design centers help speed development

As the world's second-largest semiconductor supplier, we continually advance our product line, giving you access to sophisticated technologies that enrich and differentiate your ASIC designs. For example, we offer the industry's broadest line of ARM® cores and prime cell solutions.

ASIC System-on-Chip (SoC) Solutions

Our ASIC solutions are enhanced by our high system-level knowledge and experience in deep sub-micron design methodologies. For example, through our unique embedded memory processes, you can incorporate custom-sized DRAM or flash memory blocks into your SoC design. With the market moving to SoC technology, working with Samsung enables you to simplify and speed the creation of leading-edge products.

With our standard cell libraries optimized for high-performance and low-power applications, advanced IP and proven design process for highly integrated ASICs, we take the risk out of getting your products to market.





What Samsung Offers

Rich IP Portfolio of Standard Cell and Embedded Memory Libraries

We offer the broadest selection of ARM cores, along with embedded DRAM and flash and a wide range of advanced mixed-signal and analog solutions. We also provide silicon-proven SerDes core for high-speed storage applications.

Advanced Fabs

When it comes to investing in the most advanced production facilities, Samsung is at the forefront of the industry. Completely owned by Samsung, these fabs have the flexibility and back-end capacity to accommodate the production of your ASIC solutions.

Regional Design Centers

Our ASIC Design Centers are focused on delivering superior services. They are staffed by highly skilled ASIC engineers who understand a wide array of third-party design tools and will help you with your complex implementations. Our regional centers offer complete support of deep sub-micron design methodologies, architectural analysis, cost analysis and evaluation of system-level trade offs.

Leading Process Technology

Utilizing our years of success as a top semiconductor supplier, we have developed the process expertise for high-volume manufacturing while also using this knowledge to increase the capabilities of your ASIC designs. For example, we offer today's most advanced embedded DRAM and flash processes that allow ASIC designers to incorporate custom-sized memory blocks into their SoC implementations.

Packaging & Testing Services

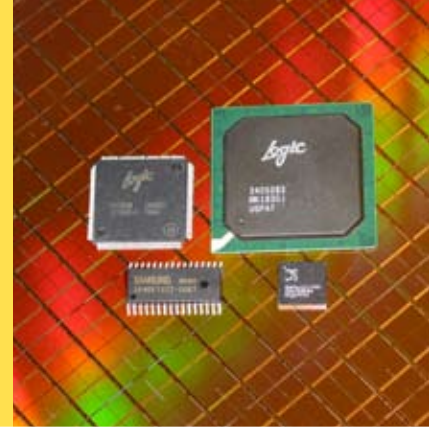
We offer a full selection of packaging options that accommodate high-level integration and multiple form factors. We are one of the pioneers in System-in-Package (SiP) technology for mobile applications. Also available are increasingly popular packaging options like fine-pitch BGA and Flip Chip. In addition, we provide complete testing services in our own factories.

Samsung takes the risk out of getting your products to market





Samsung enables you to simplify and speed the creation of leading-edge products.



ADVANCED PROCESS TECHNOLOGIES

- 90nm
- 130nm

CPU CORES

- ARM7TDMI
- ARM9TDMI, ARM920T, ARM940T, ARM946E, ARM926EJ, ARM966E, ARM968E
- ARM1020E, ARM1026EJ
- ARM1136JF
- ETM7, ETM9, ETM10, ETM11
- 80C51, 80C52

DSP CORES

- TeakLite
- Teak
- Oak

PERIPHERAL CORES

- 10/100 MAC Ethernet Controllers
- USB 1.1, USB 2.0, USB OTG
- IEEE 1394 Link Controllers
- PCI Controllers
- IrDA
- UART
- Synchronous Serial I/F
- Real-Time Clocks
- Keyboard/Mouse I/F
- General-Purpose I/F
- Smart Card/SIM I/F
- Multimedia Card I/F
- Asynchronous Static Memory Controllers (SRAM, Flash, ROM)
- Universal Memory Controllers (SDRAM, Synch Flash, SRAM)

- DMA Controllers
- LCD Controllers
- Watch-Dog Timers
- Programmable Interrupt Controllers

INTERFACE CORES

- IEEE 1394a PHY
- USB 1.1 PHY, USB 2.0 PHY, USB OTG PHY
- 10/100 Ethernet PHY
- PCI, PCI-X, PCI Express
- LVDS
- PECL
- SSTL2, SSTL3
- GTLP
- UDMA-66, UDMA-133

MIXED-SIGNAL CORES

- ADC: 6 to 14 bits, 450MHz
- DAC: 8 to 16 bits, 300MHz
- PLL: Up to 1GHz, Frequency Synthesizer, De-Skew, Pixel Clock, Dithered, Clock Recovery
- CODEC: 16-bit Audio, 14-bit Voice
- AFE

SPECIALTY MEMORIES

- Embedded DRAM
- Embedded Flash
- FIFO
- SerDes
 - 2G/4G/8G Fiber Channel
 - 1.5G SATA
 - 3G SAS



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