

SAMSUNG
SEMICONDUCTOR
2008

FAR BEYOND THE CONVENTIONAL



WWW.SAMSUNGSEMI.COM

SAN #24 NONGSEO-DONG, GIHEUNG-GU, YONGIN-CITY, GYEONGGI-DO, KOREA

MOVING BEYOND

Samsung Electronics' Semiconductor Business has shown rapid growth over the past years. Through non-stop advancements that continually push performance to new heights, Samsung has attained an unrivalled technological leadership position within the semiconductor industry.

At Samsung, we didn't reach this position by being satisfied with past achievements, or by idly waiting for the market to tell us which technologies to roll out.

Instead, we achieved our success in the most determined way possible—by constantly striving for more. Through bolder designs. Higher performance ratings. Smarter interfaces. And more innovative pathways to convergence.

We've continually improved our designs by listening closely to our customers, and by pushing the envelope of the possible with a stamp of the extraordinary. In short, by "moving beyond" merely good design into the realm of undisputed excellence. "Moving beyond" physical limitations of size, capacity, and speed. And "moving beyond" into a true convergence of digital products and functionalities.

Our commitment to "moving beyond" is backed by the industry's most aggressive research and development (R&D) efforts. And it's strengthened by a corporate culture that supports creativity and rewards breakthrough thinking. Ours is an environment where high standards are continually set and constantly challenged.

Only by moving beyond the conventional can we achieve our ultimate objective: to accelerate the semiconductor industry into an overdrive of technological achievement that makes the lives of our customers and their customers more enjoyable.

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The global semiconductor industry, in a massive refocusing on mobile and other consumer electronics(CE) devices after years of PC dependency, is at a major crossroads in innovation.

In the midst of this remarkable transformation, Samsung Electronics' Semiconductor Business stands at the forefront of progress, through aggressive R&D and generous Capex expenditures.

At Samsung, our technological achievements spring from a sense of urgency and an unquenchable desire to lead the industry with breakthrough innovation. These driving forces will only intensify in generations to come.

We value employees who constantly strive to master the "new" and the "different." Our people share a spirit of creative challenge that sets the parameters for the technologies we introduce and the devices we produce.

Our long history of marketing the most advanced technologies is the essential first step in the creation of a growing array of electronics that are transforming the way we live and work.



Chang-Gyu Hwang

PRESIDENT, Chang-Gyu Hwang, Ph.D.



AT THE CENTER OF EVOLUTIONARY CHANGE

Look at virtually any state-of-the-art cell phone, PDA, camera, or other feature-rich CE device. You'll notice a sleek, eye-catching design. Convenient controls. And a multitude of digital functionality.

Unfortunately, the average person has no idea just how much highly-sophisticated semiconductor technology lies underneath the product casing. Yet the small size and incredible capabilities of these "hidden" electronics are actually what enable today's products to be faster, slimmer, lighter, and more durable than ever. Through semiconductor technology, we've improved the functionality and revolutionized the design of all types of devices—and we'll continue to do the same in the future.

SOME PREPARE FOR THE FUTURE WE OPEN DOORS TO IT

In recent years, the semiconductor industry has witnessed the meteoric rise of two technologies offering unlimited potential for quantum advancements in innovation: biotechnology and nanotechnology. At the same time, the industry has seen a massive expansion of the mobile CE industry to a volume exceeding 2 billion units annually—easily dwarfing the 200 million annual unit volume for PCs.

However, these technologies and markets are about to be completely eclipsed by a stunning paradigm shift: the rise of fusion technology.

Simply put, fusion technology (a term that signifies the organic convergence of information technology, biotechnology, and nanotechnology) promises to be the largest industry development ever. It's projected to create an overall demand to match the 6.5-billion world population, with multiple applications affecting hundreds of million of users.

Fusion technology is driven by ultra-small, multi-feature semiconductors. Memory, logic, and software will be integrated into a single chip through a 3D silicon-based process technology that involves components a mere 20 times the size of an atom. These high-density fusion semiconductors, on a terabit scale, will become a reality by 2010, and even higher-density peta semiconductors will follow.

In leaping beyond conventional thinking, we've been at the forefront of the development of fusion technology from the beginning. We introduced the first fusion semiconductor, the OneNAND™ in 2002, followed by OneDRAM™ in 2006 and the Flex OneNAND in 2007.

We plan to invest even more heavily in R&D to overcome the limitations of nano production processes in creating smaller, higher-performance fusion semiconductors.

Our approach to advancing technology is to literally create the products that actually open up promising new markets—thus opening the doors to a more enriching future.



NEXT GENERATION MEMORY

MEMORY//

BUILDING ON A PHENOMENAL CATALYST

Our Memory business has been the world's top supplier of advanced memory solutions for well over a decade. We continue to lead the industry in producing specialized, high-performance memory products, as well as in total memory output. We hold top global market share for:

- Total memory production since 1993
- DRAM chips since 1992
- NAND flash memory since 2002
- Total flash memory chips since 2003

Our revolutionary memory products have been developed for next-generation communications, consumer, and computing platforms. We offer an extremely wide range of technologies to suit virtually any application or requirement: from low-power memory for cell phones to high-bandwidth memory for graphic boards and servers.

We have a proven track record of understanding market trends and creating the products to meet them. For example, several years ago, we introduced a memory growth model that forecasted a major revolution in flash memory. This led to a paradigm shift in CE design. We helped CE OEMs fulfill the needs of the mobile generation with more sophisticated, flash-driven MP3 players, cell phones, gaming products, and other digital devices that are both convenient to use and pleasing to the eye.

We're continually developing new memory products, and are on the forefront of introducing the latest MCP and fusion solutions. By constantly moving beyond the limits of technology, we further excite the marketplace—and enhance our market leadership.

SYSTEM LSI//

GROWING RAPIDLY BY DESIGN

Our System LSI (logic) semiconductor solutions encompass display driver ICs, processors, sensor technology, smart card ICs, and SoC technology. These solutions are enabling the next generation of digital home and mobile products: from hi-def TVs to smart phones and handheld PDAs.

This business division leverages many years of chip design experience, unrivaled system expertise, and long-established logic manufacturing processes. It's rapidly expanding around five strategic product lines: Display Driver ICs, CMOS Image Sensors, Mobile Application Processors, Smart Card ICs, and MP3 SoCs.

To develop the new generation of System LSI products, we've forged a partnership for nano-scale logic technology with IBM, Chartered Semiconductor Manufacturing, Infineon, and Freescale. Our collective advances in process technology are being systematically funneled into our foundry and ASIC manufacturing businesses.

Our "Common Platform" approach to technology development, bold investments, and cutting-edge manufacturing processes have enabled System LSI to become a highly-respected force in the marketplace.



NANO-SCALE LOGIC TECHNOLOGY



TOTAL SOLUTION PROVIDER

STORAGE//

MORE CAPACITY FOR DEMANDING MARKETS

Our Storage business division offers a broad line of disk storage products, which are found inside PCs, as well as inside a fast-growing assortment of CE products. These include handheld devices, where high-density storage is critical for supporting converging applications. Our HDD solutions include 2.5" and 3.5" hard disk drives for desktop and notebook PCs and 1.8" HDD for mobile applications.

The Samsung hybrid hard disk (HHD) highlights another aspect of our technological prowess: leveraging the work of several divisions to market highly-advanced, one-stop solutions. OneNAND fusion memory from our flash memory group and a SoC controller from System LSI have been designed onto a Samsung hard disk. The result? A truly high-efficiency, value-priced disk storage solution for Windows® Vista systems.

Drawing on our extensive R&D commitment and our tremendous manufacturing expertise, we've developed some of the most advanced storage technologies, while lowering system costs across an extensive product line. And we'll redouble our efforts to be the best total solution provider for all storage requirements.

MOBILE

A. 8.4-MEGAPIXEL CMOS IMAGE SENSOR

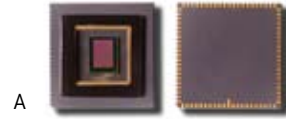
- INDUSTRY-LEADING CMOS-BASED IMAGE SENSOR TECHNOLOGY.
- 1/2.5-INCH LENS APERTURE, 1.7 μ m BY 1.7 μ m PIXEL.

B. 533MHZ APPLICATION PROCESSOR

- 533MHZ APPLICATION PROCESSOR BASED ON ARM1176 CORE.
- DUAL MEMORY PORTS, 64-BIT BUS, AND VIDEO ACCELERATORS PROVIDE ADVANCED PERFORMANCE FOR MULTIFUNCTION OPERATIONS IN SMART PHONES, PNDs, AND PMPS.

C. 1GB S-SIM CARD IC

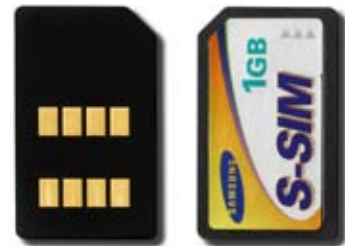
- SAMSUNG'S PROPRIETARY SECURITY FEATURES SMART CARD, S-SIM COMBINED WITH LARGE-DENSITY NAND FLASH MEMORY.
- INITIATES THE APPLICATION OF GIGABYTE DENSITY SIM CARDS.



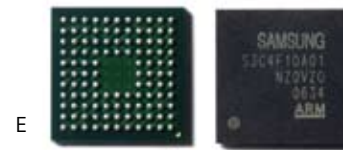
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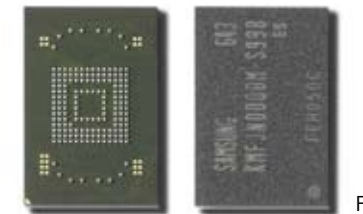
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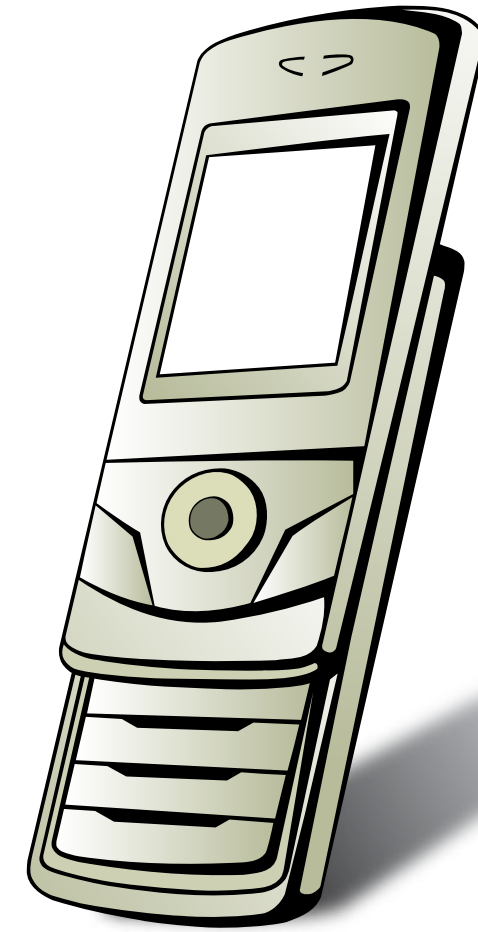
C



E



F



D. INTELLIGENT MOBILE DISPLAY DRIVER IC

- DETERMINES IMAGE OUTPUT BASED ON THE MEASURED BRIGHTNESS.
- SAVES OVER 30% IN POWER CONSUMPTION WHEN USED IN AN INDOOR ENVIRONMENT.

E. MOBILE TV CHANNEL DECODER

- MULTI-STANDARD CHANNEL DECODER COMPLIANT WITH DVB-H/T, T-DMB, DAB-IP, AND ISDB-T 1 SEGMENT STANDARDS.
- HIGH SIGNAL RECEPTION RATE RESULTS IN A SMOOTH MOBILE TV EXPERIENCE, EVEN ON HIGH-SPEED TRAINS.

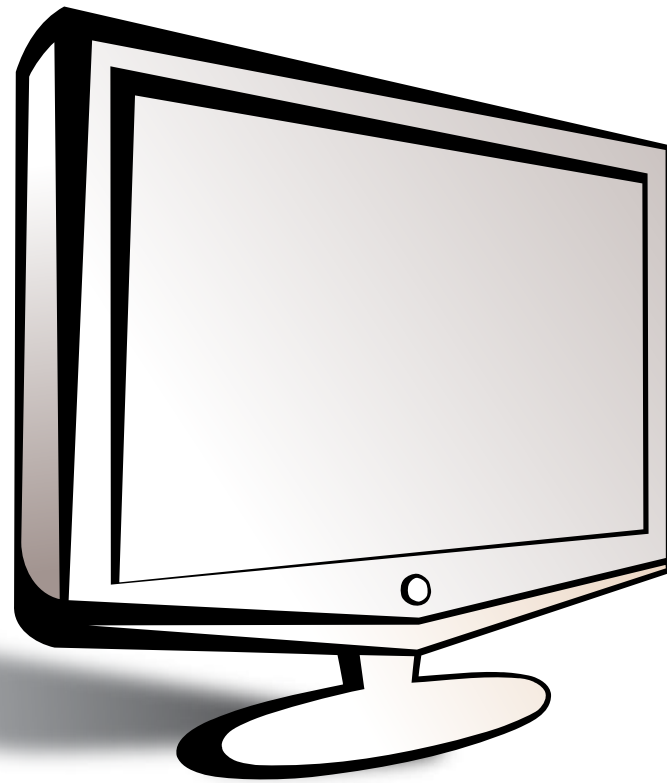
F. 8GB moviNAND™

- HIGH-DENSITY EMBEDDED NAND FLASH SOLUTION FOR MOBILE HANDSETS.
- COMBINATION OF NAND FLASH AND HIGH SPEED MMC INTERFACE.



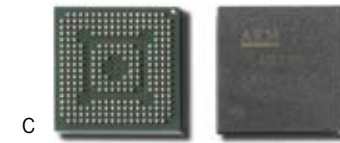
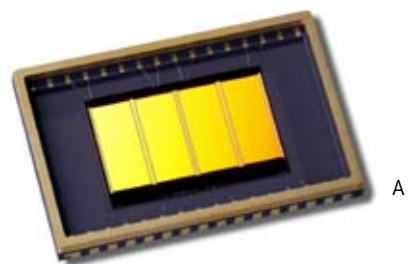
D

CONSUMER ELECTRONICS



A. 30nm 64Gb NAND FLASH
 . SAMSUNG'S SELF-ALIGNED DOUBLE PATTERNING TECHNOLOGY (SaDPT) AND CHARGE TRAP FLASH (CTF)-BASED NAND FLASH TECHNOLOGY ARE ADOPTED TO PROVIDE SUB-30nm SCALABILITY.
 . 30nm 64Gb NAND MARKS EIGHTH GENERATION OF THE NEW MEMORY GROWTH MODEL.

B. 6.0Gbps GDDR5
 . THE HIGH SPEED 6.0Gbps DATA TRANSFER RATE ENABLES HIGH-QUALITY IMAGES AND FAST ANIMATION IN PCS, WORKSTATIONS, AND GAME CONSOLES.



C. MP3 DECODER SIP SOLUTION
 . HIGH-PERFORMANCE, LOW-POWER SYSTEM-IN-PACKAGE SOLUTION FOR MP3 PLAYERS.
 . DUAL CORE ARCHITECTURE BASED ON ARM9 CORE AND SAMSUNG'S CALMRISC.

D. 533MHZ APPLICATION PROCESSOR
 . 533MHZ APPLICATION PROCESSOR BASED ON ARM1176 CORE.
 . DUAL MEMORY PORTS, 64-BIT BUS, AND VIDEO ACCELERATORS PROVIDE ADVANCED PERFORMANCE FOR MULTIFUNCTION OPERATIONS IN SMART PHONES, PNDs, AND PMPs.



E. SPINPOINT M2 160GB 1.8" HDD
 . TWO 80GB PER PLATTER 1.8" HARD DISK
 . ADVANCED PERPENDICULAR MAGNETIC RECORDING INCORPORATED TO ACHIEVE THE HIGH DENSITY.
 . FOR HIGH DENSITY STORAGE IN MOBILE APPLICATIONS SUCH AS PDAS, MP3PS, AND CAMCORDERS.

F. SPINPOINT A1 1.3" HDD
 . COMPACTFLASH CARD-SIZED HARD DISK DRIVE.
 . AVAILABLE IN 30GB AND 40GB DENSITIES.
 . SUPPORTS PATA/CEATA/USB INTERFACE OPTIONS.



ELECTRONIC DATA PROCESSING

A. 50nm 1Gb DDR2 SDRAM

- . WORLD'S FIRST 50nm CLASS DRAM
- . TECHNOLOGY INNOVATIONS INTRODUCE NANO-SCALE MIGRATION.
- 3-DIMENSION TRANSISTOR ACHIEVED BY INCORPORATING SELECTIVE EPITAXIAL GROWTH TRANSISTOR (SEG TR) AND RECESS CHANNEL ARRAY TRANSISTOR (RCAT) FOR HIGHER SCALABILITY.
- MULTI-LAYERED DIELECTRIC LAYER.

B. 8GB RDIMM

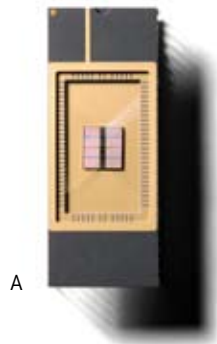
- . HIGHEST DENSITY DRAM MODULE IN COMPLIANCE WITH JEDEC STANDARD MODULE HEIGHT (COMPOSED OF 72 1Gb DDR CHIPS).
- . QUAD-STACK OF 1Gb DDR DRAMS (FBGA).

C. 128GB SSD

- . 128GB MLC NAND-BASED SATA II SOLID STATE DRIVE (SSD).
- . SAMSUNG'S OPTIMIZED CONTROLLER TECHNOLOGY AND HIGHLY-EFFICIENT FLASH-MANAGEMENT FIRMWARE TECHNOLOGY ADOPTED TO PROVIDE 70MB/s DATA WRITE SPEED AND 100MB/s DATA READ SPEED.

D. HYBRID HDD CONTROLLER

- . HIGH-PERFORMANCE SOC SOLUTION FOR HYBRID HARD DISK.
- . MAXIMIZES THE "DISK SPINDLE DOWN" MODE AND REDUCES POWER CONSUMPTION LEVELS UP TO 80% AGAINST CONVENTIONAL HDDS.



A



C



B



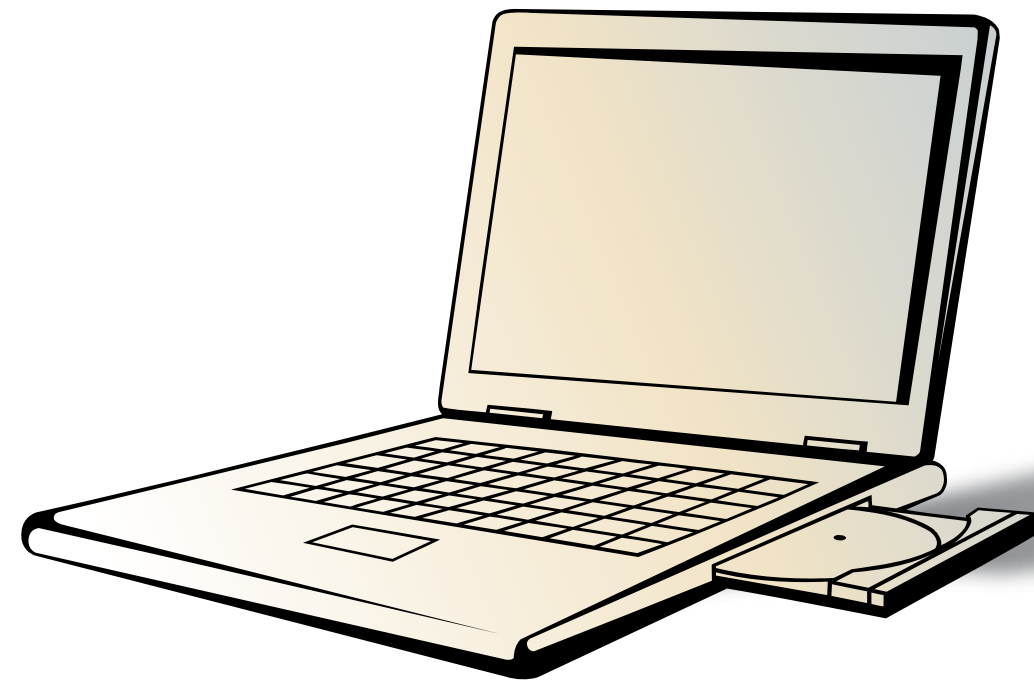
D



E



F



E. 1026 CHANNEL DISPLAY DRIVER IC

- . MULTI-CHANNEL DISPLAY DRIVER IC ENHANCE EFFICIENCIES FOR HIGH-RESOLUTION LCD PANELS.
- . 1026 CHANNEL DDI REDUCES NUMBER OF ICs PER PANEL BY 60%.

F. SPINPOINT F1 RAID CLASS 3.5" HDD

- . THREE-PLATTER 1TB HARD DRIVE RUNNING AT 7200RPM.
- . A DENSE 334GB PER PLATTER PROVIDES 1TB CAPACITY.
- . DESIGNED FOR ENTERPRISE STORAGE AND SURVEILLANCE APPLICATIONS.

G. SPINPOINT M6 500GB 2.5" HDD

- . HIGH-DENSITY 500GB 2.5" HARD DRIVE.
- . 3-PLATTER STRUCTURE FITS IN CONVENTIONAL 2.5" FRAME MEASURING 9.5mm.
- . FEATURES 166GB PER PLATTER, 5400RPM SPINDLE SPEED, AND 3.0Gbps SATA INTERFACE.



G

BEYOND CONVENTION

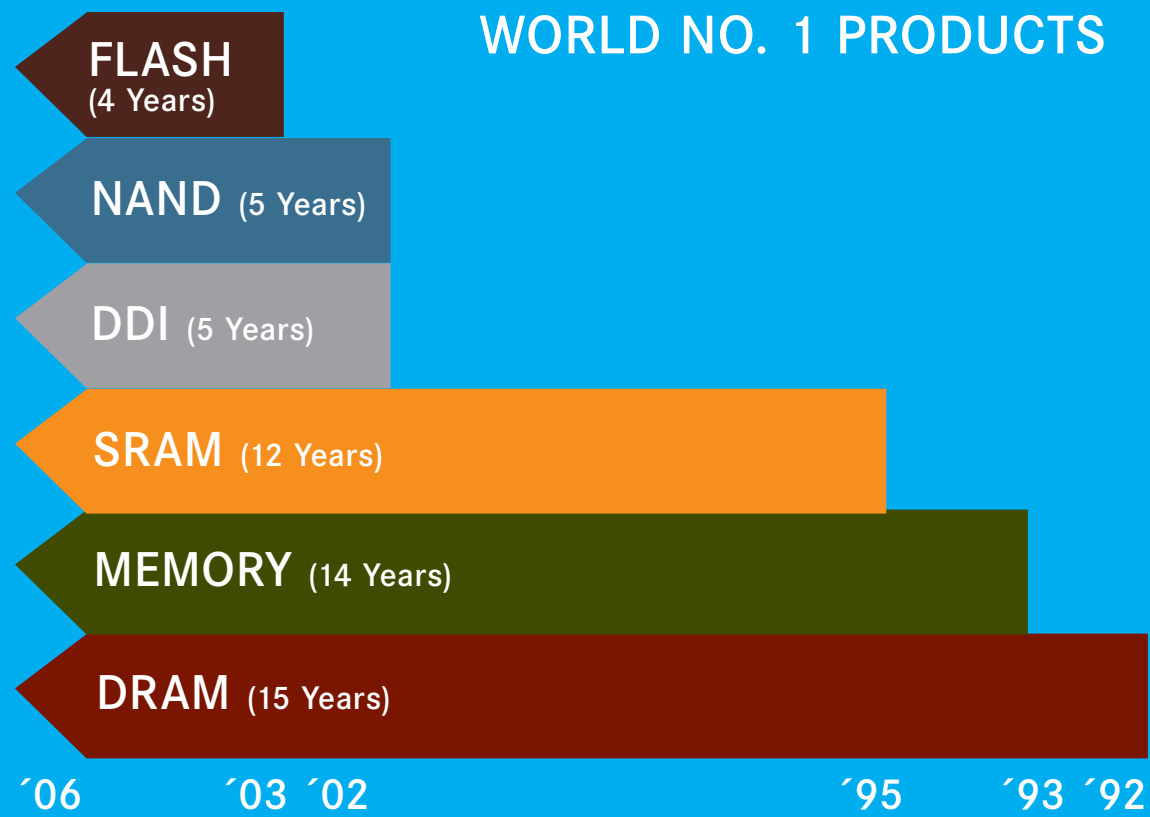
Established business practices emphasize short-term gains and a devoted reverence to the bottom line. We've pushed beyond conventional business, bypassing the limits of economic theory by boldly investing in R&D. Moreover, we've sped up deployment of eco-friendly "green" products. As a result of this determined, long-term strategic vision, we've achieved phenomenal results over the past 14 years, despite a highly-volatile marketplace.

PERFORMANCE//

MARKET-SHARE AND RANKING

2007

Sales revenue : 18.22 Trillion Korean Won
 Operating profits : 2.21 Trillion Korean Won



HISTORY//

AN IMPROBABLE PAST SIGNALS
 AN INCREDIBLE FUTURE

For the past three decades, we've been turning the impossible into the possible, coming from nowhere to becoming the world's leading supplier of high-quality semiconductor products.

As we focus our efforts on leading the semiconductor industry as a total solution provider for the digital age, we'll be writing new chapters in its history for decades to come.

- 1974 Wafer fabrication begins
- 1983 64K DRAM developed
- 1992 Ranked #1 DRAM supplier
- 1993 Ranked #1 memory supplier
- 1994 World's first 256M DRAM developed
- 1996 World's first 1G DRAM developed
- 1998 US fabrication site (Samsung Austin Semiconductor) established
- 2001 300mm wafer fabrication initiated
4G DRAM process technology developed
- 2002 Ranked #2 Semiconductor supplier
Ranked #1 Display Driver IC supplier
- 2003 Ranked#1 Flash memory supplier
- 2004 World's first 667MHz Mobile CPU/ 2M-pixel CIS/
8G NAND Flash/ and 80nm DDR2 developed;
2.5" HDD launched
- 2005 World-first 70 nm 4G NAND Flash mass produced
World-first DDR3 DRAM/ 50nm 16G NAND Flash/
and 3-disk 400GB HDD developed
- 2006 World-first 40nm 4G NAND Flash/ 50nm 1G DDR2/
and Fusion memory, 512M OneDRAM, developed;
1.8" HDD launched
- 2007 50nm 16G NAND Flash/ SATA II 64GB SSD mass produced
World-first 30nm 64G NAND/ Flex OneNAND/ AP+ OneDRAM SoC developed
3-disk 3.5" 1TB HDD launched
Mass production at SESS Line4 and SAS Fab2 initiated

R&D//

A COMMITMENT TO SETTING INDUSTRY-LEADING STANDARDS

The semiconductor industry is fiercely competitive. Companies rise out of nowhere, seemingly overnight, and descend into oblivion just as fast. In this ever-changing environment, the only way to thrive is to continually develop the most advanced technology.

To stay competitive, we've focused our R&D on developing the most advanced 3G technology. As proof of this commitment, we've allocated more than 10% of our total revenue to research and development.

Samsung Semiconductor alone employs more than 3,000 researchers, representing about 30% of all researchers at Samsung Electronics. And our research facilities extend around the world: from Korea to the U.S., India, China, and Israel.

We'll continue to lead the way in R&D advances, by leveraging our proprietary expertise with leading-edge technology. And we'll strengthen our position by working even harder to set the standards that lead the industry.



BREAKTHROUGH 3D TECHNOLOGIES

THE ENVIRONMENT//

AWARD-WINNING EFFORTS TO REDUCE GLOBAL WARMING

We've made a company-wide commitment to develop environmentally-friendly semiconductor processes that reduce greenhouse gases and other pollutants. These efforts have earned us international acclaim.

On December 4th, 2006, our President, Chang-Gyu Hwang, received the Akira Inoue Award. It's given to those individuals who make significant environmental, health, and safety contributions to the semiconductor industry. Under Dr. Hwang's leadership, our manufacturing facilities have:

- Eliminated 210,000 tons of direct CO2 emissions since 2001
- Made significant progress toward a goal of reducing greenhouse gas emissions by 10% by 2010
- Reduced emissions of greenhouse gas PFCs by 57% per wafer since 1997
- Introduced environmentally-friendly products that conserve resources without incorporating hazardous substances

Our "green" management not only exceeds domestic standards, but also world standards. Through dedicated facilities such as our water research center, we're searching for cleaner, more efficient ways to utilize water in clean rooms during manufacturing.

This commitment to the earth extends beyond our company. Through our "Eco-Partner" system, we actively select environmentally-friendly partners, and ensure that every material, part, and component we purchase meets the highest standards for the environment, health, and safety. We also help our partners improve their capabilities for developing eco-friendly products, and offer long-term contracts as incentives.

With leadership comes responsibility. At Samsung Semiconductor, we take full responsibility for reducing our impact on the environment in working toward a cleaner, safer world.



SOCIAL CONTRIBUTION//

TOUCHING LIVES THROUGH OUR TECHNOLOGY—AND OUR PEOPLE

Our employees make a significant difference, not only in creating advanced products, but also in improving the lives of our neighbors. In 2007, each employee was encouraged to donate at least 18 hours in social contribution time. And we typically offer many ways for them to donate their time, as we sponsor various activities to benefit local communities, low-income families, children, the elderly, and the disabled.

Another way we help is by providing a special savings account into which our employees can contribute, and whose contribution we match. Some 85% of our employees contribute to this "Love Account," whose funds go specifically toward the needy and disadvantaged.

We further assist local communities through a special housing assistance initiative, where we transform dilapidated spaces into more livable accommodations.

Our employees not only give back to their communities, they also assist low-income and developing countries, helping them with the environment, hygiene, health, education, and other issues.

All our employees are encouraged to contribute, not only with donations, but with individual efforts that stem from their hearts.



MOVING BEYOND

Samsung Electronics' Semiconductor Business prides itself in "moving beyond" technology boundaries, appearances, borders, and economics. And moving well beyond conventional thinking.

At Samsung, the essence of our accomplishments and our motivation to succeed comes from the personal commitment within each and every one of us.

Our ultimate goal is to create an exciting, paradigm-shifting future, embracing the spirit of a true pioneer and innovator.

Standing on the horizon of the emerging fusion technology era, we're determined to set the pace in developing breakthrough technology that will empower people worldwide through increased productivity, more effective communication, and more user-friendly designs.

GLOBAL LOCATIONS

KOREA

Giheung complex
San #24 Nongseo-Dong Giheung-Gu Yougin-city, Gyeonggi-Do, Korea 446-711

Hwasung complex
San #16 Banwol-Dong Hwasung Gyeonggi-Do, Korea 445-701

Onyang complex
San #74 Buksu-ri Baebang-Myon Asan Chungcheongnam-Do, Korea 336-711

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TEL : 86-512-6288-8288

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