Hitachi Releases Industry's Fastest 16-Mbit Low-Power SRAMs

— 25 ns access time achieved for mobile phones, portable information terminals, and industrial applications —

Tokyo, February 15, 2002— Hitachi, Ltd. (TSE: 6501) today announced the HM62V16102I and HM62A16102I Series of 16-Mbit low-power SRAMs, offering the industry's fastest access time of 25 ns, for use in mobile phones, portable information terminals, and industrial applications. Also being announced are the HM62V16100I and HM62V8200I Series with a 45 ns access time. Sample shipments of all these products will begin on February 28, 2002 in Japan.

These series offer low-voltage operation and compact size in addition to high-speed operation, making them ideal for use in portable products.

[Background]

Low-power SRAMs are used for work memory, phone number list and image data storage, and backup memory in mobile phones and portable information terminals, and Hitachi currently has small, low-voltage, low-current-dissipation 4-Mbit and 8-Mbit models suitable for low-voltage systems in mass production. However, recent rapid advances in mobile phone functionality and performance, together with the need to handle photographic and other image data, will bring a demand for even larger capacity and higher speed. To meet this demand, Hitachi has developed low-power SRAMs offering 16-Mbit capacity together with a 25 ns access time.

[About these Products]

The HM62V16102I and HM62A16102I Series achieve high speed, compact size, and low power consumption through the use of the latest 0.13 µm process.

(1) Industry's Highest Speed
The 2.2 V to 3.6 V HM62V16102I and 1.65 V to 2.2 V HM62A16102I Series employ a fine process plus special circuit design techniques that enable the industry's fastest access time of 25 ns to be achieved at a low voltage. Speed has been improved by a factor of approximately 2 over previous 55 ns products, providing the capability to handle high-speed processing of photographic and other image data as well as moving-image transmission required by IMT-2000.
Standard specification support is provided for a read-time page mode as a new operating mode. A page size of 8 words and fast access time of 15 ns are offered, for support of faster systems.

(2) Small Size
Despite their 16-Mbit capacity, the above two series plus the 2.7 V to 3.6 V HM62V16100I and HM62V8200I Series with a 45 ns access time employ a small 48-pin CSP with a package size of only 8.0 mm × 9.5 mm, enabling compact portable products to be developed. The pin arrangement maintains upward-compatibility with 4-Mbit and 8-Mbit models.

(3) Low Current Dissipation
All four series feature a low operating current of 15 mA (max.) at 70 ns and low data retention current of 0.5 µA (typ.)/5.0 µA (max.), enabling a portable information device or similar product to offer low current dissipation during operation and a long data retention period in battery backup mode.

In addition, the HM62V16102I and HM62A16102I Series include a 35 ns access time model, and the HM62V16100I Series includes a TSOP package (0.5 mm pitch 48-pin TSOP Type I) version for industrial applications.

The word configuration is 2M words × 8 bits in the HM62V8200I Series and 1M words × 16 bits in the other three series.

Future plans include enhancement of the product lineup with extension of the present technology to 4-Mbit and 8-Mbit capacities.

< Typical Applications >

- Mobile phones
- Portable information terminals
- Handheld terminals
- Multifunctional printers
- Industrial equipment, etc.

< Prices in Japan >(For Reference)

Capacity	Product Code	Sample Price (Yen)	Power Supply Voltage	Access Time	Package
16 Mbits	HM62V16102LBPI-2	3,500	2.2 V to 3.6 V	25 ns	CSP 48
	HM62V16102LBPI-3	3,400		35 ns	
	HM62A16102LBPI-2	3,700	1.65 V to 2.2 V	25 ns	
	HM62A16102LBPI-3	3,600		35 ns	
	HM62V16100LBPI-4	3,300	2.7 V to 3.6 V	45 ns	
	HM62V8200LBPI-4	3,300			
	HM62V16100LTI-4	3,200			TSOP-I 48

< **Specifications** >

Item	**Specifications**			
Capacity	16 Mbits			
Product code	HM62V16102LBPI	HM62A16102LBPI	HM62V16100LBPI	HM62V16100LTI
			HM62V8200LBPI	
Bit configuration	1M words × 16 bits	1M words × 16 bits	1M words × 16 bits	1M words × 16 bits
			2M words × 8 bits	
Power supply voltage (VCC)	2.2 V to 3.6 V	1.65 V to 2.2 V	2.7 V to 3.6 V	
Access time (tAA) Page access time (tPA)	25 / 35 ns max. 15 / 20 ns max.		45 ns max. 25 ns max.	
Average operating current (ICC1)	15 mA max. @ 70 ns			
Standby current (ISB1)	5 μA max.			
Data retention current (ICCDR)	5 μA max. @ 1.5 V		5 μA max. @ 3.0 V	
Interface	LVCMOS		LVTTL	
Operating temperature	- 40 to 85 °C			
Package	CSP 48			TSOP-I 48