

March 17, 2004

Hitachi releases HDD preamplifier "HDL6D300 Series" with world-leading internal data transfer rate of 2.5Gbit/s

Tokyo, March 17, 2004 - Hitachi Ltd.,(TSE:6501,NYSE:HIT) today announced the preamplifier(*1) for hard disk drives "HDL6D300 Series" with world-leading internal data transfer rate of 2.5Gbit/s(*2). Sample shipments will begin on March 22, 2004.

The new series realizes a leading edge internal data transfer rate of 2.5Gbit/s which exceeds 1.6 Gbit/s preamplifiers for next-generation hard disk drives, by adopting the SOI SiGe BiCMOS device(*3) used for LSIs for mainframe computers or optical networking equipment.

In addition, the new series offers the solution to adapt for a wide range of resistance of GMR(Giant Magnetoresistive) heads(*4) and TMR(Tunnel Magnetoresistive) heads by using Hitachi's newly developed "Shunt feedback reader"(*5). It prevents problems of tailoring preamplifiers to concurrently developed drive heads and magnetic disks, and leads to the reduction of development period of hard disk drives for high-end servers and storage systems.

(*1) Preamplifier: LSI used to read and write data to a magnetic disk through drive heads

(*2) Gbit/s (gigabits / second) : One billion bits per second

(*3) SOI SiGe BiCMOS device: Device which combines silicon-germanium hetero-junction bipolar transistor and complementary metal-oxide semiconductor on the same Silicon-on-Insulator substrate

(*4) Head: Element of a hard disk drive through which data are read and written to a magnetic disk

(*5) Shunt feedback reader: Reading circuit with a shunt feedback front-end amplifier, enables to adapt for a wide range of drive heads' resistance, assuring the stability of bandwidth and low-noise feature.

- Major features of the " HDL6D300 Series"

1. World-leading internal data transfer rate of 2.5Gbit/s

By adopting the SOI SiGe BiCMOS device with double cutoff frequency(*6) of our existing series, the new series improves writing speed and reading bandwidth, realizing internal data transfer rate of 2.5Gbit/s.

2. "Shunt feedback reader" for GMR and TMR shortens development period of hard disk drives

Hitachi's newly developed "Shunt feedback reader" offers the solution to adapt for a wide range of drive heads' resistance. It prevents problems of tailoring preamplifiers to the characteristics of concurrently developed drive heads and magnetic disks, shortening development period of hard disk drives for high-end servers and storage systems.

3. Higher reliability by using “Zero-common writer”(*7)

Hitachi’s specific technology, “Zero-common writer” improves the accuracy by optimizing the circuits, preventing electrical discharge and dust accumulation between a drive head and a disk. At the same time, it drastically reduces cross talk(*8), thus protecting a drive head from electrical voltage overstress.

(*6) Cutoff frequency: Maximum frequency at which a device can amplify its input current

(*7) Zero-common writer: When a writing circuit provides an electric current to a drive head, differential voltage named fly-back is generated depending on the load impedance. Zero-common writer is a writing circuit designed to allow the common level of the differential fly-back voltage to maintain ground level consistently.

(*8) Cross talk: Undesired capacitive interactions from a writing circuit to a reading drive head

- Availability

Product Name	Sample price	Sample availability
HDL6D300 series	3,000 JPY (2,857 JPY, excluding consumption tax)	March 22, 2004

- Home page for product information

<http://www.hitachi.co.jp/Div/ddc/english/product/product.html>

- Indication about other companies' trademarks

The described company names and product names are trademarks or registered trademarks of the respective companies.

- About the Device Development Center (“Micro Device Division” as of April 1, 2004)

The Device Development Center develops and manufactures LSIs for such information and communication equipment as storage systems, networking devices and cutting-edge industrial appliances for both Hitachi group companies and non-group customers. It also performs development of semiconductor-related technologies by commission and foundry business.

- References

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