



PRESS RELEASE

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**UNITY SEMICONDUCTOR, A NON-VOLATILE MEMORY PRODUCTS START-UP, EXITS STEALTH MODE;
WORLD'S FIRST R/W CROSS-POINT MEMORY ARRAY REQUIRES NO TRANSISTOR IN MEMORY CELL**

*Designer and Developer of Non-Volatile Memories, Based on a Break-Through Technology,
Expects to Offer Storage-Class Products With 4x the Density & 5-10x the Write Speed of Today's NAND Flash*

Sunnyvale, CA—May 19, 2009—Unity Semiconductor Corp., a Silicon Valley start-up that will serve the semiconductor data storage memory market as a designer, developer and manufacturer of non-volatile memory integrated circuits (IC), today disclosed its objective to have the smallest die-size and the lowest manufacturing cost per bit in the industry. The storage-class non-volatile memory (NVM) products company has achieved its objective using innovative, multi-layer, memory array architectures and a new breakthrough technology called CMOx™, which is based on the use of new materials called conductive metal oxides into the semiconductor process that allows for ionic motion.

“We are within the 2-year horizon for production volumes of our first product, a 64-gigabit storage-class memory,” said Unity Semiconductor Chairman, President & CEO Darrell Rinerson, a former executive at memory leader Micron Technology (NASDAQ: MU) and at Advanced Micro Devices (NASDAQ: AMD). Unity Semiconductor, founded in 2002, has successfully created the world’s first passive rewritable cross-point memory array that requires no transistors in a memory cell. Unity Semiconductor has been processing 64-kilobit products for 2 years, 64-megabit products for 1 year, and is in design of a 64-Gb product that is now close to tape-out and slated for pilot production in 2H 2010, with volume production in 2Q 2011.

Unity Semiconductor is not just looking to develop a NAND flash replacement technology for all the important high-density memory segments. Rather, it also will develop and produce NAND flash “successor” technologies and products that, in time, will extend into high-performance embedded and enterprise applications. “It’s a ‘Technology for Terabits’ that will challenge high-volume rotating magnetic media,” Rinerson stated.

Unity Semiconductor will serve the data storage market as a designer, developer and manufacturer of non-volatile memory products that it will produce in partnership with one or more leading memory integrated device manufacturers (IDMs). In addition to building and selling its own products, Unity Semiconductor will engage in selective intellectual property (IP) licensing so as to allow its technology to become mainstream.

“Storage-Class Memories (SCM) are currently defined as either memory-based (non-volatile RAM) or storage-centric. CMOx™ is the first true storage-class memory that meets the performance criteria required for advanced storage. As the first cross-point storage device, CMOx™ is capable of being scaled below 20 nanometers with a volumetric density better than 4bits/cell NAND. It uses less than 1 microamp of write current per cell, has a 10x write performance and better endurance compared to NAND, and at a much lower cost,” stated Alan Niebel, CEO of Web-Foot Research, Monterey, CA.

Based on forecasts from market researchers, Unity believes the total accessible market (TAM) for its storage class non-volatile memory products will be approximately \$15B in 2010, growing to more than \$25B in 2013.

The start-up’s value proposition to its target market stems from its proprietary next-generation NVM technology, CMOx™. The price/performance of Unity’s CMOx™ based storage-class memory products will allow Unity to initially target the high-performance NAND flash replacement market. However, CMOx™ is designed to address the emerging markets, such as solid-state drives (SSDs) for notebook PCs and netbooks, mobile Internet devices (MIDs) and smart phones, for which some market forecasters believe over 90% will have embedded flash by 2012.

CMOx™ is a next-generation NVM technology based upon a Unity-proprietary switching effect that occurs in certain metal oxide combinations. The switching concept used by Unity in CMOx™ is different from that used in today’s flash technology. The memory effect of CMOx™ technology is based upon the atomic-scale movement of ionic charge carriers. CMOx™ can be utilized to form a passive cross-point multi-layer memory array, as it does not require a transistor per cell. Other memory technologies, such as phase-change memory (PCM) and magneto-resistive random access memory (MRAM), use a transistor per cell and are not amenable to the cross-point multi-layer chip architecture.

Unity Semiconductor’s multi-layer cross-point array utilizes a resistance change element (although it’s not a Resistive RAM (RRAM) memory cell such as is being developed by a few other companies). Rather, in the CMOx™ technology, conduction is uniform across the device instead of being filamentary, allowing for more reliable and predictable scaling to future process nodes. The passive nature of the cross-point memory array architecture contributes to the densest memory devices of all the next-generation NVM technologies. Further, it enables the physical stacking of multiple layers of memory. Unity Semiconductor’s CMOx™ based designs use 4 physical layers of multi-level cell (MLC) memory, and is the key to increasing the density of its

storage-class memory products. A proprietary next-generation nonvolatile memory technology, CMOx™ will yield products with 4x the density and 5-10x the write speed of today's NAND flash. "We believe only CMOx™ has the small cell size to beat NAND flash in cost and density," Rinerson stated.

In addition to its technical innovations, Unity Semiconductor has several unique business concepts. Key among these is the separation of the processing of the front-end-of-line (FEOL) CMOS base wafer from the back-end-of-line (BEOL) memory layer processing. No new process technology is needed in the CMOS base wafer, which can be fabricated at a CMOS logic foundry with existing production capability and capacity. But unlike all other dense memory technologies, CMOx allows use of an FEOL process that trails the BEOL process by several generations. For example, Unity can fabricate a competitive 64Gb memory using a trailing edge CMOS (90 nm) process.

The BEOL Memory™ concept enables a CMOS logic foundry to be in the memory business without taking significant risks associated with being in the memory business.

Unity Semiconductor's CMOS FEOL strategy allows it to be a moderate follower in CMOS transistor technology. Its shrink path is unconventional in that a higher density memory core doesn't require base CMOS technology migration. Instead, Unity can use the same 90nm base CMOS for multiple generations, as well as use proven design IP to reduce risk and time to market. Unity Semiconductor's shrink path strategy is unique and enables lower base substrate cost of manufacturing.

Maintaining a 4x density advantage versus NAND does require use of a state-of-the-art BEOL facility. Consequently, Unity's BEOL Memory™ strategy calls for it to form a joint venture partnership for volume manufacturing with a leading memory IDM. "This production model is as revolutionary as is the product," stated Sherry Garber, partner at Convergent Semiconductors, Phoenix, AZ.

The initial CMOx™ 64 Gb-device is expected to clock up to 100 MHz and to have a maximum data rate of 200 MB/sec. Sustained write speeds of 60 MB/s are expected, with sustained read speeds of 100 MB/s.

Unity Semiconductor is a well-funded start-up with nearly \$65M invested, to date, by top-tier venture capital firms and a major hard-disk drive (HDD) manufacturer. Recently, a \$22M Series C financing came primarily from Unity Semiconductor's three existing venture capital investors—August Capital, Lightspeed Venture Partners and Morgenthaler Ventures—and the HDD manufacturer. Including \$10M in debt financing, the latest round brings to nearly \$75M the total funding to date.

Unity Semiconductor is a leading designer and developer of non-volatile storage class memory products utilizing innovative, multi-layer memory array architectures and a new, breakthrough memory cell technology, called CMOx™. Founded in 2002, Unity Semiconductor (www.unitysemi.com) is a Silicon Valley-based company with currently more than 40 employees.