

Tezzaron Chooses CAST IP Core for First Ever Stacked 3D IC Processor

Manufacturing fast, efficient 8051 core with patented vertical connection and wafer stacking technology produces processor with triple the typical speed

Shinagawa, Tokyo, May 19, 2005 — IP Japan — Customer Tezzaron® Semiconductor has implemented a core from intellectual property (IP) provider CAST, Inc., using patented wafer stacking technology to produce the first three-dimensional integrated circuit (3D IC) processor.

Tezzaron's 3D IC processor uses the vertical connections and precise stacking of their FaStack® process to place 128 Kbytes of SRAM memory above the 8051-type processor and bind the two layers into a single device. Using a 160 nm technology, the resulting 3D IC runs up to ten times faster and requires only about 1/10th the power of a typical 8051. The core, CAST's R80515, uses a reduced instruction set and other features that make it an effective and efficient embedded processor or controller.

"We wanted to demonstrate our technology with a workhorse processor that's still used in thousands of products and devices around the world," said Robert Patti, Tezzaron's chief technology officer. "CAST proved to be a great partner—easy to work with and providing excellent support—and implementing their core was painless and straightforward."

Tezzaron has delivered the 3D processor to several potential customers for evaluation. More information on both the processor and the FaStack® technology is available on the company's web site at www.tezzaron.com. The 3D processor will also be running in a demonstration in CAST's booth at the upcoming Design Automation Conference (www.dac.com).

About Tezzaron and the FaStack® Technology

The FaStack® process integrates multiple wafer layers and uses through-silicon vertical connections to produce remarkably dense and fast 3D chips. A special wafer thinning process solves the thermal build-up problem of previous stacking technologies, and the tight integration yields an IC that is significantly denser than similar-seeming System-in-Package (SiP) components. With their high speed, tiny size, superior memory access, and low power requirements, FaStack® ICs are suitable for a wide variety of applications, including embedded controllers, sensor arrays, and other high-end products and components.

Tezzaron is a privately held corporation, with offices in Illinois and Singapore. For sales information, call +1 (630) 505-0404 or email sales@tezzaron.com. For press information, contact Robert Patti by phone at +1 (630) 505-0404 x134 or by email at rpatti@tezzaron.com.

About CAST, Inc.

CAST provides about 100 popular and standards-based IP cores for ASICs and FPGAs. Privately owned and operating since 1993 with a focus on making IP practical and affordable, CAST has established a reputation for high-quality IP products, simple licensing, and responsive technical support. The company is headquartered near New York City, partners with IP developers around the world, and works with select sales consultants and distributors throughout Europe and Asia.

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