

UMC's Embedded DRAM, URAM Proven in 65nm Customer Silicon

August 4 2008

UMC, a leading global semiconductor foundry, today announced that it has produced functional 65nm customer products incorporating URAM, the company's patented embedded DRAM (eDRAM) technology.

URAM enables higher performance, lower power consumption, and reduced chip size compared to traditional embedded 6T SRAM or external DRAM. URAM, which is the only available proprietary embedded DRAM solution in the pure-play foundry industry, is already in production at UMC for 90nm customer products.

URAM's ultra high density, 1/4 to 1/5 the size of 6T SRAM with a macro area of approximately 1/2 to 1/3 times the size of SRAM, allows for smaller overall form factor so that designers can fit more functions within a smaller chip area. Customers utilizing URAM on either UMC's standard or low-leakage processes will be able to design for higher bandwidth, thus increasing operating speed while reducing power consumption due to fewer I/O drivers.

URAM's logic process compatibility, scalable trench cell architecture and SRAM-like interface enable seamless integration into customer designs and existing IP. Since URAM is a proprietary UMC-developed technology, the foundry provides comprehensive, dynamic design support for customers utilizing URAM for their designs.

Raymond T. Leung, vice president of memory IP development at UMC, said, "The advanced products that power today's digital economy require

sophisticated technology solutions to satisfy the rigorous demands for lower power consumption, higher performance, and smaller form factor. UMC's URAM effectively addresses the needs of SoC designs for a broad range of applications, including storage media, communications, and graphics and imaging systems, by providing a high-density memory that delivers up to a 50 percent area reduction over standard 6T SRAM."

Provided by UMC

Citation: UMC's Embedded DRAM, URAM Proven in 65nm Customer Silicon (2008, August 4) retrieved 25 June 2024 from <https://phys.org/news/2008-08-umc-embedded-dram-uram-proven.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.