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Innovative Silicon Z-RAM Memory Experts to Present at Spring 2009 Material Research Symposium (MRS)

Researchers address a long-standing open problem in solid state physics of Point Defect – dopant pair lifetimes

SANTA CLARA, Calif., — April 8, 2009 — Innovative Silicon, Inc. (ISi), developer of the Z-RAM® zero-capacitor floating body memory (FB) technology, today announced that Dr. Ammar Nayfeh, a member of ISi's technical staff, and Dr. Victor Koldyaev, ISi fellow, will be presenting a paper, titled "Experimental Evidence of Long-Range Point Defect-Phosphorous Pair Diffusion in Silicon" at the Spring Material Research Symposium (MRS) on Wednesday, April 15th from 9:30 a.m. – 9:45 a.m. (Session C5) at Moscone West in San Francisco, CA.

About the Paper

Modern semiconductor process integration schemes for fabricating Ultra-Large Scale Integration (ULSI) integrated circuits (ICs) in general and DRAM in particular are reducing thermal budgets by using low temperature processing extensively and high temperature for ultra-short times. This results in further enhancement of non-equilibrium conditions for dopant diffusion. Point Defect (PD) mediated diffusion of phosphorous (P) in silicon is studied to address the long-standing open problem in the solid state physics of PD-dopant pair lifetime. Based on diffusion physics, a novel experimental method is suggested to create conditions for increasing PD-P pair lifetime for better observability and experimental resolution. A physical explanation and modeling approach are proposed for using physics-based (PB) TCAD tools.

About the MRS Spring Meeting

The 2009 Materials Research Society Spring Meeting will consist of meetings and exhibits and will include 42 symposia covering many new and developing areas of materials research as well as some well-established and popular topics. The electronic and optical materials symposia at MRS will include amorphous and polycrystalline silicon thin films, molecular and organic electronics, chemical and mechanical planarization, multiferroics, high-throughput synthesis, as well as topics important to the



integrated circuit community including junctions, memories, gate stacks, interconnects, and packaging. For more information, see http://www.mrs.org/s_mrs/index.asp.

About Innovative Silicon

Innovative Silicon, Inc. (ISi) is the inventor and licensor of the Z-RAM® ultra-dense memory technology for stand-alone DRAM memory applications. Simpler to manufacture than DRAM, Z-RAM is the world's lowest-cost semiconductor memory technology. ISi and the Z-RAM technology have received numerous industry awards, including the World Economic Forum's selection of ISi as a 2008 Technology Pioneer, and IEEE Spectrum Magazine's selection of Z-RAM as the 2007 "Emerging Technology Most Likely to Succeed." Z-RAM is a "Zero Capacitor," true single-transistor floating body memory that eliminates the complex capacitor found in today's DRAM technologies – a fundamental roadblock to Moore's Law of scaling. Z-RAM provides semiconductor manufacturers a solution for nanoscale manufacturing processes that can dramatically lower semiconductor costs. The Z-RAM memory technology has been licensed by Hynix Semiconductor for use in its DRAM chips, and by AMD for use in microprocessors. Since 2003, the company has closed three funding rounds totaling \$47 million, received dozens of patents on the technology, developed test chips in multiple technologies from 90nm to 32nm, and has established global R&D, engineering and support centers in Europe, Asia and North America. For more information see www.z-ram.com.

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