

An Embedded DRAM Technology on SOI/Bulk Hybrid Substrate Formed with SEG Process for High-End SOC Application

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Abstract

A new methodology to prepare highly accomplished SOI/Bulk hybrid substrate wafers with simple in-line processes was proposed. By using the hybrid substrate wafers, DRAM embedded in SOI devices attained equal data retention characteristics to those for bulk for the first time, while maintaining the superior SOI performance. The highly manufacturable SOI embedded DRAM technology is attractive for high-end SOC application.