

UMC Expands Embedded Memory Portfolio to Target Fast Growing Smart Card Market

Foundry's first 0.25um embedded EEPROM delivers reliability and low power advantages

[UMC](#), a world leading semiconductor foundry, today announced that it has developed the foundry's first true embedded EEPROM based on UMC 0.25um Logic and Mixed-signal Platform. The embedded EEPROM (Electrically Erasable Programmable Read-only Memory) targets the rapidly emerging **IC card market, which includes mobile SIM cards, debit cards, credit cards, ID cards, USB ID keys** or any other application where secure identification is required and information needs to be updated and programmed frequently.

UMC's EEPROM technology is based on a conventional two-transistor EEPROM cell architecture, proven to be one of the most reliable cells in the industry, to guarantee more than 500K program/erase cycling. The EEPROM IP offering by UMC features both page and byte re-writable capability. These EEPROM IPs exhibit very low power characteristics (1mA at below 2V operation), allowing it to be used for both contact and also contact-less smart cards that need only come into close proximity of the card reader for transactions to be recorded.

Nai-Chen Peng, director of the Embedded Memory Division at UMC, said, "UMC has been very active in pursuing embedded memory solutions based on our popular logic and mixed-signal platform to make sure customers may seamlessly add embedded memory features to their existing IP. The performance characteristics of our latest embedded EEPROM offering delivers a very attractive solution for designers of today's smart card ICs that require reliability and low operating power."

UMC is planning to provide Silicon Shuttle prototyping services for this embedded EEPROM technology, with the first shuttle scheduled to launch in November 2004. In addition to EEPROM, UMC is also developing 0.25um embedded Flash IPs, expected to become available by the end of 2004. Embedded Flash for 0.18um and 0.13um technologies is scheduled for availability in 2005.

About EEPROM

Electrically Erasable Programmable Read-only Memory (EEPROM), similar to flash memory, is a variation of Non-Volatile Memory (NVM). However, EEPROM offers many advantages for certain applications in that it can be frequently programmed, reprogrammed, and erased byte by byte within the system. NVM are capable of retaining their contents without a power supply for up to a few years.

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