

New Single-poly EEPROM with Cell Size down to $8F^2$ for High Density Embedded Nonvolatile Memory Applications

Kung-Hong Lee and Ya-Chin King

Microelectronics Laboratory, Semiconductor Technology Application Research (*STAR*) Group, Department of Electrical Engineering, National Tsing-Hua University, Hsin-Chu 300, Taiwan, R.O.C.

A novel embedded EEPROM memory cell with new program and erase operations fabricated by standard CMOS logic process is presented. The cell which consists of two N-type MOSFET transistors in series is programmed by select gate controlled channel hot hole and erased by channel hot electron injection along with more than 10^5 cycles of endurance and 1000 hours of data retention at 150°C.