Press Overview
Technology
FRAM is Ferroelectric RAM
True nonvolatile RAM, no backup battery

- Ferroelectric crystals provide the basic memory element
- Data is stored by a mobile atom with 2 stable states
- The mobile atom is stable in the absence of power
Technology Advantages

- **Fast Write** - Atom moves very quickly, no physical barrier. FRAM writes in 70 ns versus 10 ms for EEPROM.

- **High Endurance** - With no physical barrier to wear out, FRAM offers > 10 billion (1E10) writes vs 1 million for EEPROM.

- **Low Power** - FRAM uses no charge pump or high voltages, so power consumption is much lower.
FRAM Memory Cells

1T1C
Ferroelectric signal compared to a reference

2T2C
Ferroelectric signal compared to its complement

Similar to a DRAM Cell