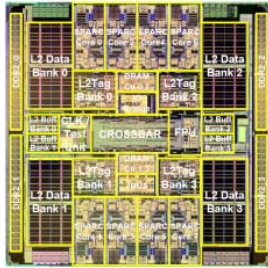


Traditional Memory Hierarchies



On-chip memory
(**SRAM**)



Off-chip memory
(**DRAM**)



Solid State Disk
(**SSD**)



Secondary Storage
(**HDD**)

Latency:
(Cycles)

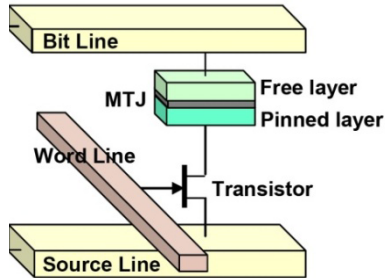
~10

~100

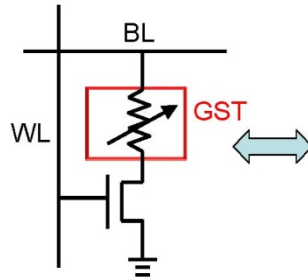
25000~2000000

>5000000

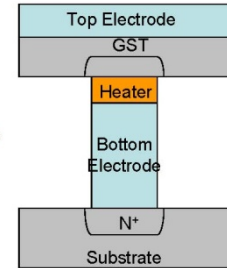
What is the impact of emerging NVM technologies on computer memory hierarchies?



Magnetic RAM (**MRAM**)



Phase-change RAM (**PCRAM**)



Emerging Non-volatile Memory (NVM)

**Proposed
MAAEMO Project:**

Task 1: Modeling

Task 2: Architecture

Task 3: Application