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**Varkony**

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(54) **METHOD AND APPARATUS FOR ACCESSING A NON-VOLATILE MEMORY ARRAY COMPRISING UNIDIRECTIONAL CURRENT FLOWING MULTIPLEXERS**

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(73) Assignee: **Spansion Israel Ltd.**, Netanya (IL)  
(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 576 days.

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(22) Filed: **Nov. 7, 2008**

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**Related U.S. Application Data**  
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(51) **Int. Cl.**  
**GI1C 16/04** (2006.01)  
(52) **U.S. Cl.** ..... **365/185.16**; 365/185.23; 365/230.02; 365/230.06  
(58) **Field of Classification Search** ..... 365/185.01, 365/185.13, 185.16, 185.17, 185.23, 230.02, 365/230.06, 185.16 O, 185.23 X, 230.02 X, 365/230.06 X

See application file for complete search history.

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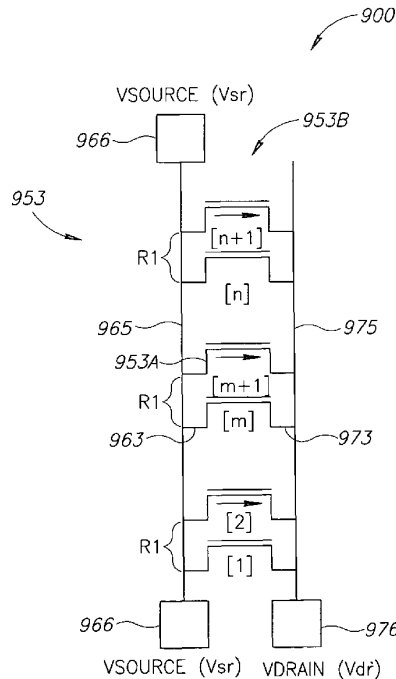
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(57) **ABSTRACT**

A non-volatile memory (NVM) having an array of memory cells and a unidirectional multiplexer (UMUX), the UMUX may be comprised of two or more address line ports adapted to receive addressing signals corresponding with elements in the memory array, and a set of switching transistors adapted to switch a supply voltage in accordance with the addressing signal such that current only flows into the array.

**5 Claims, 18 Drawing Sheets**



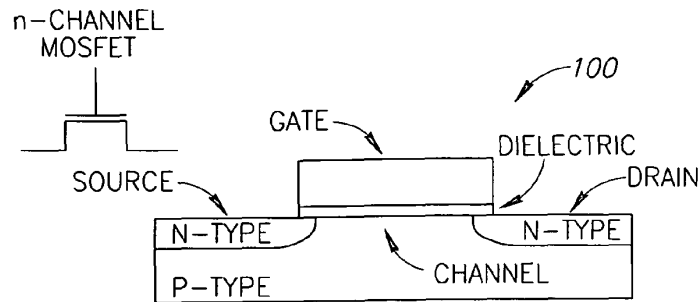


FIG. 1  
PRIOR ART

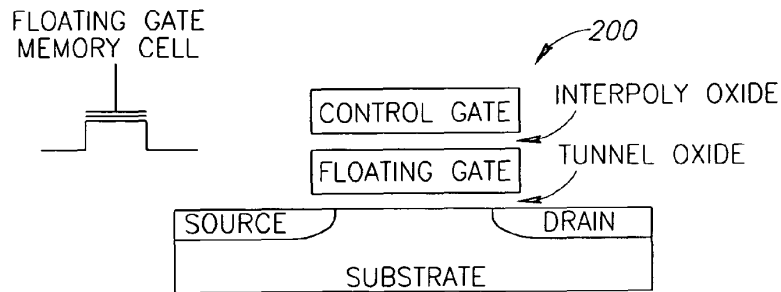


FIG. 2  
PRIOR ART

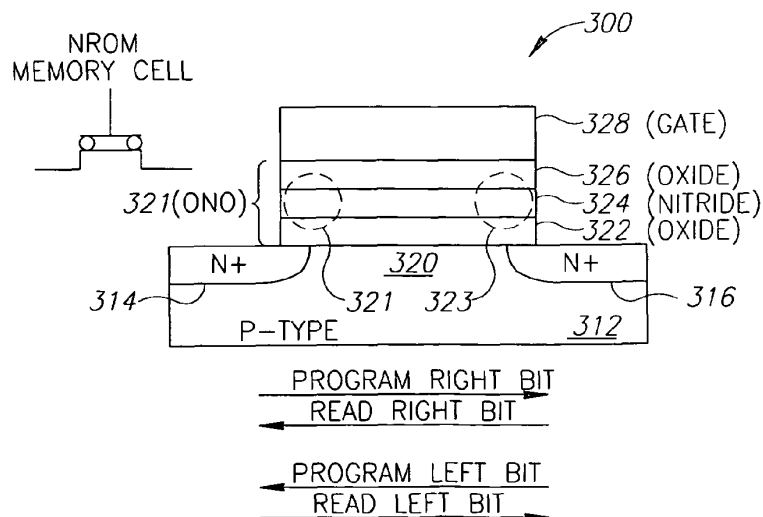


FIG. 3  
PRIOR ART

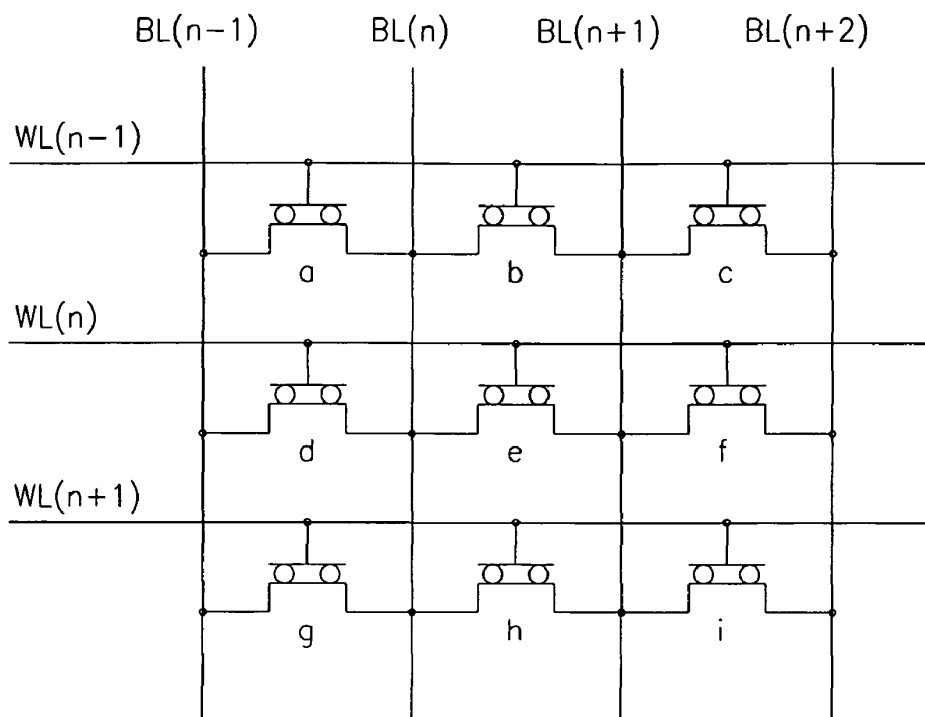


FIG. 4A  
PRIOR ART

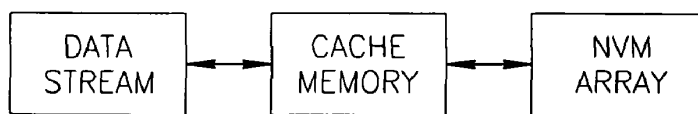


FIG. 4B  
PRIOR ART

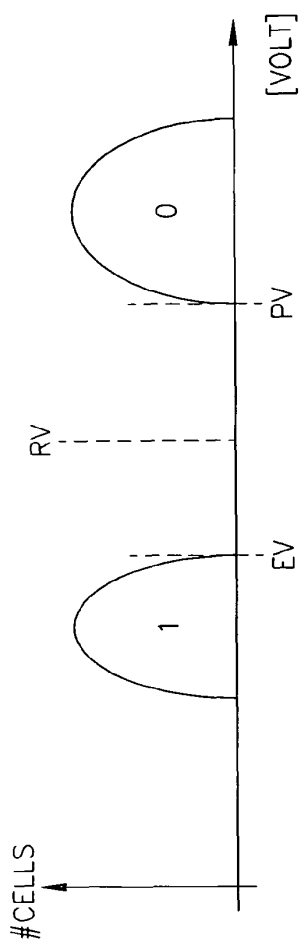


FIG. 5A  
PRIOR ART

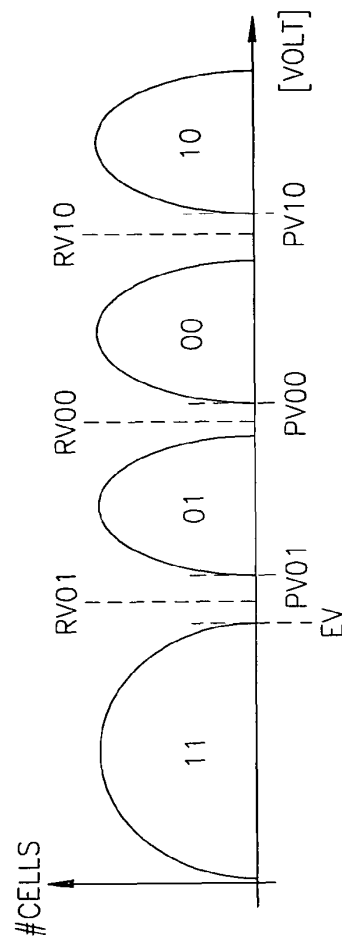


FIG. 5B  
PRIOR ART

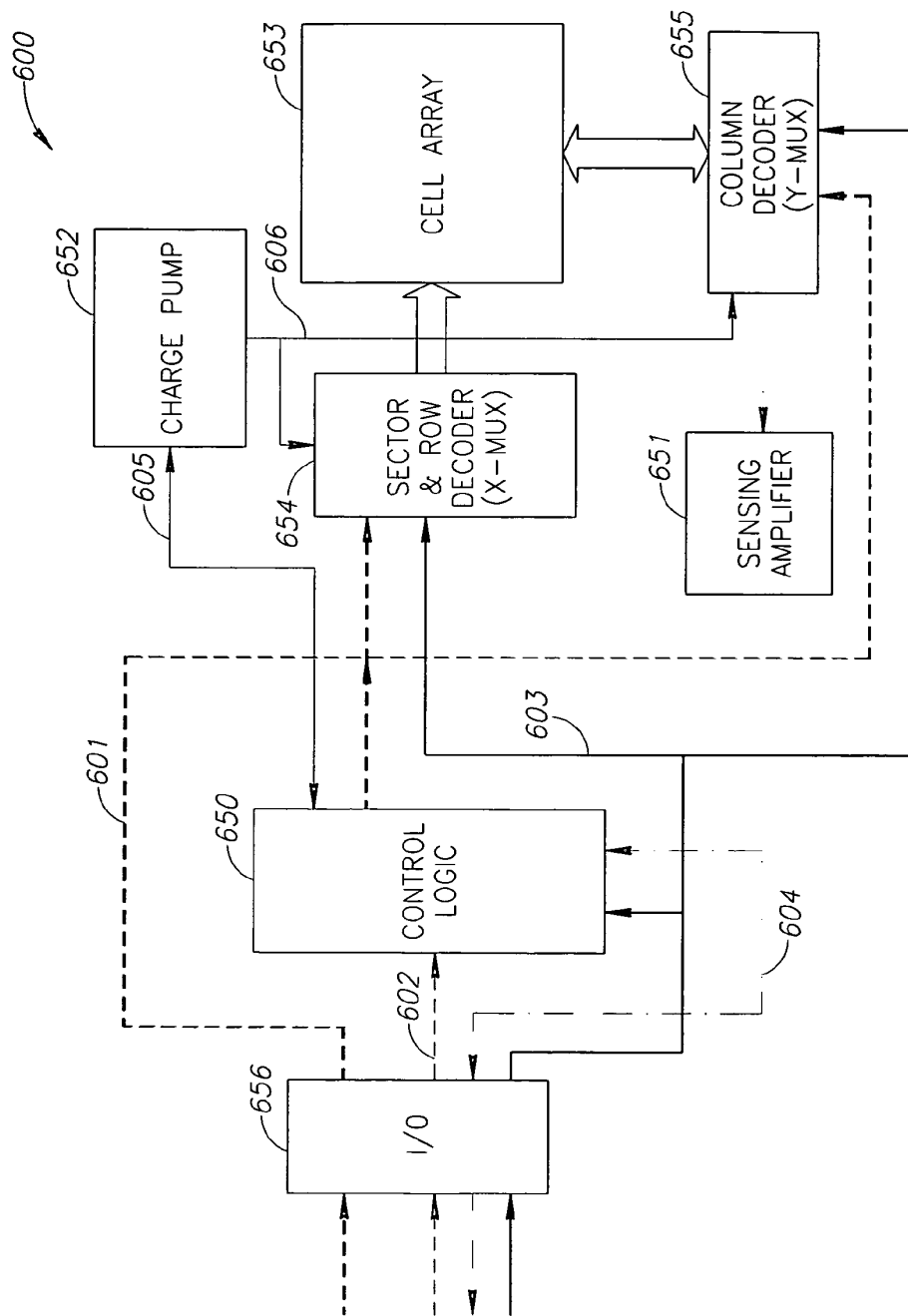


FIG. 6  
PRIOR ART

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