Title: MRAM ARCHITECTURE WITH A BIT LINE LOCATED UNDERNEATH THE MAGNETIC TUNNELING JUNCTION DEVICE

Abstract: A method and system for providing and using a magnetic memory are disclosed. The method and system include providing a plurality of magnetic memory cells (100), at least a first write line (110), and at least a second write line (112). Each of the magnetic memory cells includes a magnetic element having a top and a bottom. The first write line(s) are connected to the bottom of magnetic element (30) of the first portion of the plurality of magnetic memory cells. The second write line(s) reside above the top of the magnetic element of each of a second portion of the magnetic memory cells. The second write line(s) are electrically insulated from the magnetic element of each of the second portion of the plurality of magnetic memory cells.
(88) Date of publication of the international search report:
1 December 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) : H01L 29/76, 23/48; G11C 7/00
US CL : 257/30,295,421,422,635 ; 438/3; 365/171,173
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 257/30,295,421,422,635 ; 438/3; 365/171,173

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
</table>

See patent family annex.

Further documents are listed in the continuation of Box C.

Date of the actual completion of the international search
03 June 2005 (03.06.2005)

Date of mailing of the international search report
30 SEP 2005

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