METHOD OF MANUFACTURING SELF-ALIGNED NON-VOLATILE MEMORY DEVICE

A method of forming a self-aligned non-volatile device, includes, in part: forming trench isolation regions (110), forming a well (112) between the trench isolation, forming a second well (114) above the first well, forming a first oxide layer (118) above a first portion of the second well, forming a first dielectric (122), a first polysilicon gate (124), and a second dielectric layer (126), respectively, above the first polysilicon layer, forming a first spacer (132) above the body region and adjacent the first polysilicon layer, forming a second oxide layer (130) above a second portion of the second well not covered by the first spacer, forming a second polysilicon gate layer (144) above the second oxide layer, the first spacer and a portion of the second dielectric layer, removing the second polysilicon layer and the layers below it that are exposed in a via formed using a mask, thereby forming self-aligned source/drain regions (168, 178).
(88) Date of publication of the international search report:
7 June 2007

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

A. CLASSIFICATION OF SUBJECT MATTER
IPC: H01L 21/336 (2006.01), 21/44 (2006.01), 21/8238 (2006.01)
USPC: 438/257, 201, 265, 593
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.: 438/257, 201, 258, 260, 261, 262, 265, 266, 593

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)
EAST: listed subs and inventor name search

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>
<tbody>
<tr>
<td>A</td>
<td>US 6,699,753 A (MA et al) 02 March 2004 (02.03.2004), entire document</td>
<td>1-11</td>
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<tr>
<td>A</td>
<td>US 6,573,130 A (PATELMO et al) 03 June 2003 (03.06.2003), entire document.</td>
<td>1-11</td>
</tr>
</tbody>
</table>

Further documents are listed in the continuation of Box C. See patent family annex.

Date of the actual completion of the international search: 12 March 2007 (12.03.2007)
Date of mailing of the international search report: 29 MAR 2007

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Authorized officer: Zandra Smith
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Form PCT/ISA/210 (second sheet) (April 2005)
C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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