Title: DYNAMIC P-N JUNCTION GROWTH

Abstract: Methods of fabricating semiconductor p-n junctions and semiconductor devices containing p-n junctions are disclosed in which the p-n junctions contain concentration profiles for the p-type and n-type dopants that are controllable and independent of a dopant diffusion profile. The p-n junction is disposed between a layer of semiconductor doped with a p-type dopant and a layer of semiconductor doped with an n-type dopant. The p-n junction is fabricated using a crystal growth process that allows dynamic control and variation of both p-type and n-type dopant concentrations during the crystal growth process.

Published:
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— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

Declaration under Rule 4.17:
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INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

IPC: H01L 21/28 (2006.01); H01L 21/3205 (2006.01); H01L 21/4763 (2006.01); H01L 29/10 (2006.01); H01L 29/12 (2006.01)

USPC: 438/603,621;257/43

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.: 438/603, 621, 257/43

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

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>X</td>
<td>US 6,896,731 B1 (Yamamoto et al) 24 May 2005 (24.05.2005)</td>
<td>1-31</td>
</tr>
</tbody>
</table>

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:
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Date of the actual completion of the international search
13 June 2008 (13.06.2008)

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