METHOD OF MAKING A SEMICONDUCTOR DEVICE, AND SEMICONDUCTOR DEVICE MADE THEREBY

Abstract: A method of making a semiconductor device includes the steps of: providing a semiconductor substrate (110, 510, 1010, 1610) having a patterned interconnect layer (120, 520, 1020, 1620) formed thereon; depositing a first dielectric material (130, 530, 1030, 1630) over the interconnect layer; depositing a first electrode material (140, 540, 1040, 1640) over the first dielectric material; depositing a second dielectric material (150, 550, 1050, 1650) over the first electrode material; depositing a second electrode material (160, 560, 1060, 1660) over the second dielectric material; patterning the second electrode material to form a top electrode (211, 611, 111, 1611) of a first capacitor (210, 710, 1310, 1615); and patterning the first electrode material to form a top electrode (221, 721, 1221, 1621) of a second capacitor (220, 720, 1320, 1625), to form an electrode (212, 712, 1212, 1612) of the first capacitor, and to define a resistor (230, 730, 1330).
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) : H01L 27/108, 27/76, 27/94, 31/119, 29/00, 21/8242, 21/20

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)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

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>
</table>

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

* Special categories of cited documents:

**A** document defining the general state of the art which is not considered to be of particular relevance.

**E** earlier application or patent published on or after the international filing date.

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**O** document referring to an oral disclosure, use, exhibition or other means.

**P** document published prior to the international filing date but later than the priority date claimed.

**T** later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention.

**X** document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone.

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Date of the actual completion of the international search 30 August 2005 (30.08.2005)

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