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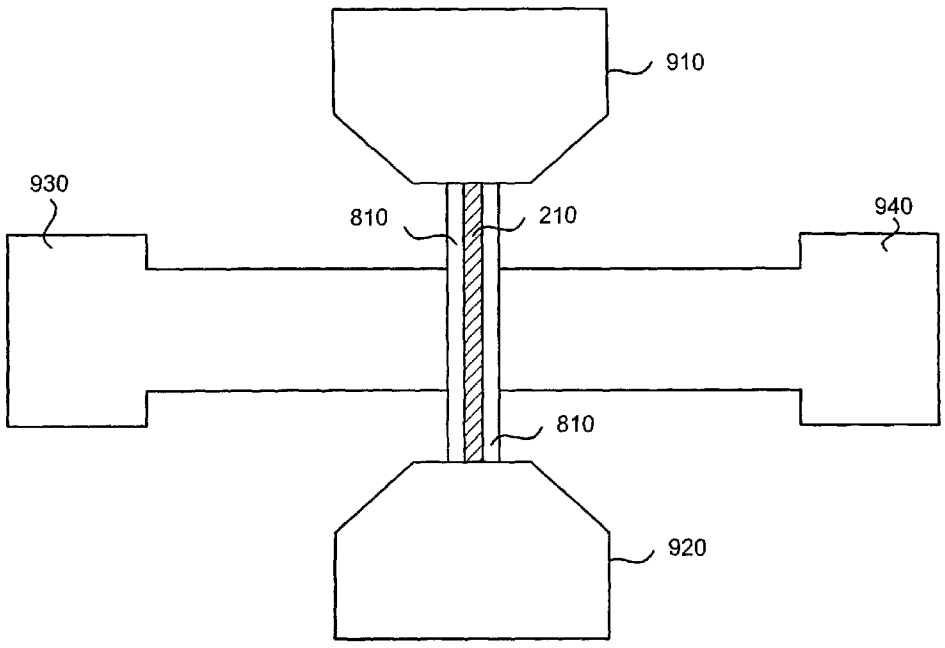
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[Continued on next page]

(54) Title: METHOD FOR FORMING STRUCTURES IN FINFET DEVICES



(57) Abstract: A semiconductor device includes a first fin structure (810), a second fin structure (810), and a third fin structure (210). The first and second fin structures (810) include a single-crystal silicon material. The third fin structure (210) is located between the first fin structure (810) and the second fin structure (810) and includes a dielectric material. The third fin structure (210) causes stress to be induced in the single-crystal silicon material of the first fin structure (810) and the second fin structure (810).

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INTERNATIONAL SEARCH REPORT

tional Application No
'US2004/009696

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H01L21/336 H01L21/20 H01L29/786

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)
IPC 7 H01L

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 practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 196 33 914 C (MITSUBISHI ELECTRIC CORP) 7 August 1997 (1997-08-07) page 7, line 44 - line 54; figure 20	1-6
X	US 6 063 688 A (DOYLE BRIAN S ET AL) 16 May 2000 (2000-05-16) column 10, line 37 - line 50; figures 38-40	1-4,7-10
X	US 6 475 869 B1 (YU BIN) 5 November 2002 (2002-11-05) the whole document	1,2,4, 7-9
X	US 2002/060338 A1 (ZHANG ZHIBO) 23 May 2002 (2002-05-23) page 4, paragraph 27 - page 5, paragraph 34; claims; figures	1-4

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
11 October 2004	11. 11. 2004

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Hoffmann, N

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 545 586 A (KOH RISHO) 13 August 1996 (1996-08-13) column 5, line 61 - column 6, line 32; figures 3a-i	1-4
X	US 2002/043690 A1 (DOYLE BRIAN S ET AL) 18 April 2002 (2002-04-18) page 6, paragraph 86 - paragraph 87; figures 38-40	1-4
X	US 6 177 299 B1 (HSU LOUIS LU-CHEN ET AL) 23 January 2001 (2001-01-23) figures 7-12	1-4
X	EP 1 202 335 A (IBM) 2 May 2002 (2002-05-02) column 6, paragraph 22; figures	1-4
X	US 2002/153587 A1 (BRACCHITTA JOHN A ET AL) 24 October 2002 (2002-10-24) figure 2	7-10
X	US 2001/005022 A1 (OGURA TAKASHI) 28 June 2001 (2001-06-28) page 4, paragraph 60 - paragraph 62	7-10
A	US 5 115 289 A (KIMURA SHINICHIRO ET AL) 19 May 1992 (1992-05-19) figures 17a-c	1-5
A	US 6 537 880 B1 (TSENG HORNG-HUEI) 25 March 2003 (2003-03-25) figure 4	1-5

INTERNATIONAL SEARCH REPORT

International application No.
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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☒ No protest accompanied the payment of additional search fees.