

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
3 March 2005 (03.03.2005)

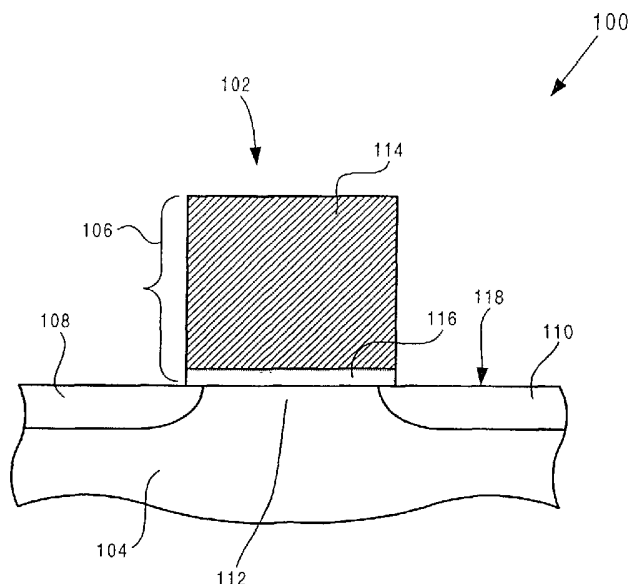
PCT

(10) International Publication Number
WO 2005/020323 A3

- (51) International Patent Classification⁷: **H01L 29/78**
- (21) International Application Number: PCT/US2004/025565
- (22) International Filing Date: 5 August 2004 (05.08.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
10/643,461 18 August 2003 (18.08.2003) US
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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: FIELD EFFECT TRANSISTOR HAVING INCREASED CARRIER MOBILITY



(57) Abstract: According to one exemplary embodiment, a FET which is situated over a substrate (104), comprises a channel (112) situated in the substrate (104). The FET further comprises a first gate dielectric (116) situated over the channel (112), where the first gate dielectric (116) has a first coefficient of thermal expansion. The FET further comprises a first gate electrode (114) situated over the first gate dielectric (116), where the first gate electrode (114) has a second coefficient of thermal expansion, and where the second coefficient of thermal expansion is different than the first coefficient of thermal expansion so as to cause an increase in carrier mobility in the FET. The second coefficient of thermal expansion may be greater than the first coefficient of thermal expansion, for example. The increase in carrier mobility may be caused by, for example, a tensile strain created in the channel (112).

WO 2005/020323 A3



Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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.

(88) Date of publication of the international search report:

6 May 2005

INTERNATIONAL SEARCH REPORT

US2004/025565

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 H01L29/78

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, PAJ, IBM-TDB, INSPEC, COMPENDEX, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/093046 A1 (MORIYA HIROSHI ET AL) 18 July 2002 (2002-07-18) paragraph '0038! - paragraph '0139!; claims 12-16; figures 1-22	1-10
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Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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Date of the actual completion of the international search

17 February 2005

Date of mailing of the international search report

25/02/2005

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INTERNATIONAL SEARCH REPORT

US2004/025565

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