

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
16 May 2002 (16.05.2002)

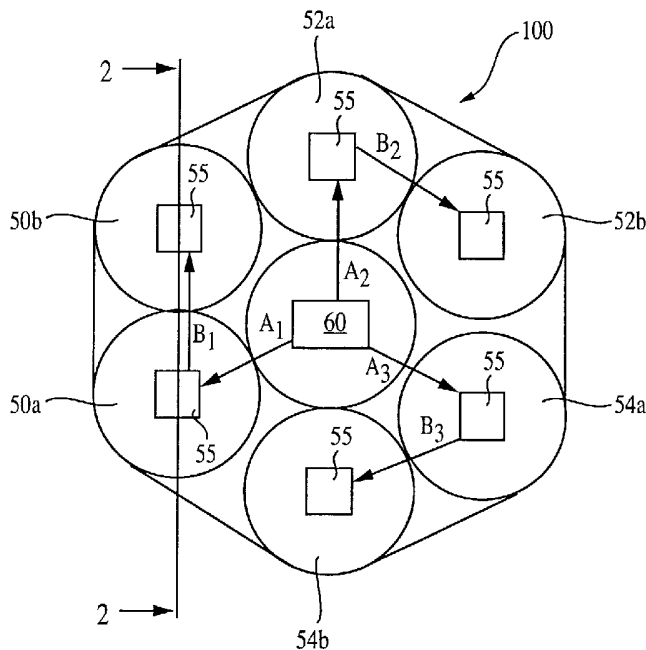
PCT

(10) International Publication Number
WO 02/038841 A3

- (51) International Patent Classification⁷: C30B 31/00, 35/00, 31/10
 - (21) International Application Number: PCT/US01/26079
 - (22) International Filing Date: 22 August 2001 (22.08.2001)
 - (25) Filing Language: English
 - (26) Publication Language: English
 - (30) Priority Data: 09/653,553 31 August 2000 (31.08.2000) US
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 - (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, 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, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
 - (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
- (88) Date of publication of the international search report:
1 May 2003

[Continued on next page]

(54) Title: ATOMIC LAYER DOPING APPARATUS AND METHOD



(57) Abstract: An improved atomic layer doping apparatus is disclosed as having multiple doping regions in which individual monolayer species are first deposited and then dopant atoms contained therein are diffused into the substrate. Each doping region is chemically separated from adjacent doping regions. A loading assembly is programmed to follow pre-defined transfer sequences for moving semiconductor substrates into and out of the respective adjacent doping regions. According to the number of doping regions provided, a plurality of substrates could be simultaneously processed and run through the cycle of doping regions until a desired doping profile is obtained.



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INTERNATIONAL SEARCH REPORT

 Intel onal Application No
 PCT/US 01/26079

 A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 C30B31/00 C30B35/00 C30B31/10

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 C30B

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)

WPI Data, EPO-Internal, IBM-TDB, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GRUETZMACHER D A ET AL: "ATOMIC LAYER DOPING FOR SI" THIN SOLID FILMS, ELSEVIER-SEQUOIA S.A. LAUSANNE, CH, vol. 225, no. 1 / 2, 25 March 1993 (1993-03-25), pages 163-167, XP000358305 ISSN: 0040-6090 page 163 -page 164 ---	1, 18, 27, 35, 40
A	US 3 811 826 A (ENDERLEIN H) 21 May 1974 (1974-05-21) column 2, line 17 - line 63 ---	1-4
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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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- *A* document defining the general state of the art which is not considered to be of particular relevance
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Date of the actual completion of the international search

12 December 2002

Date of mailing of the international search report

19/12/2002

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PCT/US 01/26079

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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