

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 April 2006 (27.04.2006)

PCT

(10) International Publication Number
WO 2006/044019 A3

(51) International Patent Classification:

C23C 16/34 (2006.01) C23C 16/44 (2006.01)
H01L 21/00 (2006.01) H01L 21/318 (2006.01)
C23C 16/455 (2006.01)

(21) International Application Number:

PCT/US2005/029037

(22) International Filing Date: 15 August 2005 (15.08.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

10/970,317 20 October 2004 (20.10.2004) US

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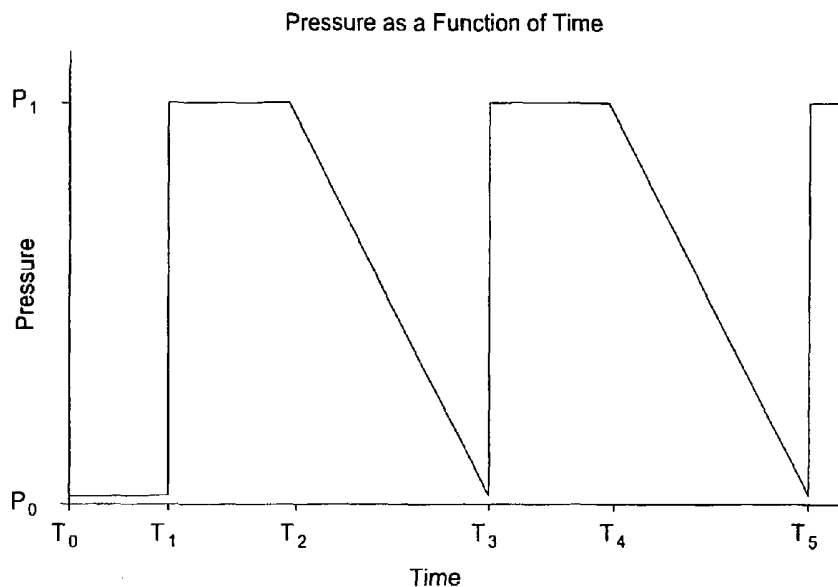
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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, 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),

[Continued on next page]

(54) Title: LOW TEMPERATURE SIN DEPOSITION METHODS



(57) Abstract: A silicon nitride layer is deposited on a substrate within a processing region by introducing a silicon containing precursor into the processing region, exhausting gases in the processing region including the silicon containing precursor while uniformly, gradually reducing a pressure of the processing region, introducing a nitrogen containing precursor into the processing region, and exhausting gases in the processing region including the nitrogen containing precursor while uniformly, gradually reducing a pressure of the processing region. During the steps of exhausting, the slope of the pressure decrease with respect to time is substantially constant.

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European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, 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).

(88) Date of publication of the international search report:
3 August 2006

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.

INTERNATIONAL SEARCH REPORT

national application No
Γ/US2005/029037

A. CLASSIFICATION OF SUBJECT MATTER
 INV. C23C16/34 H01L21/00 C23C16/455 C23C16/44 H01L21/318

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)
 C23C 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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003/013320 A1 (KIM YEONG-KWAN ET AL) 16 January 2003 (2003-01-16)	1, 3-5, 7, 8, 10, 12, 15, 17, 18, 20
Y	paragraphs [0034] - [0049]; figures 2, 4	2, 6, 9, 11, 13, 14, 16, 19
Y	US 2003/215570 A1 (SEUTTER SEAN M ET AL) 20 November 2003 (2003-11-20) paragraphs [0022], [0037]	2, 6, 9, 11, 13, 14, 16, 19
A	US 2002/164890 A1 (KWAN KIM YEONG ET AL) 7 November 2002 (2002-11-07) cited in the application paragraphs [0020], [0021], [0024]	1-20

Further documents are listed in the continuation of Box C.

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Date of the actual completion of the international search

9 May 2006

Date of mailing of the international search report

23/05/2006

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INTERNATIONAL SEARCH REPORT

national application No
T/US2005/029037

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