

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
2 February 2006 (02.02.2006)

PCT

(10) International Publication Number
WO 2006/012003 A2

(51) International Patent Classification:
B23K 9/00 (2006.01)

(21) International Application Number:
PCT/US2005/021098

(22) International Filing Date: 14 June 2005 (14.06.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/883,583 30 June 2004 (30.06.2004) 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, 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.

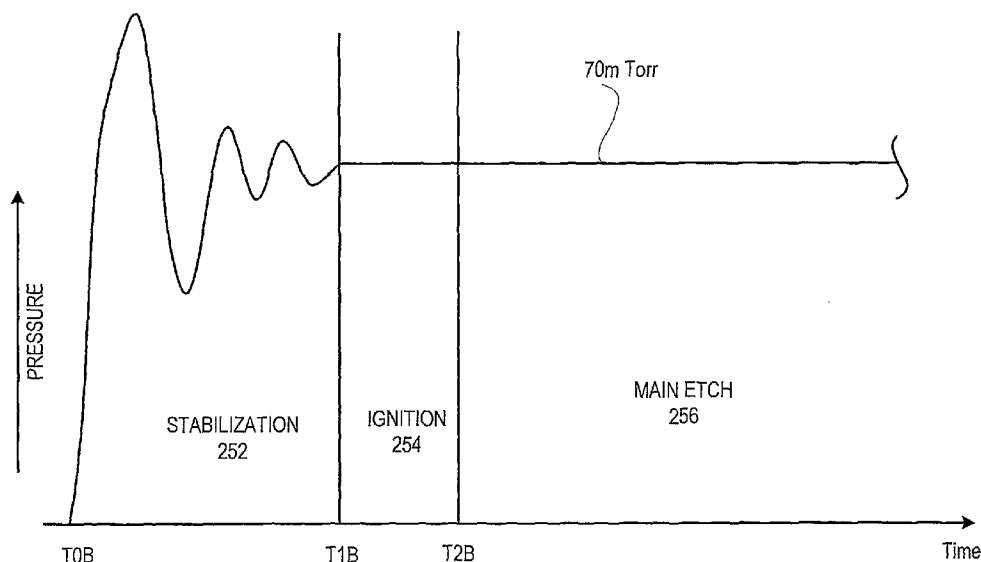
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, 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).

Published:

— without international search report and to be republished upon receipt of that report

[Continued on next page]

(54) Title: REDUCING PLASMA IGNITION PRESSURE



(57) Abstract: A method in a plasma processing system for processing a semiconductor substrate is disclosed. The plasma processing system includes a plasma processing chamber and an electrostatic chuck coupled to a bias compensation circuit. The method includes igniting a plasma in a plasma ignition step. Plasma ignition step is performed while a first bias compensation voltage provided by the bias compensation circuit to the chuck is substantially zero and while a first chamber pressure within the plasma processing chamber is below about 90 mTorr. The method further includes processing the substrate in a substrate-processing step after the plasma is ignited. The substrate-processing step employs a second bias compensation voltage provided by the bias compensation circuit that is higher than the first bias compensation voltage and a second chamber pressure substantially equal to the first chamber pressure.

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