(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
24 December 2008 (24.12.2008)

PCT

(10) International Publication Number
WO 2008/157018 A1

(51) International Patent Classification:
H01L 21/3065 (2006.01)

(21) International Application Number:
PCT/US2008/065578

(22) International Filing Date: 2 June 2008 (02.06.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/820,334 18 June 2007 (18.06.2007) US

(71) Applicant *(for all designated States except US)*: **LAM RESEARCH CORPORATION** [US/US]; 4650 Cushing Parkway, Fremont, California 94538 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **PANDHUMSOPORN, Tamarak** [US/US]; 4985 Seneca Park Loop, Fremont, California 94538 (US). **CHUNG, Patrick** [US/US]; 2862 Ralston Way, Tracy, US 95377 (US). **SETO, Jackie** [US/US]; 785 Glenborough Drive, Mountain View, California 94041 (US). **SADJADI, S.M. Reza** [US/US]; 20311 Carol Lane, Saratoga, California 95070 (US).

(74) Agents: **LEE, Michael, B., K.** et al.; Beyer Law Group LLP, 20450 Stevens Creek Boulevard, Cupertino, California 95014 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:
— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:
— *with international search report*

(54) **Title:** MINIMIZATION OF MASK UNDERCUT ON DEEP SILICON ETCH

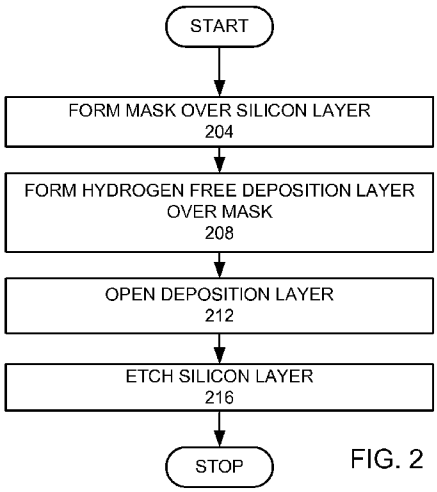


FIG. 2

(57) **Abstract:** A method for forming features in a silicon layer is provided. A mask is formed with a plurality of mask openings over the silicon layer. A polymer layer is deposited over the mask by flowing a hydrogen free deposition gas comprising C4F8, forming a plasma from the deposition gas, depositing a polymer from the plasma for at least 20 seconds, and stopping the depositing the polymer after the at least 20 seconds. The deposited polymer layer is opened by flowing an opening gas, forming a plasma from the opening gas which selectively removes the deposited polymer on bottoms of the plurality of mask openings with respect to deposited polymer on sides of the plurality of mask openings, and stopping the opening when at least some of the plurality of mask features are opened. The silicon layer is etched through the mask and deposited polymer layer.

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