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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
19 July 2007 (19.07.2007)

PCT

(10) International Publication Number
WO 2007/081880 A3

(51) International Patent Classification:
H01L 21/8238 (2006.01) *H01L 29/51* (2006.01)
H01L 27/146 (2006.01)

(21) International Application Number:
PCT/US2007/000407

(22) International Filing Date: 5 January 2007 (05.01.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/327,377 9 January 2006 (09.01.2006) US

(71) Applicant *(for all designated States except US)*: **MICRON TECHNOLOGY, INC.** [US/US]; 8000 S. Federal Way, Boise, ID 83707-0006 (US).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **MOULI, Chandra** [US/US]; 727 South Granite Way, Boise, ID 83712 (US). **PAREKH, Kunal, R.** [US/US]; 677 N. Morningside Way, Boise, ID 83712 (US).

(74) Agent: **D'AMICO, Thomas, J.**; Dickstein Shapiro LLP, 1825 Eye Street, NW, Washington, DC 20006-5403 (US).

(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, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, 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.

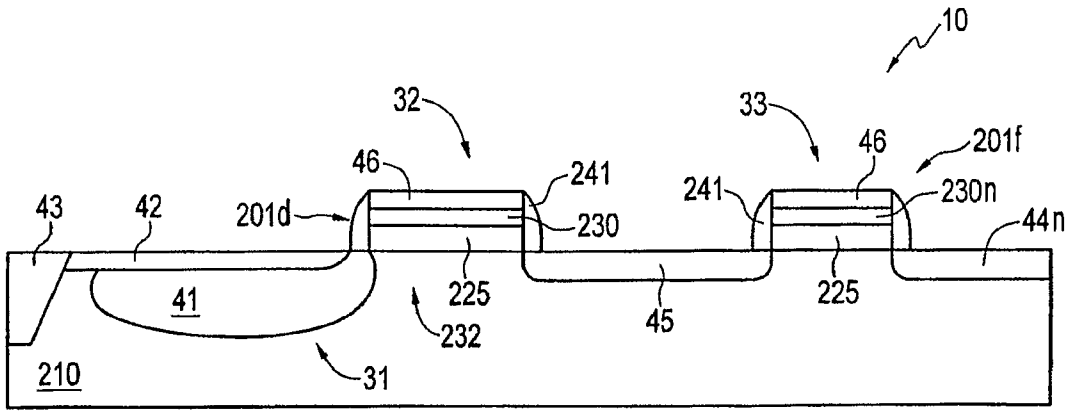
(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT,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

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*

(88) Date of publication of the international search report:
18 October 2007

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.

(54) Title: METHOD AND APPARATUS FOR PROVIDING AN INTEGRATED CIRCUIT HAVING P AND N DOPED GATES



(57) Abstract: A method and apparatus providing an integrated circuit having a plurality of gate stack structures having gate oxide layers with differing thicknesses and nitrogen concentrations and gate electrodes with differing conductivity types and active dopant concentrations.

WO 2007/081880 A3