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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
2 March 2006 (02.03.2006)

PCT

(10) International Publication Number
WO 2006/023306 A1

(51) International Patent Classification:
H01L 27/146 (2006.01)

(21) International Application Number:
PCT/US2005/028067

(22) International Filing Date: 9 August 2005 (09.08.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/918,454 16 August 2004 (16.08.2004) US

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

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: **MOULI, Chandra** [US/US]; 727 South Granite Way, Boise, ID 83712 (US).

(74) Agent: **D'AMICO, Thomas, J.**; Dickstein Shapiro Morin & Oshinsky LLP, 2101 L Street NW, Washington, DC 20037-1526 (US).

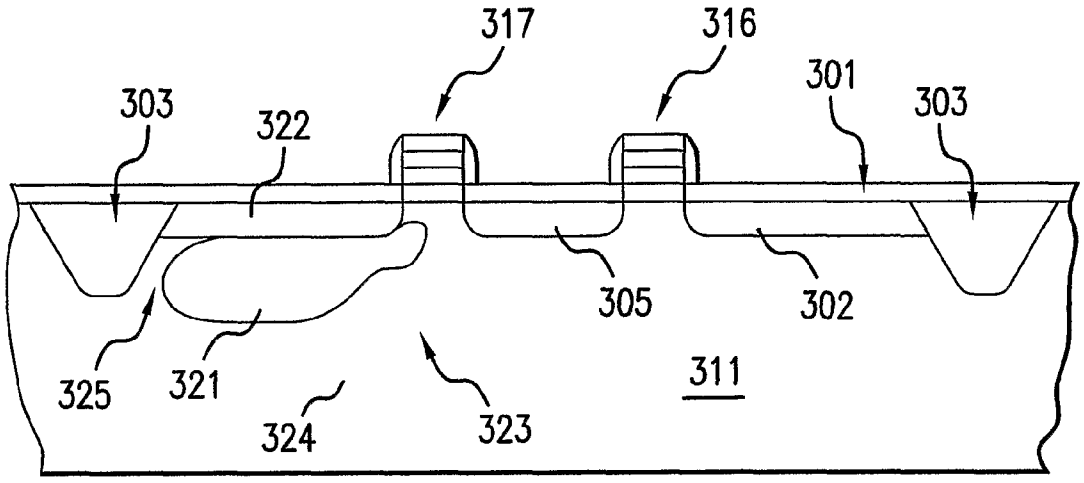
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, 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, 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*

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:** LOW DARK CURRENT IMAGE SENSORS WITH EPITAXIAL SIC AND/OR CARBONATED CHANNELS FOR ARRAY TRANSISTORS



(57) **Abstract:** A pixel cell having a substrate with an isolation channel formed of higher carbon concentrate such as SiC or carbonated silicon. The channel comprising SiC or carbonated silicon is provided over the substrate of the pixel cell to reduce the dark current leakage.

WO 2006/023306 A1