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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
7 June 2007 (07.06.2007)

PCT

(10) International Publication Number
WO 2007/064771 A3

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

(21) International Application Number:
PCT/US2006/045805

(22) International Filing Date:
30 November 2006 (30.11.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/289,553 30 November 2005 (30.11.2005) 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)*: **BOETTIGER, Ulrich, C.** [US/US]; 5109 North Lakemont Lane, Boise, ID 83703 (US). **YANG, Zhaohui** [CN/US]; 3757 S. Gekeler Ln. #189, Boise, ID 83706 (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.

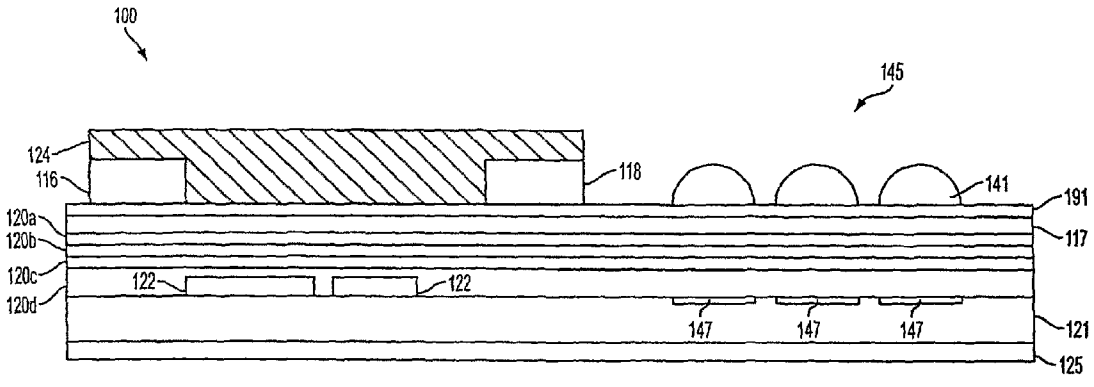
(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, 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:
19 July 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: IMAGER DEVICE WITH OPAQUE LAYER BLOCKING LIGHT FROM THE PERIPHERAL CIRCUITRY AND ITS MANUFACTURING METHOD



(57) Abstract: Methods and apparatuses are disclosed which provide imager devices having a light blocking material layer formed over peripheral circuitry outside a pixel cell array. The imager devices comprises a die; a pixel cell array formed in association with said die; peripherical circuitry formed in association with said die and electrically connected to said pixel cell array; a first frame forming a perimeter around said peripherical circuitry; and asubstantially opaque material layer over said circuitry, said material layer being coupled to said frame.

WO 2007/064771 A3