

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
8 November 2007 (08.11.2007)

PCT

(10) International Publication Number
WO 2007/126907 A1

(51) International Patent Classification:
H01L 21/84 (2006.01) *H01L 29/04* (2006.01)
H01L 27/12 (2006.01)

(21) International Application Number:
PCT/US2007/007705

(22) International Filing Date: 30 March 2007 (30.03.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10 2006 015 076.7 31 March 2006 (31.03.2006) DE
11/560,896 17 November 2006 (17.11.2006) US

(71) Applicant (for all designated States except US): **ADVANCED MICRO DEVICES, INC.** [US/US]; One AMD Place, Mail Stop 68, P.O. Box 3453, Sunnyvale, CA 94088-3453 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **FEUDEL, Thomas** [DE/DE]; Zillerstr 13A, 01445 Radebeul (DE). **HORSTMANN, Manfred** [DE/DE]; Aeussere Parkstr 25, 01833 Duerroehrsdorf-dittersbach (DE). **WIECZOREK, Karsten** [DE/DE]; Am Schulfeld 5, 01109 Dresden (DE). **HELLER, Thomas** [DE/DE]; Rahnitzgasse 22, 01097 Dresden (DE).

(74) Agent: **DRAKE, Paul, S.**; Advanced Micro Devices, Inc., 5204 East Ben White Boulevard, Mail Stop 562, Austin, TX 78741 (AE).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, 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, 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.

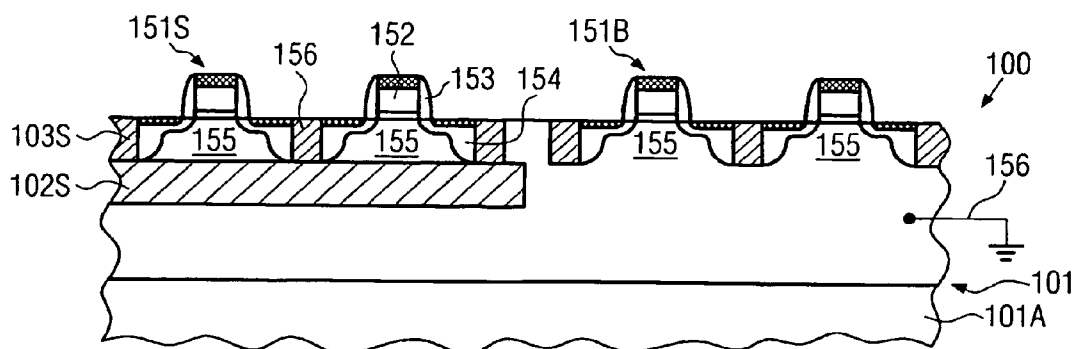
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, 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: SEMICONDUCTOR DEVICE COMPRISING SOI TRANSISTORS AND BULK TRANSISTORS AND A METHOD OF FORMING THE SAME



(57) Abstract: By forming bulk-like transistors (151B) in sensitive RAM areas of otherwise SOI-based CMOS circuits, a significant savings in valuable chip area may be achieved since the RAM areas may be formed on the basis of a bulk transistor configuration, thereby eliminating hysteresis effects that may typically be taken into consideration by providing transistors of increased transistor width or by providing body ties. Hence, the benefit of high switching speed may be maintained in speed-critical circuitry, such as CPU cores, while at the same time the RAM circuit may be formed in a highly space-efficient manner.