

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 October 2011 (27.10.2011)

PCT

(10) International Publication Number
WO 2011/133763 A3

- (51) International Patent Classification:
G11C 11/413 (2006.01) G11C 5/14 (2006.01)
- (21) International Application Number:
PCT/US2011/033417
- (22) International Filing Date:
21 April 2011 (21.04.2011)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
12/764,426 21 April 2010 (21.04.2010) US
- (63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:
US 12/764,426 (CON)
Filed on 21 April 2010 (21.04.2010)
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- (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, CL, 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, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

[Continued on next page]

(54) Title: RETAIN-TILL-ACCESSED (RTA) POWER SAVING MODE IN HIGH PERFORMANCE STATIC MEMORIES

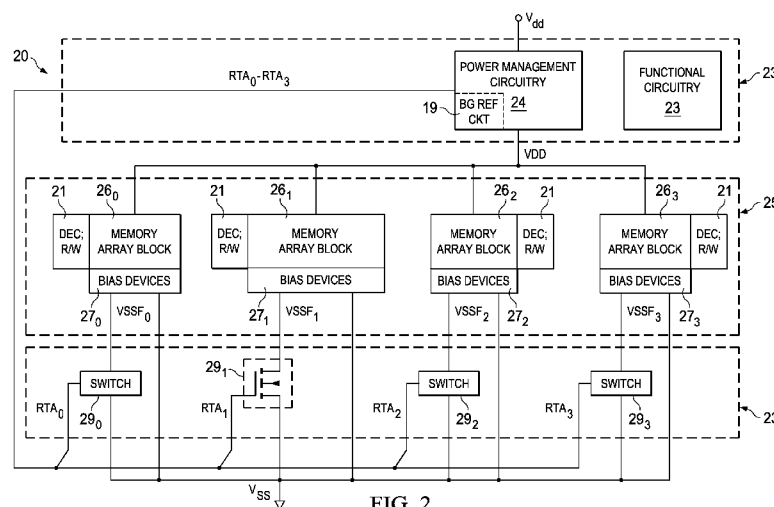


FIG. 2

(57) Abstract: Bias circuitry for a static random-access memory (SRAM) with a retain-till-accessed (RTA) mode. The memory is constructed of multiple memory array blocks (26), each including SRAM cells of the 8-T or 10-T type, with separate read and write data paths. Bias devices (27) are included within each memory array block (26), for example associated with individual columns, and connected between a reference voltage node for cross-coupled inverters in each memory cell in the associated column or columns, and a ground node. In a normal operating mode, a switch transistor (29) connected in parallel with the bias devices is turned on, so that the ground voltage biases the cross-coupled inverters in each cell. In the RTA mode, the switch transistors are turned off, allowing the bias devices to raise the reference bias to the cross-coupled inverters, reducing power consumed by the cells in that mode.

WO 2011/133763 A3



Published:

(88) Date of publication of the international search report:

9 February 2012

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2011/033417**A. CLASSIFICATION OF SUBJECT MATTER***G11C 11/413(2006.01)i, G11C 5/14(2006.01)i*

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G11C 11/413; G11C 7/00; G11C 11/4193; G11C 11/41; H01L 21/8244; G11C 11/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models
Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: SRAM, static memory, Vss, ground, RTA, bias, read buffer

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	US 2007-0279966 A1 (HOUSTON, THEODORE WARREN) 06 December 2007 See paragraphs [0064] - [0068], [0076] - [0080], [0085] - [0086]; figures 2B, 2C, 2D.	1-6,9-11,16 7-8,12-15,17
Y A	US 2006-0002223 A1 (SONG, TAE-JOONG et al.) 05 January 2006 See paragraphs [0038] - [0040]; figure 5.	1-6,9-11,16 7-8,12-15,17
A	KR 10-0662215 B1 (MIN, KYEONG SIK) 28 December 2006 See page 5, lines 15 - 36; figure 6.	1-17
A	JP 2009-076169 A (FUJITSU MICROELECTRONICS LTD.) 09 April 2009 See paragraphs [0004] - [0117].	1-17
A	JP 2008-090958 A (TOSHIBA CORP.) 17 April 2008 See paragraphs [0072] - [0084].	1-17

 Further documents are listed in the continuation of Box C. See patent family annex.

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"&" document member of the same patent family

Date of the actual completion of the international search

17 DECEMBER 2011 (17.12.2011)

Date of mailing of the international search report

19 DECEMBER 2011 (19.12.2011)

Name and mailing address of the ISA/KR

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2011/033417

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