

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
19 August 2004 (19.08.2004)

PCT

(10) International Publication Number
WO 2004/070987 A3

(51) International Patent Classification⁷: H03K 5/153, 5/22

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(21) International Application Number: PCT/US2004/001697

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(22) International Filing Date: 21 January 2004 (21.01.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 10/353,404 28 January 2003 (28.01.2003) 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, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

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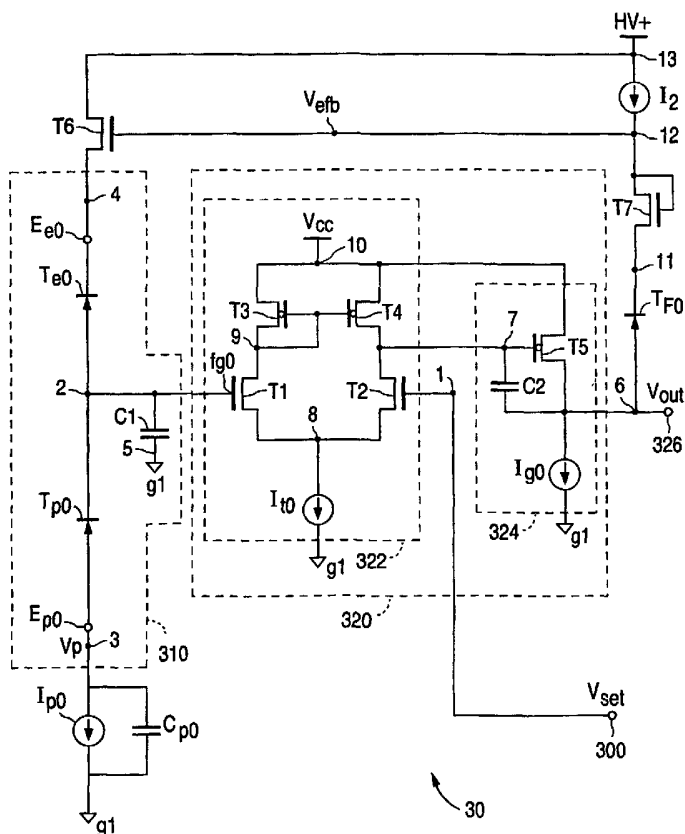
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(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),

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[Continued on next page]

(54) Title: ANALOG FLOATING GATE VOLTAGE SENSE DURING DUAL CONDUCTION PROGRAMMING



(57) Abstract: A method for sensing the voltage on a floating gate in a floating gate circuit during a set mode is disclosed. The method includes the steps of: a) causing the floating gate circuit (30) to enter into a set mode, wherein a first predetermined voltage (Vset) is coupled to the gate of a second transistor (T2) in the floating gate circuit; b) causing the voltage on the floating gate to be sensed relative to the first voltage by a first transistor (T1); c) causing an output voltage (Vout) to be generated by the floating gate circuit; and d) causing the voltage on the floating gate to be modified as a function of the output voltage, including modifying the charge level on said floating gate under the control of a first tunnel device (Te) and a second tunnel device (Tp) operating in dual conduction during said set mode, said first tunnel device formed between said floating gate and a first tunnel electrode (Ee) and said second tunnel device formed between said floating gate and a second tunnel electrode (Ep); and e) repeating steps b) through d) until the voltage on the floating gate is approximately equal to the first voltage.

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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, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(15) Information about Correction:

Previous Correction:

see PCT Gazette No. 40/2004 of 30 September 2004, Section II

Published:

— *with international search report*

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

17 February 2005

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.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/01697

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H03K 5/153; 5/22
 US CL : 327/77, 89; 365/185.26, 185.28, 185.29

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)
 U.S. : 327/77, 78, 89, 80, 81, 87, 88, 89; 365/185.01, 185.03, 185.26, 185.28, 185.29, 185.33

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 differential amplifier, floating gate, tunnel diodes, feedback.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,430,670 A (ROSENTHAL) 4 July 1995 (04.07.1995), figures 2	1-11
A	US 5,942,936 A (RICCO' et al.) 24 August 1999 (24.08.1999), figure 1	1-11

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	
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Date of the actual completion of the international search

29 June 2004 (29.06.2004)

Date of mailing of the international search report

14 OCT 2004

Name and mailing address of the ISA/US

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