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(54) Title: A HIGH ENDURANCE NON-VOLATILE MEMORY CELL AND ARRAY

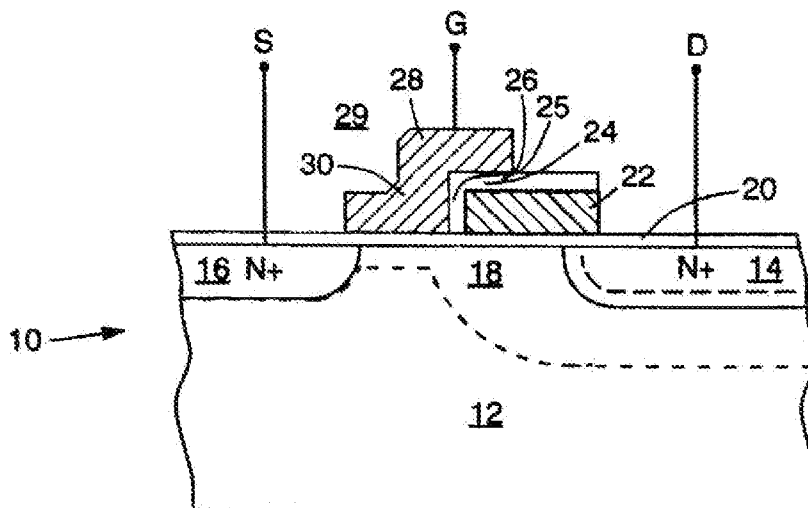


Figure 1

(57) Abstract: An electrically programmable and erasable memory cell has two storage transistors in a substrate of semiconductor material of a first conductivity type. The first storage transistor is of the type having a first region and a second region each of a second conductivity type in the substrate. The first and second regions are spaced apart from one another with a first channel region therebetween, which is defined in a first direction. A first floating gate is over at least a portion of the first channel region, is insulated therefrom, to control the conduction of current through the first channel region. A first control gate is capacitively coupled to the first floating gate. The first storage transistor is read by applying a first voltage to the first region.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US12/27788

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - H01L 29/788 (2012.01)

USPC - 257/315, E29.129; 365/185.26

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)

IPC(8): H01L 29/788; G11C 16/02 (2012.01)

USPC: 257/315,316,317,E29.129, E29.131; 365/185.18,185.26,185.23,185.33

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)

MicroPatent (US Granted, US Applications, EP-A, EP-B, WO, JP, DE-G, DE-A, DE-T, DE-U, GB-A, FR-A), DialogPro, Google, IP.com;
Search Terms: memory, storage, transistor, channel, floating gate, control gate, single, common, shared

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 7,906,805 B2 (SADD, M et al.) March 15, 2011, figures 3A-3C and Column 10, line 41 to column 11, line 16.	1-17
Y	US 7,710,763 B2 (HOUSTON, T) May 4, 2010, figure 2 and column 5, lines 66 to column 6, line 14.	1-17
Y	US 2007/0257299 A1 (CHEN, B et al.) November 8, 2007, figure 5 and paragraphs [0050]-[0051].	7, 8 and 13-16
Y	US 2009/0039410 A1 (LIU, X et al.) February 12, 2009, abstract, figure 3L and Paragraph [0028].	8, 15 and 16
Y	Applicant Admitted Prior Art, Figure 2.	9-12

☐ Further documents are listed in the continuation of Box C.

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"&" document member of the same patent family

Date of the actual completion of the international search

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