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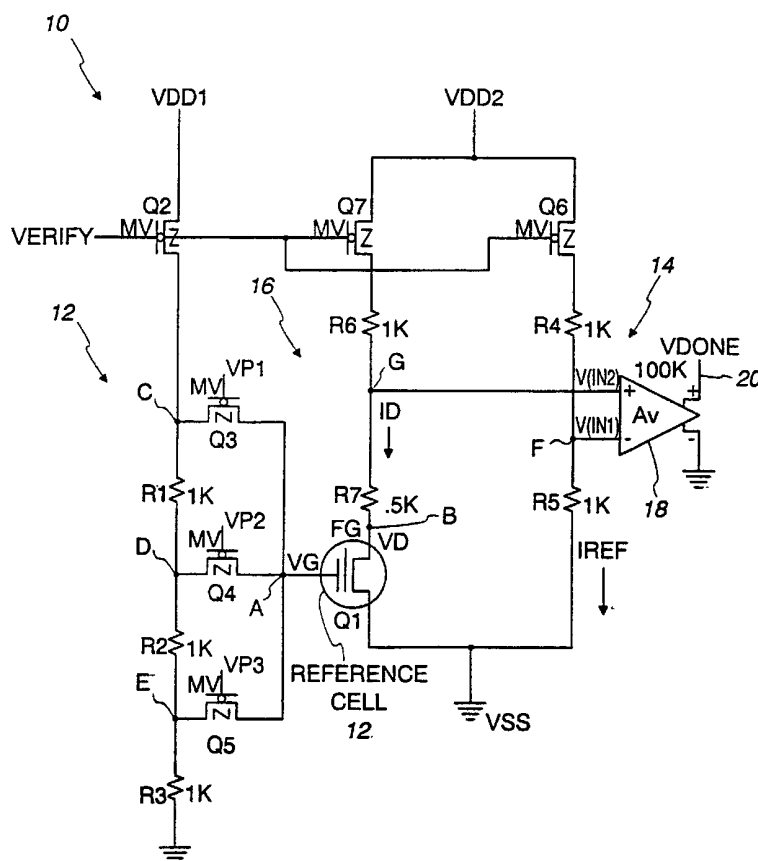
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(54) Title: AUTOMATED REFERENCE CELL TRIMMING VERIFY



(57) Abstract: A reference trimming verify circuit and method is provided for performing a program verify operation on a reference cell transistor in an array of Flash EEPROM memory cells. A reference current branch (14) is used to generate a reference current corresponding to a predetermined overdrive voltage of the reference cell to be programmed. A drain current branch (16) is coupled to the reference cell transistor to be programmed and generates a drain current at a fixed gate voltage applied to its control gate and at a predetermined drain voltage applied to its drain when the drain current is at the desired level. A comparator (18) is used to compare a sensed voltage corresponding to the drain current and a reference voltage corresponding to the reference current. The comparator generates an output signal which is at a low logic level when the sensed voltage is less than the reference voltage and which is at a high logic level when the sensed voltage is greater than the reference voltage. A program pulse is applied to the reference transistor each time the comparator generates the low logic level and terminates the program pulse when the comparator generates the high logic level.

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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

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A. CLASSIFICATION OF SUBJECT MATTER

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

B. FIELDS SEARCHED

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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 practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 822 250 A (KRZENTZ STEVEN V) 13 October 1998 (1998-10-13) abstract	1,7
A	US 5 608 669 A (JAVANIFARD JOHNNY ET AL) 4 March 1997 (1997-03-04) column 6, line 34 -column 9, line 30; figures 4,7	1,7
A	WO 90 12400 A (SUNDISK CORP) 18 October 1990 (1990-10-18) page 30, line 16 -page 31, line 34; figures 10,11	1,7



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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US 5608669	A	04-03-1997	US 5608679 A 04-03-1997
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