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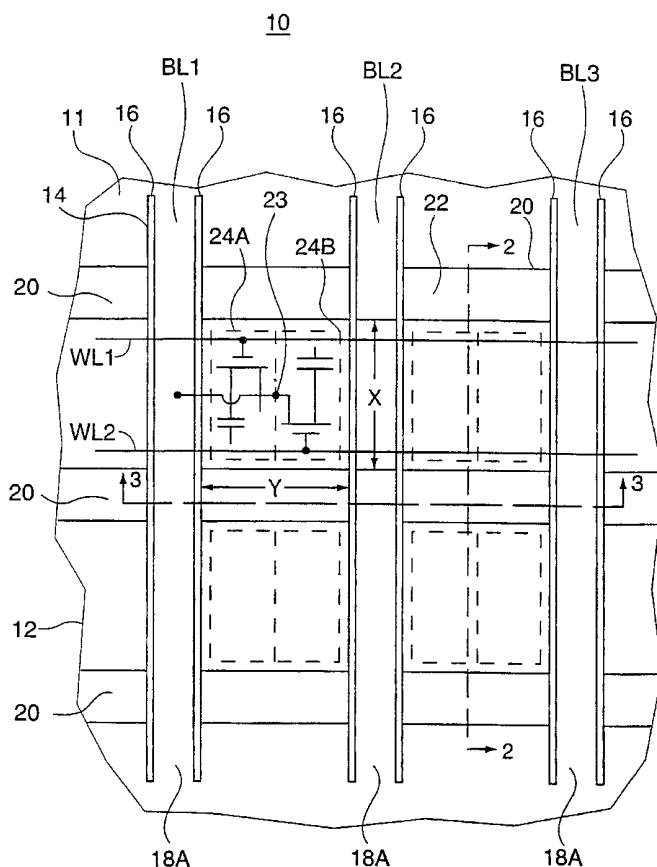
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(54) Title: BURIED BIT LINE-FIELD PLATE ISOLATION DEFINED DRAM CELL ACTIVE AREAS



(57) **Abstract:** Active areas (24A, 24B) of a Dynamic Random Access Memory (DRAM) formed on a semiconductor substrate are defined by buried bit lines (BL1, BL2, BL3) on two sides and by conductors (20) separated from the semiconductor substrate by electrically insulating layers (22) on two other sides. The conductors are electrically biased during operation of the DRAM to cause portions of the semiconductor substrate therebelow to increase in majority carrier concentration and thus to inhibit inversion thereof, commonly known as field plate insulation. Each buried bit line is formed in a trench (14) in the semiconductor substrate. Each trench houses a separate bit line and is lined with an electrical insulator (16) and has a conductor (18A) in a bottom portion thereof. Common drain regions (23A) shared by two transistors are coupled to conductors (18A) by means of a conductor (32).

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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

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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

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01L

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)

PAJ, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 1996, no. 09, 30 September 1996 (1996-09-30) & JP 08 125144 A (NEC CORP), 17 May 1996 (1996-05-17) pictures of japanese original abstract ---	1-13
Y	WO 98 48460 A (MICRON TECHNOLOGY INC) 29 October 1998 (1998-10-29) the whole document ---	1-13
Y	PATENT ABSTRACTS OF JAPAN vol. 1996, no. 04, 30 April 1996 (1996-04-30) & JP 07 326678 A (NEC CORP), 12 December 1995 (1995-12-12) abstract ---	1-13
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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A	EP 0 444 615 A (TOKYO SHIBAURA ELECTRIC CO) 4 September 1991 (1991-09-04) the whole document ---	1-13
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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