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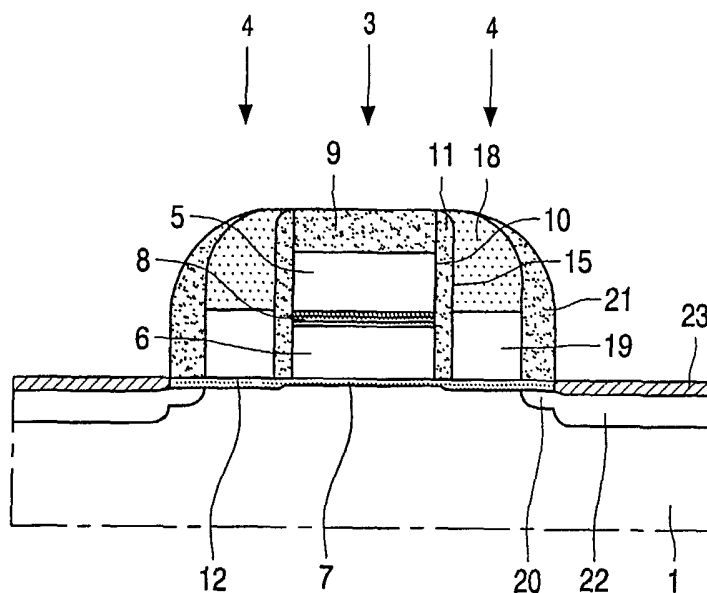
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ning of each regular issue of the PCT Gazette.*

(54) Title: METHOD OF MANUFACTURING A SEMICONDUCTOR NON-VOLATILE MEMORY



(57) Abstract: Method of manufacturing a semiconductor device comprising a semiconductor body (1) which is provided at a surface (2) with a non-volatile memory comprising a memory cell with a gate structure (4) with an access gate (19) and a gate structure (3) with a control gate (5) and a charge storage region situated between the control gate (5) and the semiconductor body (1), such as a floating gate (6). In this method on the surface (2) of the semiconductor body (1) a first one of said gate structures is formed with side walls (10) extending substantially perpendicular to the surface, a conductive layer is deposited (13) on and next to said first gate-structure, the conductive layer is subjected to a planarizing treatment until the first gate structure is exposed and the so

planarized conductive layer is patterned so as to form at least a part of the other gate structure adjoining the first gate structure. Said patterning of the planarized conductive layer is performed in that the planarized conductive layer (14) is etched back so as to expose an upper portion (15) of the side walls of the first gate structure, a spacer (18) is formed on the exposed upper portion (15) of the side walls of first gate structure and the conductive layer (16) is etched anisotropically using the spacer as a mask. Thus very small memory cells can be realized.

INTERNATIONAL SEARCH REPORT

International Application No
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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01L21/336 H01L29/788 H01L21/28

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)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	EP 0 411 573 A (TOKYO SHIBAURA ELECTRIC CO) 6 February 1991 (1991-02-06) the whole document ---	1-11
A	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 20, 10 July 2001 (2001-07-10) -& JP 2001 085541 A (HITACHI LTD; HITACHI DEVICE ENG CO LTD), 30 March 2001 (2001-03-30) abstract -----	1



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Patent family members are listed in annex.

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