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— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

— *with international search report (Art. 21(3))*

(54) **Title:** MEMORY CELL SENSING WITH STORAGE COMPONENT ISOLATION

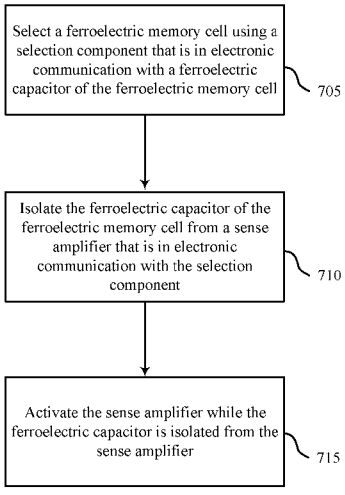

FIG. 7

700

(57) **Abstract:** Methods, systems, and devices for operating a ferroelectric memory cell or cells are described. A ferroelectric memory cell may be selected using a selection component that is in electronic communication with a sense amplifier and a ferroelectric capacitor of a ferroelectric memory cell. A voltage applied to the ferroelectric capacitor may be sized to increase the signal sensed during a read operation. The ferroelectric capacitor may be isolated from the sense amplifier during the read operation. This isolation may avoid stressing the ferroelectric capacitor which may otherwise occur due to the applied read voltage and voltage introduce by the sense amplifier during the read operation.

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[Continued on next page]

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

G11C 11/22(2006.01)i

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)
G11C 11/22; G11C 7/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean utility models and applications for utility models
Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & Keywords: memory, ferroelectric, isolating, capacitor, sense amplifier, and similar terms.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,804,140 B2 (CHIN-HSI LIN et al.) 12 October 2004 See column 1, lines 40-62; claim 1; and figures 2A-2B.	1,3-8,18,20
A		2,9-17,19
Y	US 6,917,551 B2 (GI-TAE JEONG) 12 July 2005 See column 4, lines 38-54; column 6, lines 23-33; and figure 4.	1,3-8,18,20
Y	US 8,018,754 B1 (JOSEPH T. EVANS, JR. et al.) 13 September 2011 See column 7, line 44 - column 8, line 5; and figures 4, 7.	20
A	US 8,780,664 B2 (MOSAID TECHNOLOGIES INCORPORATED) 15 July 2014 See column 4, line 9 - column 13, line 50; and figures 1-3C.	1-20
A	US 6,898,104 B2 (RYU OGIWARA et al.) 24 May 2005 See column 2, line 62 - column 6, line 5; and figures 1-7.	1-20

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

☒ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents,such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
15 June 2017 (15.06.2017)	**15 June 2017 (15.06.2017)**

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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