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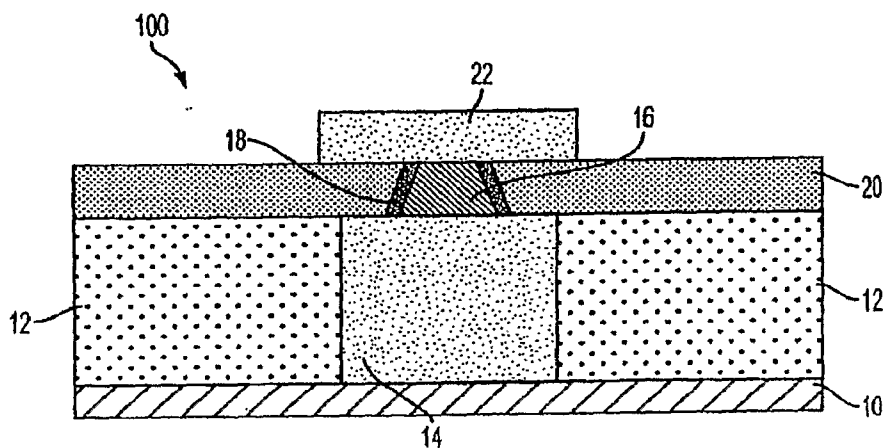
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PHASE CHANGE MEMORY ELEMENTS USING SELF- ALIGNED PHASE CHANGE MATERIAL LAYERS AND METHODS OF MAKING AND USING SAME



(57) Abstract: A phase change memory element and method of forming the same. The memory element includes a substrate supporting a first electrode. An insulating material element is positioned over the first electrode, and a phase change material layer is formed over the first electrode and surrounding the insulating material element such that the phase change material layer has a lower surface that is in electrical communication with the first electrode. The memory element also has a second electrode in electrical communication with an upper surface of the phase change material layer.

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/007188

A. CLASSIFICATION OF SUBJECT MATTER
INV. H01L45/00

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)
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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2005/212037 A1 (PINNOW CAY-UWE [DE] ET AL) 29 September 2005 (2005-09-29) figure 8	1, 3, 5, 6, 10-14, 38, 39
X	US 2004/124503 A1 (HARSHFIELD STEVEN T [US]) 1 July 2004 (2004-07-01) figure 25	1, 3, 5, 6, 10-13, 21, 24, 25, 38, 39
X	US 2006/006374 A1 (CHANG HEON YONG [KR]) 12 January 2006 (2006-01-12) figure 4E	1, 3-9
P, X	EP 1 677 372 A (ST MICROELECTRONICS SRL [IT]) 5 July 2006 (2006-07-05) figure 14	15, 17

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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