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[Continued on next page]

(54) Title: METHODS FOR MANUFACTURING HIGH DIELECTRIC CONSTANT FILMS

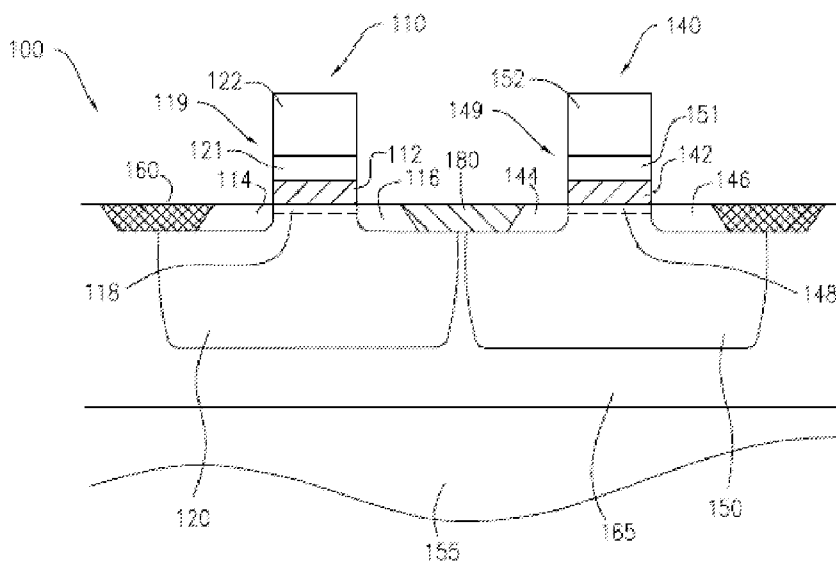


FIG. 1

(57) Abstract: Provided are methods for depositing a high-k dielectric film on a substrate. The methods comprise annealing a substrate after cleaning the surface to create dangling bonds and depositing the high-k dielectric film on the annealed surface.





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**A. CLASSIFICATION OF SUBJECT MATTER***H01L 21/31(2006.01)i, H01L 29/78(2006.01)i, H01L 21/336(2006.01)i, H01L 21/8238(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)

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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) &amp; Keywords:process, clean, anneal, deposit, dangling bond, high-k dielectric

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	US 2002-0098627 A1 (POMAREDE CHRISTOPHE F. et al.) 25 July 2002 See abstract; paragraphs [0061]-[0068]; and figure 3	1-2, 5-10 3-4, 11-15
Y A	US 2010-0087052 A1 (XU ZHI) 08 April 2010 See abstract; paragraphs [0017]-[0019]; and figures 1-2	1-2, 5-10 3-4, 11-15
A	US 2003-0232501 A1 (KHER SHREYAS S. et al.) 18 December 2003 See abstract; paragraphs [0021]-[0026]; and figures 1-2	1-15

 Further documents are listed in the continuation of Box C. See patent family annex.

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"&amp;" document member of the same patent family

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Information on patent family members

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