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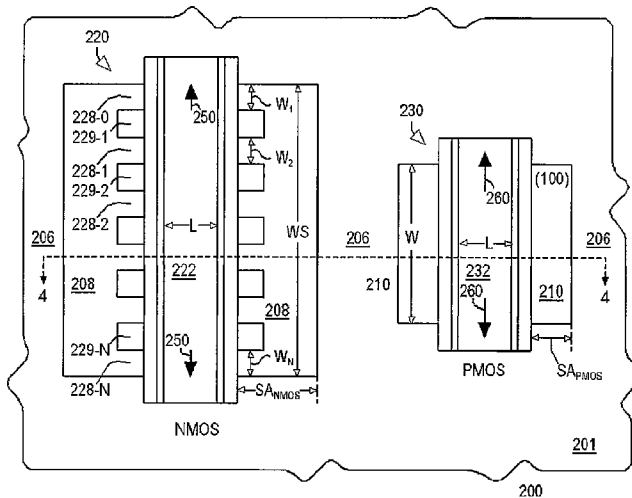
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(54) Title: SELECTIVE UNIAXIAL STRESS RELAXATION BY LAYOUT OPTIMIZATION IN STRAINED SILICON ON INSULATOR INTEGRATED CIRCUIT



(57) Abstract: An integrated circuit (200) includes NMOS and PMOS transistors (220, 230). The NMOS (220) has a strained channel having first and second stress values along first and second axes respectively. The PMOS (230) has a strained channel having third and fourth stress values along the first and second axes. The first value stress differs from the third value and the second value differs from the fourth value. The NMOS (220) and PMOS (230) have a common length (L) and effective width (W), but differ in length of diffusion (SA) and/ width of source/drain (WS). The NMOS WS may exceed the PMOS WS. The NMOS (220) may include multiple dielectric structures in the active layer underlying the gate The SA of the PMOS (230) may be less than the SA of the NMOS (220).

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INTERNATIONAL SEARCH REPORT

International application No.

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**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC(8) - H01L 29/76 (2007.01)  
 USPC - 257/401  
 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(8) - H01L 29/76, 29/94, 31/00 (2007.01).  
 USPC - 257/213, 288, 327, 335, 336, 344, 368, 369, 382, 401.

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 practicable, search terms used)  
 MicroPatent, IP.com, DialogPro, Google Patents

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2006/0043500 A1 (CHEN et al) 02 March 2006 (02.03.2006), see whole document.	1-3, 5, 6, 15, 16, 19
Y		4, 7-14, 17-18, 20
Y	US 2005/0139872 A1 (CHIDAMBARAM et al) 30 June 2005 (30.06.2005), see whole document.	7-14, 20
Y	US 6,815,770 B1 (CHIEN et al) 09 November 2004 (09.11.2004), see whole document.	4, 8-10, 12-14, 17, 18

Further documents are listed in the continuation of Box C.

\* Special categories of cited documents:

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"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
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