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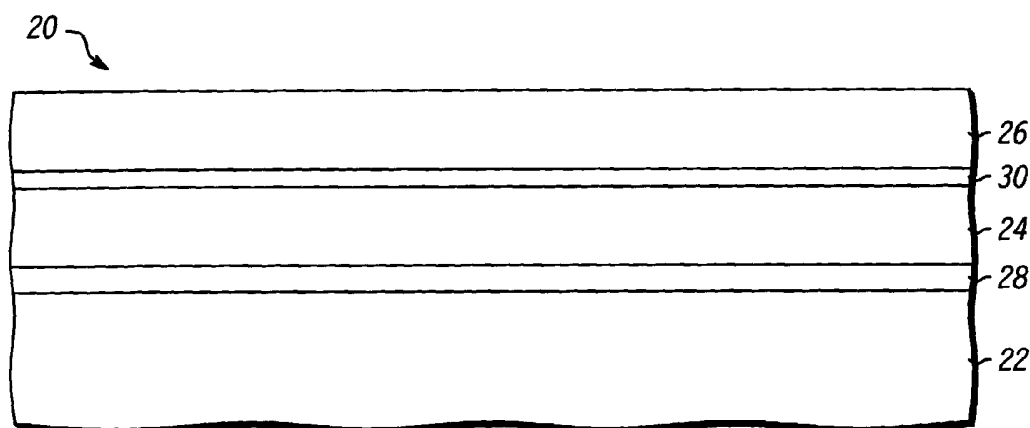
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(54) Title: SEMICONDUCTOR STRUCTURES AND POLARIZATION MODULATOR DEVICES



(57) Abstract: Polarization modulator devices (300) can be formed to take advantage of multi-layered semiconductor structures. High quality epitaxial layers (26) of monocrystalline materials can be grown overlying monocrystalline substrates (22) such as large silicon wafers by forming a compliant substrate for growing the monocrystalline layers. An accommodating buffer layer (24) comprises a layer of monocrystalline oxide spaced apart from a silicon wafer by an amorphous interface layer (28) of silicon oxide. The amorphous interface layer dissipates strain and permits the growth of a high quality monocrystalline oxide accommodating buffer layer. The accommodating buffer layer is lattice matched to both the underlying silicon wafer and the overlying monocrystalline material layer. Any lattice mismatch between the accommodating buffer layer and the underlying silicon substrate is taken care of by the amorphous interface layer.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G02F1/015 H01L21/8258 H04B14/00 H01Q21/24

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 H04B H01Q 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, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 103 008 A (WALKER FREDERICK JOSEPH ET AL) 15 August 2000 (2000-08-15) abstract column 7, line 17 - line 45 ---	1-52
A	US 5 245 465 A (ODA HITOSHI ET AL) 14 September 1993 (1993-09-14) abstract; figure 10 ---	1-52
A	US 5 214 723 A (ZAMKOTSIAN FREDERIC) 25 May 1993 (1993-05-25) abstract; figure 4 ---	1-52
X	US 5 659 322 A (CAILLE GERARD) 19 August 1997 (1997-08-19) column 9, line 12 -column 10, line 7; figure 5 -----	53-57

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Patent family members are listed in annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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