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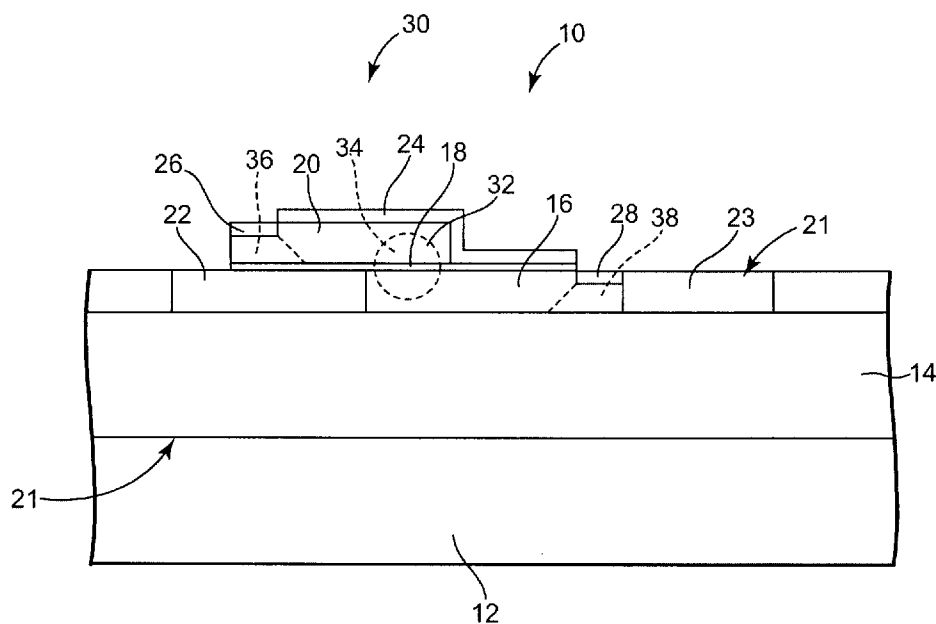
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(54) Title: SILICON-INSULATOR THIN-FILM STRUCTURES FOR OPTICAL MODULATORS AND METHODS OF MANUFACTURE



(57) Abstract: The present invention provides silicon based thin-film structures that can be used to form high frequency optical modulators. Devices of the invention are formed as layered structures that have a thin-film dielectric layer (18), such as silicon dioxide, sandwiched between silicon layers (16, 20). The silicon layers (16, 20) have high free carrier mobility. In one aspect of the invention a high mobility silicon layer (20) can be provided by crystallizing an amorphous silicon layer. In another aspect of the invention, a high mobility silicon layer (20) can be provided by using selective epitaxial growth and extended lateral overgrowth thereof.

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