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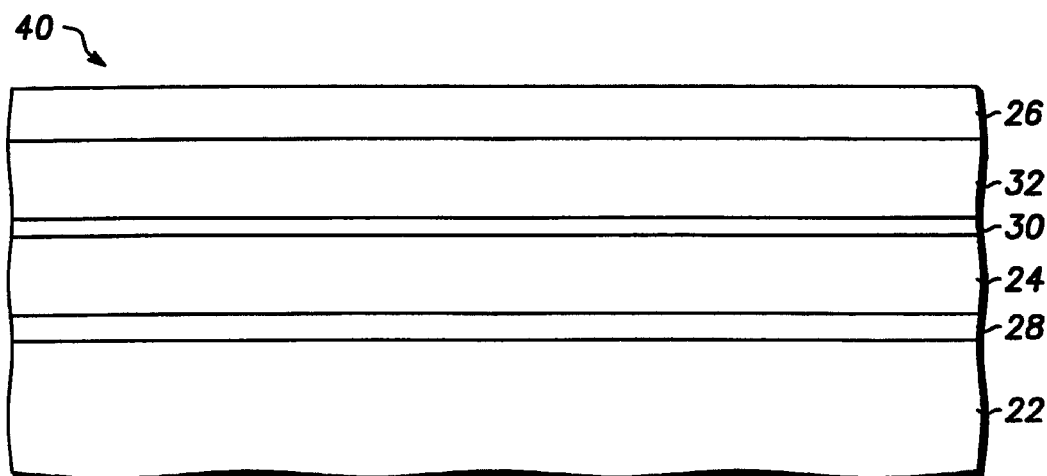
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(54) Title: SEMICONDUCTOR STRUCTURE



(57) Abstract: High quality epitaxial layers of compound semiconductor materials can be grown overlying lattice mismatched substrates, preferably silicon wafers, by first growing an accommodating buffer layer (24). The accommodating buffer layer is a layer of monocrystalline insulator (24) spaced apart from the substrate (22) by an amorphous oxide interface layer (28) of preferably silicon oxide. The amorphous interface layer dissipates strain and permits the growth of a high quality monocrystalline insulator accommodating buffer layer (24), preferably of perovskite oxide material such as alkaline earth titanates, zirconates or the like.

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