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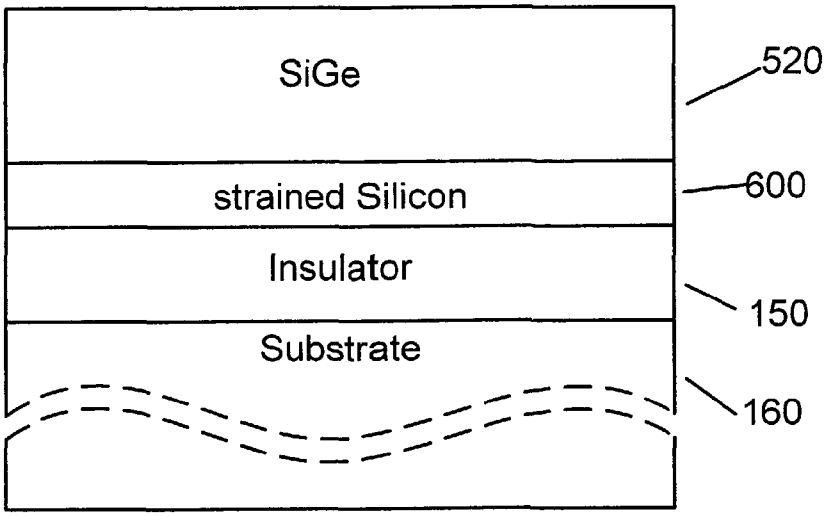
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(54) Title: STRAINED SILICON-ON-INSULATOR (SSOI) AND METHOD TO FORM THE SAME



(57) Abstract: A method for fabricating a strained Si layer on insulator, a structure of the strained Si layer on insulator, and electronic systems comprising such layers are disclosed. The method comprises the steps of forming epitaxially a relaxed SiGe layer on top of a Si layer on insulator; transforming the crystalline Si layer and the lower portion of the crystalline relaxed SiGe layer into an amorphous material state by ion implantation; and re-crystallizing the amorphous material from the crystalline top portion of the SiGe layer. The larger lattice constant of the SiGe seed layer forces a tensile strain in the Si layer.

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