Abstract

Method to form selective strained Si using lateral epitaxy

Embodiments for FET devices with stress on the channel region by forming stressor regions under the source/drain regions or the channel region and forming a selective strained Si using lateral epitaxy over the stressor regions. In a first example embodiment, a lateral epitaxial layer is formed over a stressor region under a channel region of an FET. In a second example embodiment, a lateral S/D epitaxial layer is formed over S/D stressor region under the source/drain regions of an FET. In a third example embodiment, both PFET and NFET devices are formed. In the PFET device, a lateral S/D epitaxial layer is formed over S/D stressor region under the source/drain regions. In the NFET device, the lateral epitaxial layer is formed over a stressor region under a channel region of the NFET.

Fig. 1H