Abstract

IMPLANTATION-LESS APPROACH TO FABRICATING STRAINED SEMICONDUCTOR ON ISOLATION WAFERS

A method of fabrication of semiconductor substrate structure comprising the following. A buffer layer is formed on the Si Substrate. We form a SiGe layer on the novel buffer layer. The buffer layer has defects therein so that the buffer layer is oxidized to form a buried isolation layer comprised of silicon oxide and an oxide layer and oxidize the SiGe layer for form a oxide layer. The oxide layer is then removed. An upper semiconductor layer (e.g., Si, SiGe or Ge layer) is epitaxially formed on the SiGe layer. Devices are formed on said an upper semiconductor layer. The buffer layer can be formed by several aspects.

Figure 2A-2