Method of Forming Strained Silicon on Insulator Substrate

ABSTRACT

A method of forming a strained-silicon-on-insulator substrate is disclosed. A target wafer includes an insulator layer on a substrate. A donor wafer includes a bulk semiconductor substrate having a lattice constant different from a lattice constant of silicon and a strained silicon layer formed on the bulk semiconductor substrate. The top surface of the donor wafer is bonded to the top surface of the target wafer. The strained silicon layer is then separated from the donor wafer so that the strained silicon layer adheres to the target wafer. The bond between the strained silicon layer and the target wafer can then be strengthened.

FIG. 4G