

Strained Channel on Insulator Device

ABSTRACT

A semiconductor device 10 includes a substrate 12 (e.g., a silicon substrate) with an insulating layer 14 (e.g., an oxide such as silicon dioxide) disposed thereon. A first semiconducting material layer 16 (e.g., SiGe) is disposed on the insulating layer 14 and a second semiconducting material layer 18 (e.g., Si) is disposed on the first semiconducting material layer 16. The first and second semiconducting material layers 16 and 18 preferably have different lattice constants such that the first semiconducting material layer 16 is compressive and the second semiconducting material layer is tensile 18.

FIG. 1