

Title (en)

RELAXED SILICON GERMANIUM PLATFORM FOR HIGH SPEED CMOS ELECTRONICS AND HIGH SPEED ANALOG CIRCUITS

Title (de)

RELAXIERTE SILIZIUM-GERMANIUM PLATTFORM FÜR HOCHGESCHWINDIGKEITS-CMOS ELEKTRONIK UND ANALOGE HOCHGESCHWINDIGKEITS-SCHALTUNGEN

Title (fr)

PLATE-FORME DE SILICIUM GERMANIUM RELACHEE POUR ELECTRONIQUE CMOS TRES RAPIDE ET CIRCUITS ANALOGIQUES TRES RAPIDES

Publication

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Application

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Abstract (en)

[origin: WO02071495A1] Structures and methods for fabricating high speed digital, analog, and combined digital/analog systems using planarized relaxed SiGe as the materials platform. The relaxed SiGe allows for a plethora of strained Si layers that possess enhanced electronic properties. By allowing the MOSFET channel to be either at the surface or buried, one can create high-speed digital and/or analog circuits. The planarization before the device epitaxial layers are deposited ensures a flat surface for state-of-the-art lithography. In accordance with one embodiment of the invention, there is provided a semiconductor structure including a planarized relaxed Si<sub>1-x</sub>Gex layer on a substrate, and a device heterostructure deposited on said planarized relaxed Si<sub>1-x</sub>Gex layer including at least one strained layer.

IPC 1-7

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