

Title (en)

SEMICONDUCTOR STRUCTURES HAVING A STRAIN COMPENSATED LAYER AND METHOD OF FABRICATION

Title (de)

HALBLEITERSTRUKTUREN MIT EINER SPANNUNGSKOMPENSIERTEN SCHICHT UND HERSTELLUNGSVERFAHREN

Title (fr)

STRUCTURES DE SEMI-CONDUCTEUR POSSEDANT UNE COUCHE A CONTRAINTES COMPENSEES ET PROCEDE DE FABRICATION ASSOCIE

Publication

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Application

**EP 00940681 A 20000301**

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Abstract (en)

[origin: WO0058999A2] The present invention provides a semiconductor structure which includes a strain compensated superlattice layer comprising a plurality of pairs of constituent layers, with the first constituent layer comprising a material under tensile stress, and the second constituent layer comprising a material under compressive stress, such that the stresses of the adjacent layer compensate one another and lead to reduced defect generation. Appropriate selection of materials provides increased band gap and optical confinement in at least some implementations. The structure is particularly suited to the construction of laser diodes, photodiodes, phototransistors, and heterojunction field effect and bipolar transistors.

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