Abstract

A Method for Fabricating a Wafer Structure with a Strained Silicon Layer and an Intermediate Product of this Method

The present invention relates to a method for fabricating a wafer structure with a strained silicon layer and to an intermediate product of this method. It is the object of the present invention to provide a method and an intermediate product which allow an efficient fabrication of a wafer structure with a strained silicon layer wherein a donor or support substrate used in the method can be recycled with a high reproducibility. The object is solved by a method for fabricating a wafer structure with a strained silicon layer, comprising: providing a prototype wafer comprising a support substrate and having on top a strained silicon model layer; growing epitaxially a relaxed auxiliary SiGe layer on the strained silicon model layer; growing epitaxially a strained silicon utility layer on the relaxed auxiliary SiGe layer; and splitting the structure at a predetermined splitting area created in the auxiliary SiGe layer. The method is further solved by an intermediate product for fabricating a wafer structure with a strained silicon layer, comprising: a prototype wafer comprising a support substrate and a strained silicon model layer; a relaxed auxiliary SiGe layer on the strained silicon model layer wherein a predetermined splitting area is formed in the relaxed auxiliary SiGe layer; and a strained silicon utility layer on the auxiliary SiGe layer.