DESCRIPTION

~~PROCESS FOR PRODUCING BONDED SOI WAFER~~

TECHNICAL FIELD

[0001]

The present invention relates to a method for manufacturing a bonded SOI wafer using an ion-implantation delamination method.

BACKGROUND ART

[0002]

In recent years, as a method for manufacturing an SOI wafer, a method for delaminating an ion-implanted wafer after bonding to manufacture an SOI wafer (an ion-implantation delamination method: technology that is also called a smart cut method (a registered trademark)) has newly started to attract attention. In this ion-implantation delamination method, an oxide film is formed on at least one of two silicon wafers, and from an upper surface of one silicon wafer (a bond wafer), gas ions such as hydrogen ions or rare gas ions are implanted to form a micro bubble layer (an enclosed layer) in the wafer.

[0003]

Then, the ion-implanted surface is adhered closely to the other silicon wafer (a base wafer) through the oxide film, followed by subjecting to a heat treatment (a delamination heat treatment) to delaminate one wafer (the bond wafer) in a thin film shape by using the micro bubble layer to be a cleavage surface, and additionally subjected to a heat treatment (a bonding heat treatment) to strengthen the bonding. This is such a technology to

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