DESCRIPTION

~~SOI WAFER MANUFACTURING METHOD~~

TECHNICAL FIELD

[0001]

The present invention relates to a method of manufacturing a silicon-on-insulator (SOI) wafer by the so-called ion implantation separation method (also referred to as the Smart Cut method (registered trademark)), in which the SOI wafer is manufactured by separating an ion-implanted wafer after bonding.

BACKGROUND ART

[0002]

A representative method of manufacturing an SOI wafer is an ion implantation separation method.

The ion implantation separation method will now be briefly described. First, two silicon wafers are prepared as a bond wafer and a base wafer. An oxide film that will become a buried oxide film of an SOI wafer is formed on at least one of the wafers, for example the bond wafer. The silicon wafer on which the oxide film has been formed is then implanted with ions through the oxide film from its surface that will become a bonding interface, so that a layer of the implanted ions is formed in the silicon wafer. The silicon wafer in which the layer of the implanted ions has been formed is bonded to the base wafer. The silicon wafer is separated along the layer of the implanted ions into a separated wafer and an SOI wafer by a heat treatment. A bonding heat treatment is then performed to strengthen a bond as necessary. In this way, the SOI wafer is

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