CLAIMS

1. In a method for manufacturing SOI wafer of forming an oxide film on a bond wafer consisting of a semiconductor single crystal substrate, forming an ion implanted layer into the bond wafer by implanting ions of at least one kind of gas in hydrogen and rare gases through the oxide film, bonding together an ion implanted front surface of the bond wafer and a base wafer front surface via the oxide film, thereafter delaminating the bond wafer along the ion implanted layer, and thereby fabricating an SOI wafer,

the method for manufacturing SOI wafer is characterized in that before bonding, the oxide film to be formed on the bond wafer is made such that the oxide film on a back surface is made thicker than the oxide film on a bonded face, and after implanting ions into the bond wafer which has the thicker oxide film on the back surface, the bond wafer and the base wafer are bonded, and at the time of forming the oxide film on the bond wafer, the oxide film on the back surface is set so as to make the magnitude of the convex shape of the SOI wafer directly after delamination and the magnitude of the concave shape of the bond wafer directly after delamination the same as each other.

2. The method for manufacturing SOI wafer according to claim 1, wherein formation of the oxide film on the bond wafer is performed by forming a thermal oxide film on the entire surface of the bond wafer, thereafter fabricating the bond wafer having the thermal oxide film only on the back surface by removing the thermal oxide on the bonded face side of the bond wafer, and thermally oxidizing the entire surface of the bond wafer having the thermal oxide film only on the back surface.

3. The method for manufacturing SOI wafer according to claim 2, wherein a process of polishing the bonded face side after the thermal oxide film on the bonded face side of the bond wafer has been removed is included, and thereafter thermal oxidation of the entire surface