ABSTRACT

A semiconductor device manufacturing method for disposing one above the other plural semiconductor substrates each having, on the main surface, semiconductor chips each of which has a semiconductor integrated circuit, connecting the semiconductor chips, each of which constitutes a different one of the semiconductor substrates, in such a manner as to enable signal transmission, and subsequently singularizing the semiconductor chips into individual pieces includes a first step of preparing a first semiconductor substrate and a second semiconductor substrate; a second step of reducing thickness of the second semiconductor substrate; a third step of firmly fixing an opposite surface of the second semiconductor substrate with a reduced thickness to the main surface of the first semiconductor substrate via an insulating layer, the opposite surface being opposite to the main surface of the second semiconductor substrate; a fourth step of forming, in the second semiconductor substrate with the reduced thickness, a via hole which penetrates from the main surface to the opposite surface of the second semiconductor substrate; and a fifth step of forming a connection part which enables the signal transmission, via the via hole, between the semiconductor chip of the first semiconductor substrate and the semiconductor chip of the second semiconductor substrate.