BONDING APPARATUS AND METHOD OF MANUFACTURING SEMICONDUCTOR DEVICE

ABSTRACT

Provided is a flip-chip bonding apparatus (500) capable of stacking and bonding a second-layer of the semiconductor chip (30) onto a first-layer of the semiconductor chip (20) having first through-silicon vias, the second-layer of the semiconductor chip (30) having second through-silicon vias at positions corresponding to the first through-silicon vias. The flip-chip bonding apparatus (500) includes: a double-view camera (16) configured to take images of the chips (20) and (30); and a control unit (50) having a relative-position detection program (53) for detecting relative positions of the first-layer of the semiconductor chip (20) and the second-layer of the semiconductor chip (30) that are stacked and bonded based on an image of the first through-silicon vias on a surface of the first-layer of the semiconductor chip (20) taken by the double-view camera (16) before stacked bonding, and an image of the second through-silicon vias on a surface of the second-layer of the semiconductor chip (30) taken by the double-view camera (16) after stacked bonding. This provides accurate connection between through-silicon vias using a simple method.

FIGURE 5