

MANUFACTURING APPARATUS AND MANUFACTURING METHOD OF SEMICONDUCTOR DEVICE

ABSTRACT OF THE DISCLOSURE

A manufacturing apparatus of a semiconductor device is characterized as follows. The manufacturing apparatus includes: a stage (12); a bonding head (14), including a mounting tool (20), a tool heater (26) mounted on the mounting tool (20), and a lifting and lowering mechanism moving the mounting tool (20) in a vertical direction; and a controller (16) performing bonding processing. The controller (16) includes, in the bonding processing: first processing in which, after the chip (100) is brought into contact with the substrate (110), as heating of the chip (100) is started, the chip is pressurized against the substrate; distortion elimination processing in which, after the first processing and before melting of a bump (104), the lifting and lowering mechanism is driven in a lifting direction, thereby eliminating distortion of the bonding head (14); and second processing in which, after the distortion elimination processing, position control is performed on the lifting and lowering mechanism so as to cancel thermal expansion and contraction of the bonding head (14), thereby maintaining a gap amount G at a specified target value.

Figure 5