ABSTRACT

There is provided a technique, which includes: a process chamber in which a substrate is processed; a microwave oscillator configured to supply microwaves to the process chamber; and a controller configured to be capable of controlling the microwave oscillator to perform: a heating process in which the substrate is heated with a first microwave, among the supplied microwaves, supplied to the substrate at a first microwave power so that a process of supplying the first microwave during a supply time and a process of stopping the supply of the first microwave during a stop time, which is shorter than the supply time, are performed a predetermined number of times or for a first predetermined time; and a modifying process in which the substrate is supplied with a second microwave, among the supplied microwaves, at a second microwave power, which is higher than the first microwave power, for a second predetermined time while maintaining the second microwave power.

FIG. 1