

WHAT IS CLAIMED IS:

1. In a vacuum processing apparatus including an electrostatic chuck including a wafer holding portion having a holding surface formed of a dielectric for holding a wafer, a metal plate provided in the wafer holding portion, and first wiring for connecting the metal plate to a direct current power source,

transfer means including a transfer pad having a holding surface formed of a conductor for holding the wafer and second wiring for grounding the transfer pad, and

voltage measuring means having a resistor inserted in the second wiring and a voltmeter for measuring a voltage across the resistor,

a hold checking method for checking whether or not the wafer is held by the electrostatic chuck in loading the wafer to the electrostatic chuck by operating the transfer means holding the wafer, the hold checking method comprising:

a connecting step of bringing the wafer held by the transfer pad into contact with the electrostatic chuck to thereby connect the transfer pad through the wafer to the electrostatic chuck; and

a hold determining step of supplying electric power from the direct current power source to the electrostatic chuck through the first wiring after performing the connecting step, and next determining that the wafer is sufficiently held on the

holding surface of the electrostatic chuck when the voltage across the resistor in the second wiring as measured by the voltmeter has reached a predetermined voltage value and after an elapse of a predetermined time from a start of the supplying of the electric power to the electrostatic chuck.

2. In a vacuum processing apparatus including
an electrostatic chuck including a wafer holding portion having a holding surface formed of a dielectric for holding a wafer, a metal plate provided in the wafer holding portion, and first wiring for connecting the metal plate to a direct current power source,

transfer means including a transfer pad having a holding surface formed of a conductor for holding the wafer and second wiring for grounding the transfer pad, and

voltage measuring means having a resistor inserted in the second wiring and a voltmeter for measuring a voltage across the resistor,

an unhold checking method for checking whether or not the wafer is unheld from the electrostatic chuck in unloading the wafer from the electrostatic chuck by operating the transfer means holding the wafer, the unhold checking method comprising:

a connecting step of bringing the transfer pad into the wafer held by the electrostatic chuck to thereby connect the transfer pad through the wafer to the electrostatic chuck; and

an unhold determining step of stopping the supply of

electric power from the direct current power source to the electrostatic chuck through the first wiring after performing the connecting step, and next determining that the wafer is sufficiently unheld from the holding surface of the electrostatic chuck when the voltage across the resistor in the second wiring as measured by the voltmeter has reached a predetermined voltage value and after an elapse of a predetermined time from the stopping of the supply of the electric power to the electrostatic chuck.

3. The hold checking method of claim 1, wherein the predetermined time is a length of time for the voltage across the resistor to reach the predetermined voltage value from zero voltage and back to zero voltage from the predetermined voltage value.

4. The unhold checking method of claim 2, wherein the predetermined time is a length of time for the voltage across the resistor to reach the predetermined voltage value from zero voltage and back to zero voltage from the predetermined voltage value.