

ABSTRACT

A power supply apparatus for an electrostatic chuck is provided which enables to ascertain the state of a to-be-processed substrate relative to the electrostatic chuck in a series of operations of: placing in position the to-be-processed substrate on the electrostatic chuck; thereafter attracting the to-be-processed substrate and performing processing thereon; releasing the attraction after processing and then transferring the to-be-processed substrate.

The power supply apparatus (PS₁) for the electrostatic chuck of this invention has: DC power source units (6a, 6b) for applying DC voltage to electrodes (3a, 3b) of the electrostatic chuck (Ec); and an AC power source unit (7) for causing AC current to flow through an electrostatic capacitance of the electrostatic chuck. Provided that: a circuit for charging an electrode, from DC power source unit, with chuck voltage in order to attract and hold in position the to-be-processed substrate with the electrostatic chuck, be defined as a first circuit (C1) and that; a circuit for clearing charges of the to-be-processed substrate be defined as a second circuit (C2), the power supply apparatus further includes switching means (8a, 8b) for switching between the first circuit and the second circuit. The second circuit is provided with an AC power source unit and a voltmeter (9) for measuring AC voltage.