PLASMA PROCESSING APPARATUS AND ETCHING METHOD

ABSTRACT

A plasma processing apparatus is provided. The apparatus comprises: a plasma processing chamber; a substrate support arranged inside the plasma processing chamber, the substrate support including a lower electrode, an electrostatic chuck, and an edge ring disposed to surround a substrate mounted on the electrostatic chuck; an upper electrode arranged on an upper side of the substrate support; a source RF power supply configured to supply source RF power to generate plasma from a gas; a bias power supply configured to supply bias power; a DC power supply configured to apply a negative DC voltage; an RF filter electrically connected between the edge ring and the DC power supply, and including at least one variable passive element; and a controller configured to control the DC power supply and the variable passive element, and configured to control a voltage of the bias power within a permissible range.

Fig. 1