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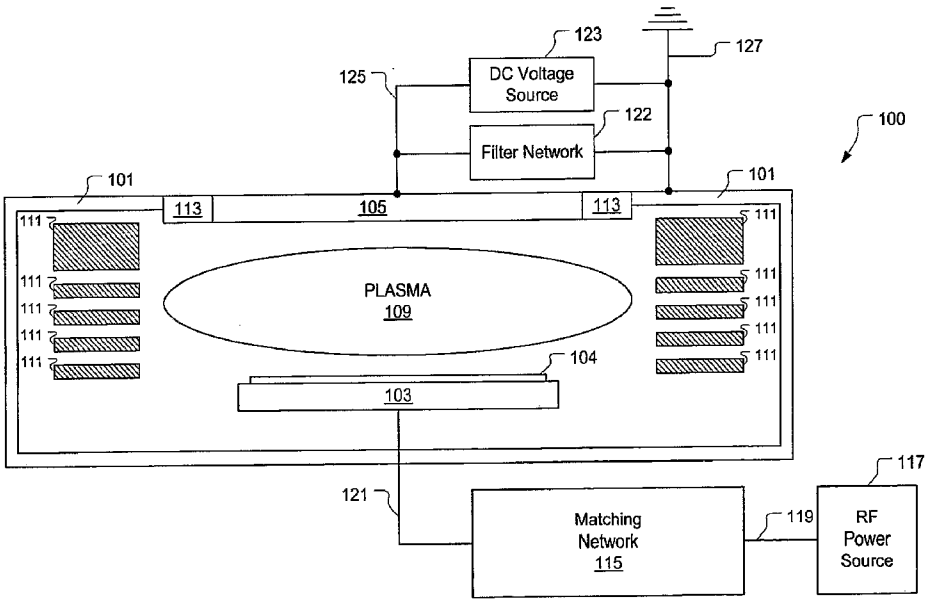
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(54) **Title:** APPARATUS AND METHOD FOR CONTROLLING PLASMA POTENTIAL



(57) **Abstract:** An apparatus is provided for semiconductor wafer plasma processing. The apparatus includes a chamber having a lower electrode and an upper electrode disposed therein. The lower electrode is defined to transmit a radiofrequency current through the chamber to generate a plasma within the chamber. The upper electrode is disposed above the lower electrode and is electrically isolated from the chamber. A voltage source is connected to the upper electrode. The voltage source is defined to control an electric potential of the upper electrode relative to the chamber. The electric potential of the upper electrode as controlled by the voltage source is capable of influencing an electric potential of the plasma to be generated between the lower and upper electrodes.

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