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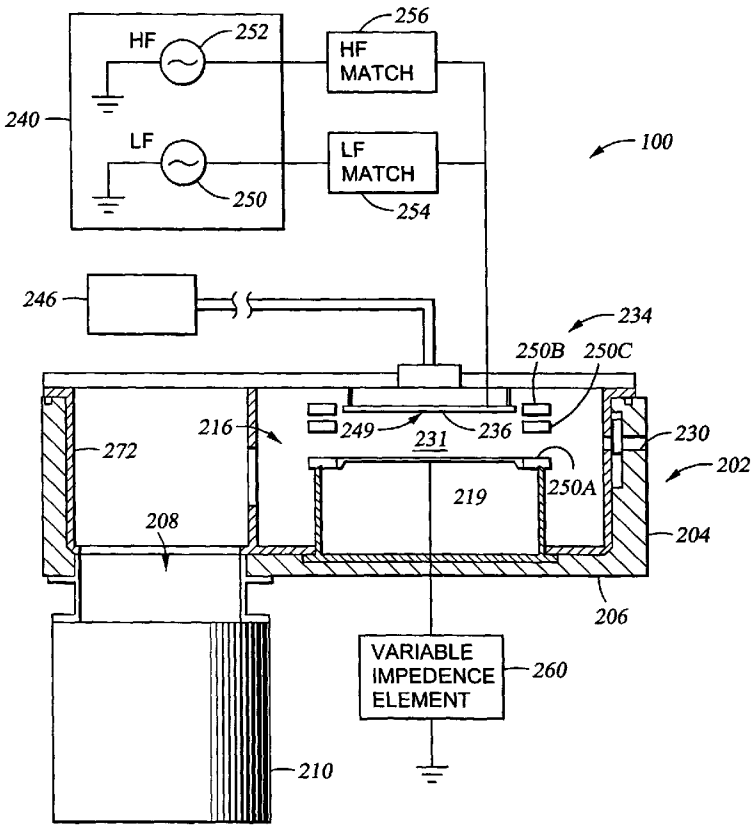
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(54) Title: PLASMA REACTOR WITH ADJUSTABLE DUAL FREQUENCY VOLTAGE DIVISION



(57) Abstract: Apparatus and method for processing a substrate are provided. The apparatus for processing a substrate comprises: a chamber having a first electrode; a substrate support disposed in the chamber and providing a second electrode; a high frequency power source electrically connected to either the first or the second electrode; a low frequency power source electrically connected to either the first or the second electrode; and a variable impedance element connected to one or more of the electrodes. The variable impedance element may be tuned to control a self bias voltage division between the first electrode and the second electrode. Embodiments of the invention substantially reduce erosion of the electrodes, maintain process uniformity, improve precision of the etch process for forming high aspect ratio sub-quarter-micron interconnect features, and provide an increased etch rate which reduces time and costs of production of integrated circuits.

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