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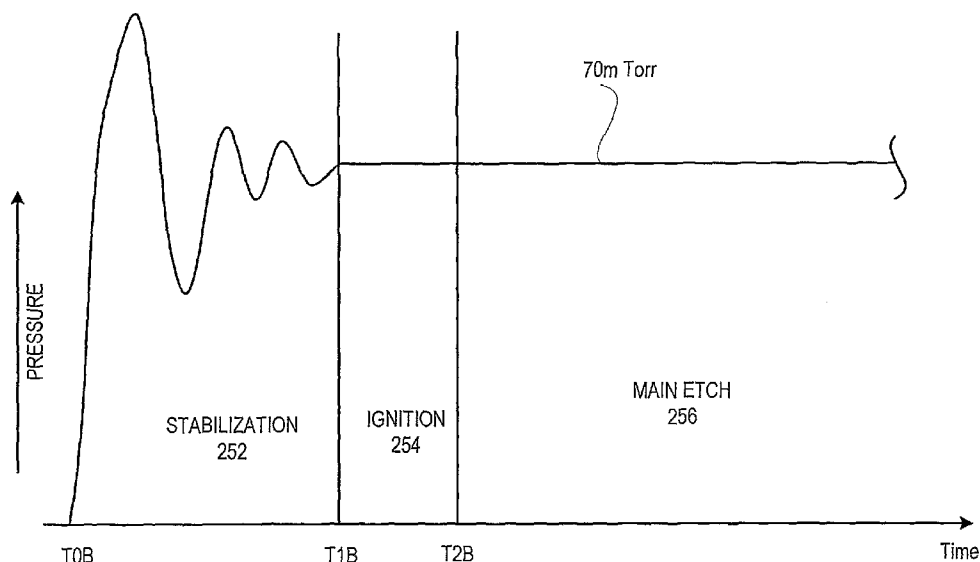
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(54) Title: REDUCING PLASMA IGNITION PRESSURE



(57) Abstract: A method in a plasma processing system for processing a semiconductor substrate is disclosed. The plasma processing system includes a plasma processing chamber and an electrostatic chuck coupled to a bias compensation circuit. The method includes igniting a plasma in a plasma ignition step. Plasma ignition step is performed while a first bias compensation voltage provided by the bias compensation circuit to the chuck is substantially zero and while a first chamber pressure within the plasma processing chamber is below about 90 mTorr. The method further includes processing the substrate in a substrate-processing step after the plasma is ignited. The substrate-processing step employs a second bias compensation voltage provided by the bias compensation circuit that is higher than the first bias compensation voltage and a second chamber pressure substantially equal to the first chamber pressure.

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