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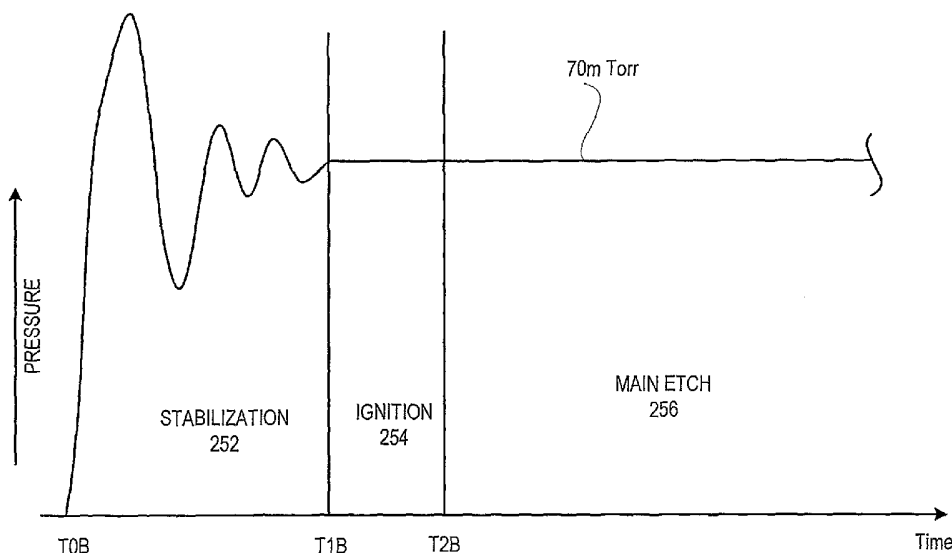
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(54) Title: REDUCING PLASMA IGNITION PRESSURE



(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.

WO 2006/012003 A3



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A. CLASSIFICATION OF SUBJECT MATTER

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
US-PGPUB, USPAT, EPO, JPO, IBM_TDB

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
electrostatic, plasma, voltage, ignition

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2004/0025791 A1 (CHEN ET AL.) 12 FEBRUARY 2004 (12.02.2004), SEE ENTIRE DOCUMENT	1-39
Y	US 6,057,244 A (HAUSMANN ET AL.) 02 MAY 2000 (02.05.2000), SEE ENTIRE DOCUMENT	1-39
A	US 6,562,190 B1 (KUTHI ET AL.) 13 MAY 2003 (13.05.2003), SEE ENTIRE DOCUMENT	1-39



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