

Title (en)

DEVICE AND METHOD FOR THE ETCHING OF A SUBSTRATE BY MEANS OF AN INDUCTIVELY COUPLED PLASMA

Title (de)

VORRICHTUNG UND VERFAHREN ZUM ÄTZEN EINES SUBSTRATES MITTELS EINES INDUKTIV GEKOPPELTEN PLASMAS

Title (fr)

DISPOSITIF ET PROCEDE POUR LA GRAVURE D'UN SUBSTRAT AU MOYEN D'UN PLASMA A COUPLAGE INDUCTIF

Publication

EP 1275133 A1 20030115 (DE)

Application

EP 01931374 A 20010317

Priority

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- DE 10051831 A 20001019

Abstract (en)

[origin: US2002046987A1] A device and a method for etching a substrate, in particular a silicon body, by using an inductively coupled plasma. A high-frequency electromagnetic alternating field is generated using an ICP source, and an inductively coupled plasma composed of reactive particles is generated by the action of a high-frequency electromagnetic alternating field on a reactive gas in a reactor. In addition, a static or time-variable magnetic field is generated between the substrate and the ICP source, for which purpose at least two magnetic field coils arranged one above the other are provided. The direction of the resulting magnetic field is also approximately parallel to the direction defined by the tie line connecting the substrate and the inductively coupled plasma. Finally, a first component magnetic field is generated with a first magnetic field coil, and a second component magnetic field which is equally strong at an equivalent site is generated with a second magnetic field coil, the two component magnetic fields being oriented in opposite directions.

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IPC 8 full level

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CPC (source: EP KR US)

H01J 37/321 (2013.01 - EP US); **H01J 37/3266** (2013.01 - EP US); **H01L 21/3065** (2013.01 - EP KR US)

Citation (search report)

See references of WO 0233728A1

Citation (examination)

- WO 9919527 A2 19990422 - TOKYO ELECTRON LTD [JP], et al
- EP 0849766 A2 19980624 - APPLIED MATERIALS INC [US]

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DOCDB simple family (application)

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