

Title (en)

DEVICE AND METHOD FOR ETCHING 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)

PROCEDE ET DISPOSITIF DE DECAPAGE D'UN SUBSTRAT AU MOYEN D'UN PLASMA INDUCTIF

Publication

EP 1112587 A1 20010704 (DE)

Application

EP 00949074 A 20000606

Priority

- DE 0001835 W 20000606
- DE 19933842 A 19990720

Abstract (en)

[origin: DE19933842A1] The invention relates to a method for etching a substrate (10), especially a silicon body, by means of an inductively coupled plasma (14) and to a device for the implementation of said method. To this end, a high-frequency electromagnetic alternating field is generated with an ICP source (13). Said field produces an inductively coupled plasma (14) consisting of reactive particles in a reactor (15). The inductively coupled plasma (14) is produced by the effect of the high-frequency electromagnetic alternating field on a reactive gas. A device is also provided by means of which the plasma power coupled with the ICP source (13) into the inductively coupled plasma (14) by means of the high-frequency electromagnetic alternating field can be pulsed in such a way that a pulsed high-frequency power can be coupled at least temporarily as plasma power into the inductively coupled plasma. The pulsed plasma power can also be combined or correlated with a pulsed magnetic field and/or a pulsed substrate electrode power.

IPC 1-7

H01J 37/32

IPC 8 full level

H01J 37/32 (2006.01); **H01L 21/30** (2006.01); **H01L 21/302** (2006.01); **H01L 21/3065** (2006.01); **H05H 1/46** (2006.01)

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 0106539A1

Citation (examination)

- WO 0079579 A2 20001228 - BOSCH GMBH ROBERT [DE], et al
- EP 1203396 A1 20020508 - BOSCH GMBH ROBERT [DE]

Designated contracting state (EPC)

CH DE FR GB IT LI NL

DOCDB simple family (publication)

DE 19933842 A1 20010201; EP 1112587 A1 20010704; JP 2003505868 A 20030212; JP 4690618 B2 20110601; KR 100752064 B1 20070828; KR 20010075207 A 20010809; US 7811941 B1 20101012; WO 0106539 A1 20010125

DOCDB simple family (application)

DE 19933842 A 19990720; DE 0001835 W 20000606; EP 00949074 A 20000606; JP 2001511711 A 20000606; KR 20017003514 A 20010319; US 76298500 A 20000606