

Title (en)
PLASMA CVD APPARATUS AND METHOD

Title (de)
PLASMA-CVD-VORRICHTUNG UND VERFAHREN

Title (fr)
APPAREIL DE DEPOT CHIMIQUE EN PHASE VAPEUR (CVD) AU PLASMA ET PROCEDE ASSOCIE

Publication
EP 1293588 A9 20030528 (EN)

Application
EP 01932112 A 20010517

Priority
• JP 0104113 W 20010517
• JP 2000145645 A 20000517
• JP 2000239221 A 20000807

Abstract (en)
The objective of this invention is to provide a plasma CVD apparatus and method of forming a high quality thin film having an excellent uniformity of thickness on a large-sized substrate. A plasma CVD apparatus of the invention comprises, in a reaction chamber, an inductively coupled electrode which is straight line or folded back at the center and has a feeding portion at the first end and a grounded portion at the second end, wherein the electrode has a diameter of 10 mm or less partially or entirely between the feeding portion and the grounded portion, the diameter of the electrode is changed, or the electrode is partially or entirely covered with a dielectric, and whereby high frequency power is fed so as to establish a standing wave of natural number multiple of a half wavelength between the feeding portion and the grounded portion or between the feeding and grounded portions and the turning portion.

IPC 1-7
C23C 16/509; H01L 21/205; H01L 31/04

IPC 8 full level
C23C 16/509 (2006.01); **H01J 37/32** (2006.01)

CPC (source: EP KR US)
C23C 16/509 (2013.01 - EP KR US); **H01J 37/321** (2013.01 - EP KR US); **H01J 37/3211** (2013.01 - US); **H01J 37/32119** (2013.01 - US); **H01J 37/32128** (2013.01 - KR US); **H01J 37/32137** (2013.01 - US); **H01J 37/32146** (2013.01 - US); **H01J 37/32155** (2013.01 - US); **H01J 37/32165** (2013.01 - US); **H01J 37/32174** (2013.01 - US); **H01J 37/32183** (2013.01 - US); **H01J 37/32541** (2013.01 - US); **H01J 37/32559** (2013.01 - US)

Citation (search report)
See references of WO 0188221A1

Cited by
US7849814B2

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)
EP 1293588 A1 20030319; **EP 1293588 A4 20070328**; **EP 1293588 A9 20030528**; **EP 1293588 B1 20091216**; AT E452219 T1 20100115; DE 60140803 D1 20100128; ES 2336303 T3 20100412; JP 2012007239 A 20120112; JP 4867124 B2 20120201; JP 5287944 B2 20130911; KR 100797423 B1 20080123; KR 20030032956 A 20030426; US 2004020432 A1 20040205; US 2009148624 A1 20090611; US 2010316815 A1 20101216; US 9165748 B2 20151020; WO 0188221 A1 20011122

DOCDB simple family (application)
EP 01932112 A 20010517; AT 01932112 T 20010517; DE 60140803 T 20010517; ES 01932112 T 20010517; JP 0104113 W 20010517; JP 2001584602 A 20010517; JP 2011151674 A 20110708; KR 20027015416 A 20010517; US 27637102 A 20021115; US 36874009 A 20090210; US 85580910 A 20100813