

Title (en)
SPUTTERING TARGET

Title (de)
SPUTTERTARGETS

Title (fr)
CIBLE DE PULVERISATION

Publication
EP 1309736 A1 20030514 (EN)

Application
EP 01941866 A 20010531

Priority
• US 0117996 W 20010531
• US 22551800 P 20000815

Abstract (en)
[origin: WO0214576A1] The invention describes herein relates to new titanium-comprising materials which can be utilized for forming titanium alloy sputtering targets. The titanium alloy sputtering targets can be reactively sputtered in a nitrogen-comprising sputtering atmosphere to form an alloy TiN film, or alternatively in a nitrogen-comprising and oxygen-comprising sputtering atmosphere to form an alloy TiON thin film. The thin films formed in accordance with the present invention can have a non-columnar grain structure, low electrical resistivity, high chemical stability, and barrier layer properties comparable to those of TaN for thin film Cu barrier applications. Further, the titanium alloy sputtering target materials produced in accordance with the present invention are more cost-effective for semiconductor applications than are high-purity tantalum materials and have superior mechanical strength suitable for high-power sputtering applications.

IPC 1-7
C23C 14/34

IPC 8 full level
C22C 14/00 (2006.01); **C23C 14/34** (2006.01); **H01L 21/285** (2006.01); **H01L 21/768** (2006.01); **H01L 23/532** (2006.01)

CPC (source: EP KR)
C22C 9/00 (2013.01 - KR); **C23C 14/3414** (2013.01 - EP); **H01L 21/2855** (2013.01 - EP); **H01L 21/76846** (2013.01 - EP);
H01L 21/76864 (2013.01 - EP); **H01L 21/76879** (2013.01 - EP); **H01L 23/53238** (2013.01 - EP); **H01L 2924/0002** (2013.01 - EP)

Citation (search report)
See references of WO 0214576A1

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)
WO 0214576 A1 20020221; AU 7518401 A 20020225; CN 1447864 A 20031008; EP 1309736 A1 20030514; JP 2004506814 A 20040304;
KR 20030020986 A 20030310

DOCDB simple family (application)
US 0117996 W 20010531; AU 7518401 A 20010531; CN 01814249 A 20010531; EP 01941866 A 20010531; JP 2002519698 A 20010531;
KR 20037002169 A 20030214