

Title (en)

A method of forming a TEOS cap layer at low temperature and reduced deposition rate

Title (de)

Verfahren zur Bildung einer TEOS-Kappenschicht bei niedriger Temperatur und verringelter Ablagerungsrate

Title (fr)

Procédé pour former une couche d'encapsulation d'orthosilicate de tétraéthyle à faible température et à taux de dépôt réduit

Publication

EP 1658635 A1 20060524 (EN)

Application

EP 04756684 A 20040706

Priority

- US 2004021598 W 20040706
- DE 10339988 A 20030829
- US 83541104 A 20040429

Abstract (en)

[origin: WO2005024922A1] The present invention discloses a method for forming a silicon dioxide cap layer for a carbon hard mask layer for the patterning of polysilicon line features having critical dimensions of 50 nm and less. To this end, a low temperature plasma- enhanced CVD process is used, in which the deposition rate is maintained low to provide improved controllability of the layer thickness and, thus, of the optical characteristics of the silicon dioxide layer.

IPC 1-7

H01L 21/027; H01L 21/033; H01L 21/308; H01L 21/314; H01L 21/316; C23C 16/40; C23C 14/06

IPC 8 full level

C23C 16/40 (2006.01); **H01L 21/027** (2006.01); **H01L 21/033** (2006.01); **H01L 21/316** (2006.01); **H01L 21/3213** (2006.01)

CPC (source: EP KR)

C23C 16/402 (2013.01 - EP KR); **H01L 21/02164** (2013.01 - KR); **H01L 21/02274** (2013.01 - KR); **H01L 21/0276** (2013.01 - EP KR); **H01L 21/0332** (2013.01 - EP KR); **H01L 21/32139** (2013.01 - EP KR); **H01L 21/02164** (2013.01 - EP); **H01L 21/02274** (2013.01 - EP)

Designated contracting state (EPC)

DE GB

DOCDB simple family (publication)

WO 2005024922 A1 20050317; EP 1658635 A1 20060524; KR 101152367 B1 20120605; KR 20060120630 A 20061127

DOCDB simple family (application)

US 2004021598 W 20040706; EP 04756684 A 20040706; KR 20067004086 A 20060227