

Title (en)

LARGE AREA NANOPATTERNING METHOD AND APPARATUS

Title (de)

VERFAHREN UND VORRICHTUNG ZUR GROSSFLÄCHIGEN NANOSTRUKTURIERUNG

Title (fr)

PROCÉDÉ ET APPAREIL DE FORMATION DE NANOMOTIF DE GRANDE SUPERFICIE

Publication

**EP 2238608 A4 20120222 (EN)**

Application

**EP 08871196 A 20081118**

Priority

- US 2008012901 W 20081118
- US 1186108 P 20080122

Abstract (en)

[origin: WO2009094009A1] Embodiments of the invention relate to methods and apparatus useful in the nanopatterning of large area substrates, where a rotatable mask is used to image a radiation- sensitive material. Typically the rotatable mask comprises a cylinder. The nanopatterning technique makes use of Near-Field photolithography, where the mask used to pattern the substrate is in dynamic contact with the substrate. The Near-Field photolithography may make use of an elastomeric phase-shifting mask, or may employ surface plasmon technology, where a rotating cylinder surface comprises metal nano holes or nanoparticles.

IPC 8 full level

**H01L 21/027** (2006.01)

CPC (source: EP KR)

**B29C 33/424** (2013.01 - EP); **G03F 1/50** (2013.01 - EP); **G03F 1/60** (2013.01 - EP KR); **G03F 1/62** (2013.01 - KR); **G03F 7/20** (2013.01 - EP KR); **G03F 7/2014** (2013.01 - EP KR); **G03F 7/24** (2013.01 - EP KR); **H01L 21/0274** (2013.01 - KR)

Citation (search report)

- [XY] US 6045980 A 20000404 - EDELKIND JAMIE [US], et al
- [Y] US 2007200276 A1 20070830 - MACKEY JEFF [US], et al
- [XYI] ROGERS J A ET AL: "Printing, molding, and near-field photolithographic methods for patterning organic lasers, smart pixels and simple circuits", SYNTHETIC METALS ELSEVIER SWITZERLAND, vol. 115, no. 1-3, 1 November 2000 (2000-11-01), pages 5 - 11, XP002666846, ISSN: 0379-6779
- See references of WO 2009094009A1

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DOCDB simple family (application)

**US 2008012901 W 20081118**; AU 2008348353 A 20081118; CA 2709718 A 20081118; CN 200880124519 A 20081118; CN 201510644135 A 20081118; EP 08871196 A 20081118; JP 2010543093 A 20081118; KR 20107018711 A 20081118; MX 2010007954 A 20081118; RU 2010134893 A 20081118; TW 97144514 A 20081118