

Title (en)

HIGH-THROUGHPUT FORMATION OF SEMICONDUCTOR LAYER BY USE OF CHALCOGEN AND INTER-METALLIC MATERIAL

Title (de)

MIT HOHEM DURCHSATZ ERFOLGENDE BESTÜCKUNG EINER HALBLEITERSCHICHT DURCH VERWENDUNG VON CHALCOGEN UND INTERMETALLISCHEN MATERIALIEN

Title (fr)

FORMATION A HAUT RENDEMENT DE COUCHE SEMI-CONDUTRICE EN UTILISANT UN MATERIAU CHALCOGENE ET INTERMETALLIQUE

Publication

EP 1998902 A2 20081210 (EN)

Application

EP 07757446 A 20070223

Priority

- US 2007062764 W 20070223
- US 36151506 A 20060223
- US 36110306 A 20060223
- US 36152206 A 20060223
- US 36149806 A 20060223
- US 36143306 A 20060223
- US 36146406 A 20060223
- US 36152306 A 20060223
- US 39566806 A 20060330
- US 39619906 A 20060330
- US 39543806 A 20060330
- US 39484906 A 20060330

Abstract (en)

[origin: WO2007101136A2] A high-throughput method of forming a semiconductor precursor layer by use of a chalcogen-containing vapor is disclosed. In one embodiment, the method comprises forming a precursor material comprising group IB and/or group IIA particles of any shape. The method may include forming a precursor layer of the precursor material over a surface of a substrate. The method may further include heating the particle precursor material in a substantially oxygen-free chalcogen atmosphere to a processing temperature sufficient to react the particles and to release chalcogen from the chalcogenide particles, wherein the chalcogen assumes a liquid form and acts as a flux to improve intermixing of elements to form a group IB-IIIA-chalcogenide film at a desired stoichiometric ratio. The chalcogen atmosphere may provide a partial pressure greater than or equal to the vapor pressure of liquid chalcogen in the precursor layer at the processing temperature.

IPC 8 full level

B05D 3/00 (2006.01); **H01L 31/032** (2006.01); **H01L 31/0336** (2006.01)

CPC (source: EP)

C22C 1/11 (2023.01); **H01L 31/0322** (2013.01); **H01L 31/06** (2013.01); **H01L 31/0749** (2013.01); **H01L 31/18** (2013.01); **H01L 31/1876** (2013.01); **Y02E 10/541** (2013.01); **Y02P 70/50** (2015.11)

Citation (search report)

See references of WO 2007101136A2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 2007101136 A2 20070907; **WO 2007101136 A3 20080306**; EP 1998902 A2 20081210; JP 2009528681 A 20090806

DOCDB simple family (application)

US 2007062764 W 20070223; EP 07757446 A 20070223; JP 2008556571 A 20070223