

Title (en)

METHODS OF FABRICATING GALLIUM NITRIDE SEMICONDUCTOR LAYERS BY LATERAL OVERGROWTH THROUGH MASKS, AND GALLIUM NITRIDE SEMICONDUCTOR STRUCTURES FABRICATED THEREBY

Title (de)

METHODEN ZUR HERSTELLUNG VON GALLIUMNITRID-HALBLEITERSCHICHTEN DURCH LATERALES AUFWACHSEN DURCH MASKEN, UND MIT DIESER METHODE HERGESTELLTE GALLIUMNITRID-HALBLEITERSTRUKTUREN

Title (fr)

PROCEDE PERMETTANT DE PRODUIRE DES COUCHES SEMI-CONDUCTRICES DE NITRURE DE GALLIUM PAR CROISSANCE DE RECOUVREMENT LATERALE A TRAVERS DES MASQUES, ET STRUCTURES SEMI-CONDUCTRICES DE NITRURE DE GALLIUM AINSI PRODUITES

Publication

**EP 1070340 A1 20010124 (EN)**

Application

**EP 99908553 A 19990226**

Priority

- US 9904346 W 19990226
- US 3219098 A 19980227
- US 3184398 A 19980227

Abstract (en)

[origin: WO9944224A1] A gallium nitride semiconductor layer is fabricated by masking an underlying gallium nitride layer (104) with a first mask (106) that includes a first array of openings therein and growing the underlying gallium nitride layer (104) through the first array of openings and onto the first mask, to thereby form a first overgrown gallium nitride semiconductor layer (108a, b). The first overgrown layer is then masked with the second mask (206) that includes a second array of openings therein. The second array of openings is laterally offset from the first array of openings. The first overgrown gallium nitride layer (108a, b) is then grown through the second array of openings and onto the second mask (206), to thereby form a second overgrown gallium nitride semiconductor layer (208a, b). Microelectronic devices (210) may then be formed in the second overgrown gallium nitride semiconductor layer (208a, b).

IPC 1-7

**H01L 21/20; H01L 33/00**

IPC 8 full level

**H01L 21/20** (2006.01); **H01L 21/205** (2006.01); **H01L 33/00** (2006.01)

CPC (source: EP)

**H01L 21/0237** (2013.01); **H01L 21/02378** (2013.01); **H01L 21/02458** (2013.01); **H01L 21/02502** (2013.01); **H01L 21/0254** (2013.01); **H01L 21/0262** (2013.01); **H01L 21/02639** (2013.01); **H01L 21/02647** (2013.01); **H01L 33/007** (2013.01)

Citation (search report)

See references of WO 9944224A1

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

**WO 9944224 A1 19990902**; AU 2795699 A 19990915; CA 2321118 A1 19990902; CA 2321118 C 20080603; CN 1143363 C 20040324; CN 1292149 A 20010418; EP 1070340 A1 20010124; JP 2002505519 A 20020219; KR 100610396 B1 20060809; KR 20010041192 A 20010515

DOCDB simple family (application)

**US 9904346 W 19990226**; AU 2795699 A 19990226; CA 2321118 A 19990226; CN 99803400 A 19990226; EP 99908553 A 19990226; JP 2000533892 A 19990226; KR 20007009261 A 20000822