

Title (en)
METHOD FOR THE PRODUCTION OF SEMI-CONDUCTOR CHIPS

Title (de)
VERFAHREN ZUM HERSTELLEN VON HALBLEITERCHIPS

Title (fr)
PROCEDE DE FABRICATION DE PUCES A SEMI-CONDUCTEUR

Publication
EP 1636836 A1 20060322 (DE)

Application
EP 04738778 A 20040624

Priority
• DE 2004001329 W 20040624
• DE 10328543 A 20030624

Abstract (en)
[origin: WO2005004231A1] The invention relates to a method for producing a plurality of semi-conductor chips, especially radiation-emitting semi-conductor chips. Said chips comprise, respectively, at least one epitaxially produced functional stack of semi-conductor chips. Said method comprises the following steps: disposing an epitaxial growth substrate wafer (1), which is essentially made of a semi-conductor material which constitutes the same or similar semi-conductor material system in terms of grid parameters as the system on which a semi-conductor layer sequence for the functional semi-conductor stack is based; forming a separation area (4) which is parallel to a main surface (100) of the epitaxial growth substrate wafer (1) in said wafer (1), connecting the epitaxial growth substrate wafer (1) to an auxiliary support wafer (2), separating an opposite section (11) of the epitaxial growth substrate wafer (1) with respect to the separation area (4), from the auxiliary support wafer (2) along said separation area (4), forming an epitaxial growth surface on the section (12) of the epitaxial growth support surface remaining on the auxiliary support wafer (2) for a subsequent epitaxial growth of the semi-conductor layer sequence; epitaxial growth of the semi-conductor layer sequence (5) on the epitaxial growth surface, depositing a chip substrate wafer on the semi-conductor layer sequence; separating the auxiliary support wafer (2), and dividing the composite semi-conductor layer sequence and chip substrate wafer (7) into individually separated semi-conductor chips.

IPC 1-7
H01L 21/762; **H01L 33/00**

IPC 8 full level
H01L 21/762 (2006.01); **H01L 33/00** (2006.01); **H01L 21/78** (2006.01)

CPC (source: EP US)
B23K 26/40 (2013.01 - EP US); **B23K 26/53** (2015.10 - EP US); **B23K 26/57** (2015.10 - EP US); **H01L 21/76254** (2013.01 - EP US); **H01L 33/0093** (2020.05 - EP US); **H01L 33/0095** (2013.01 - EP US); **H01S 5/028** (2013.01 - EP); **B23K 2103/172** (2018.07 - EP US); **H01L 21/78** (2013.01 - EP US)

Citation (search report)
See references of WO 2005004231A1

Designated contracting state (EPC)
DE

DOCDB simple family (publication)
WO 2005004231 A1 20050113; CN 100492610 C 20090527; CN 1813347 A 20060802; DE 102004030603 A1 20050210; DE 112004001619 D2 20060810; EP 1636836 A1 20060322; JP 2007524224 A 20070823; JP 5021302 B2 20120905; KR 101178361 B1 20120829; KR 20060061305 A 20060607; TW 200501462 A 20050101; TW I240434 B 20050921; US 2006211159 A1 20060921; US 7329587 B2 20080212

DOCDB simple family (application)
DE 2004001329 W 20040624; CN 200480017891 A 20040624; DE 102004030603 A 20040624; DE 112004001619 T 20040624; EP 04738778 A 20040624; JP 2006515689 A 20040624; KR 20057024742 A 20040624; TW 93117312 A 20040616; US 56125504 A 20040624