

Title (en)
MULTILAYER SUBSTRATE STRUCTURE AND METHOD AND SYSTEM OF MANUFACTURING THE SAME

Title (de)
MEHRSCHICHTIGE SUBSTRATSTRUKTUR UND VERFAHREN UND SYSTEM ZUR HERSTELLUNG DAVON

Title (fr)
STRUCTURE DE SUBSTRAT MULTICOUCHE, ET PROCÉDÉ ET SYSTÈME DE FABRICATION DE CELLE-CI

Publication
EP 2862206 A2 20150422 (EN)

Application
EP 13803800 A 20130612

Priority

- US 201261659944 P 20120614
- US 201261662918 P 20120622
- US 201313794372 A 20130311
- US 201313794327 A 20130311
- US 201313794285 A 20130311
- US 2013045482 W 20130612

Abstract (en)
[origin: WO2013188574A2] A multilayer substrate structure comprises a substrate, a thermal matching layer formed on the substrate and a lattice matching layer above the thermal matching layer. The thermal matching layer includes at least one of molybdenum, molybdenum-copper, mullite, sapphire, graphite, aluminum-oxynitrides, silicon, silicon carbide, zinc oxides, and rare earth oxides. The lattice matching layer includes a first chemical element and a second chemical element to form an alloy. The first and second chemical element has similar crystal structures and chemical properties. The coefficient of thermal expansion of the thermal matching layer and the lattice parameter of the lattice matching layer are both approximately equal to that of a member of group III-V compound semiconductors. The lattice constant of the lattice matching layer is approximately equal to that of a member of group III-V compound semiconductor. The lattice matching layer and the thermal matching layer may be deposited on a substrate using a lateral control shutter.

IPC 8 full level
C30B 1/02 (2006.01); **C30B 23/00** (2006.01); **C30B 23/02** (2006.01); **C30B 25/16** (2006.01); **C30B 25/18** (2006.01); **C30B 29/40** (2006.01); **C30B 29/52** (2006.01)

CPC (source: CN EP)
C30B 1/02 (2013.01 - CN EP); **C30B 23/005** (2013.01 - CN EP); **C30B 23/025** (2013.01 - CN EP); **C30B 25/165** (2013.01 - CN EP); **C30B 25/183** (2013.01 - CN EP); **C30B 25/186** (2013.01 - CN EP); **C30B 29/403** (2013.01 - CN EP); **C30B 29/52** (2013.01 - CN EP)

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
WO 2013188574 A2 20131219; WO 2013188574 A3 20140508; CN 104781938 A 20150715; CN 104781938 B 20180626; EP 2862206 A2 20150422; EP 2862206 A4 20151230; JP 2015526368 A 20150910; JP 6450675 B2 20190109; KR 20150047474 A 20150504; TW 201405636 A 20140201; TW I518747 B 20160121

DOCDB simple family (application)
US 2013045482 W 20130612; CN 201380043629 A 20130612; EP 13803800 A 20130612; JP 2015517401 A 20130612; KR 20157000842 A 20130612; TW 102121007 A 20130614