Title (en)
  SEMICONDUCTOR DEVICES AND FABRICATION METHODS

Title (de)
  HALBLEITERBAUELEMENTE UND HERSTELLUNGSVERFAHREN

Title (fr)
  DISPOSITIFS À SEMI-CONDUCTEUR ET PROCÉDÉS DE PRODUCTION

Publication
  EP 3075002 A1 20161005 (EN)

Application
  EP 14803236 A 20141125

Priority
  • GB 201320925 A 20131127
  • GB 2014053496 W 20141125

Abstract (en)
  [origin: GB2520687A] A method of making a semiconductor device comprises: providing a semiconductor wafer having a semiconductor layer 210; forming a first mask layer 220 over the semiconductor layer 210; forming a metal second mask layer 230 over the first mask layer 220; annealing the second mask layer 230 to form islands 233; forming a second metal layer over the islands 233; annealing the second metal layer thereby to increase the size of the islands 233; and etching through the first mask layer 220 and the semiconductor layer 210 using the islands 233 as a mask to form an array of pillars 211. Wherein the islands 233 may be removed after forming the pillars 211. A semiconductor material may then be grown by epitaxial lateral over growth (ELOG) from the sidewalls of the pillars, around the remaining first mask caps 221 such that any lateral strain in the pillar 211 material due to lattice mismatch with the support substrate 205 is not transferred into the semiconductor material grown on the sides of the pillars 211.

IPC 8 full level
  H01L 21/20 (2006.01); **H01L 21/308** (2006.01)

CPC (source: EP GB)
  H01L 21/02378 (2013.01 - EP); **H01L 21/02381** (2013.01 - EP); **H01L 21/0242** (2013.01 - EP); **H01L 21/02538** (2013.01 - GB);
  H01L 21/0254 (2013.01 - EP); **H01L 21/02603** (2013.01 - GB); **H01L 21/02606** (2013.01 - GB); **H01L 21/02639** (2013.01 - EP);
  H01L 21/02647 (2013.01 - EP); **H01L 21/0265** (2013.01 - EP); **H01L 21/0334** (2013.01 - GB); H01L 21/3081 (2013.01 - EP);
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Citation (search report)
  See references of WO 2015079222A1

Designated contracting state (EPC)
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DOCDB simple family (publication)
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