

Title (en)

METHOD FOR PRODUCTION OF A RADIATION-EMITTING SEMI-CONDUCTOR CHIP

Title (de)

VERFAHREN ZUM HERSTELLEN EINES STRAHLUNGSEMITTIERENDEN HALBLEITERCHIPS

Title (fr)

PROCEDE DE PRODUCTION D'UNE PUCE A SEMI-CONDUCTEUR EMETTANT DES RAYONNEMENTS

Publication

EP 1741144 A1 20070110 (DE)

Application

EP 04730193 A 20040429

Priority

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Abstract (en)

[origin: WO2005106972A1] The invention concerns a method for microstructuring a radiation-emitting surface of a series of semiconductor layers for an thin-film light-emitting diode chip, comprising the following steps: (a) performing an epitaxial growth of the series of semiconductor layers on a substrate; (b) forming or applying a reflecting layer (7) on the series of semiconductor layers, which reflects at least part of the radiation produced during the operation in the series of semiconductor layers and which is directed towards the reflecting layer, in the series of semiconductor layers; (c) separating the series of semiconductor layers from the substrate, using a lifting process, a separation zone being disintegrated at least partly in the series of semiconductor layers, such that there remains at the separation surface of the series of semiconductor layers, from which the substrate is separated, anisotropic residues (20) of a component of the separation zone; and (d) etching the separation surface of the series of semiconductor layers, provided with the residues, said anisotropic residues serving at least temporarily as etching mask.

IPC 8 full level

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Citation (examination)

FUJII T ET AL: "Increase in the extraction efficiency of GaN-based light-emitting diodes via surface roughening", APPLIED PHYSICS LETTERS, AIP, AMERICAN INSTITUTE OF PHYSICS, MELVILLE, NY, US, vol. 84, no. 6, 9 February 2004 (2004-02-09), pages 855 - 857, XP012062026, ISSN: 0003-6951, DOI: 10.1063/1.1645992

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