Title (en)

METHOD OF PRODUCING A LIGHT-EMITTING DIODE COMPRISING A NANOSTRUCTURED PN JUNCTION AND DIODE THUS OBTAINED

Title (de)

VERFAHREN ZUR HERSTELLUNG EINER LEUCHTDIODE MIT NANOSTRUKTURIERTEM PN-ÜBERGANG UND SO ERHALTENE DIODE

Title (fr)

PROCEDE DE FABRICATION D UNE DIODE ELECTROLUMINESCENTE A JONCTION PN NANOSTRUCTUREE ET DIODE OBTENUE PAR UN TEL PROCEDE

Publication

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Application

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Abstract (en)

[origin: WO2006097591A1] The invention relates to a light-emitting diode comprising a nanostructured PN junction, which is made from a semi-conductor substrate (1) which is doped with a first dopant and which is covered with a thin dielectric layer (2). Subsequently, an amorphous thin film comprising a semi-conductor material that has been doped with a second dopant of the opposite type to the first is deposited on the surface of the thin dielectric layer (2). The assembly is then subjected to heat treatment in order to form a plurality of nanometric islands (5) that are made from a semi-conductor material that has been doped with the second dopant in the thin dielectric layer (2) from the amorphous thin film. The aforementioned islands (5) are intended to be epitaxial with the substrate (1) in order to form a plurality of nanometric PN junctions. An additional thin film (6) is subsequently formed by means of epitaxial growth from said islands (5).

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CPC (source: EP US)

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Citation (search report)

See references of WO 2006097591A1

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