

Title (en)  
OPTOELECTRONIC DEVICE COMPRISING THREE-DIMENSIONAL SEMICONDUCTOR STRUCTURES WITH A WIDER SINGLE-CRYSTAL PORTION

Title (de)  
OPTOELEKTRONISCHE VORRICHTUNG MIT DREIDIMENSIONALEN HALBLEITERSTRUKTUREN MIT EINEM GRÖßEREN EINKRISTALLTEIL

Title (fr)  
DISPOSITIF OPTOELECTRONIQUE COMPORTANT DES STRUCTURES SEMICONDUCTRICES TRIDIMENSIONNELLES A PORTION MONOCRISTALLINE ELARGIE

Publication  
**EP 3384534 A1 20181010 (FR)**

Application  
**EP 16813091 A 20161128**

Priority  
• FR 1561587 A 20151130  
• FR 2016053121 W 20161128

Abstract (en)  
[origin: WO2017093645A1] The invention relates to an optoelectronic device (1), comprising at least one microwire or nanowire (2) extending along a longitudinal axis ( $\Delta$ ) substantially orthogonal to a plane of a substrate (3), and comprising: - a first doped portion (10) produced from a first semiconductor compound; - an active zone (30) extending from the first doped portion (10); - a second doped portion (20), at least partially covering the active zone (30); characterised in that the active zone comprises a wider single-crystal portion (31): - formed of a single crystal of a second semiconductor compound made from a mixture of the first semiconductor compound and at least one additional element; - extending from an upper face (14) of one end (11) of the first doped portion (10), and - having a mean diameter greater than that of the first doped portion.

IPC 8 full level  
**H01L 31/0352** (2006.01); **H01L 31/0304** (2006.01)

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Citation (search report)  
See references of WO 2017093645A1

Designated contracting state (EPC)  
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