

Title (en)
OPTOELECTRONIC SEMICONDUCTOR BODY WITH A TUNNEL JUNCTION AND METHOD FOR PRODUCING SUCH A SEMICONDUCTOR BODY

Title (de)
OPTOELEKTRONISCHER HALBLEITERKÖRPER MIT TUNNELÜBERGANG UND VERFAHREN ZUR HERSTELLUNG EINES SOLCHEN

Title (fr)
CORPS SEMI-CONDUCTEUR OPTOELECTRONIQUE AVEC JONCTION A EFFET TUNNEL ET PROCEDE DE FABRICATION ASSOCIE

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Application
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Abstract (en)
[origin: WO2009106070A1] The invention specifies an optoelectronic semiconductor body having an epitaxial semiconductor layer sequence which has a tunnel junction (2) and an active layer (4) which is intended to emit electromagnetic radiation. The tunnel junction has an intermediate layer (23) between an n-type tunnel junction layer (21) and a p-type tunnel junction layer (22). In one embodiment, the intermediate layer has an n-type barrier layer (231) facing the n-type tunnel junction layer, a p-type barrier layer (233) facing the p-type tunnel junction layer and a middle layer (232). The material composition of the middle layer differs from the material composition of the n-type barrier layer and the p-type barrier layer. In another embodiment, the intermediate layer (23) is alternatively or additionally deliberately provided with defects (6). A method for producing such an optoelectronic semiconductor body is also specified.

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