

Title (en)  
SEMICONDUCTOR SENSOR DEVICE, DIAGNOSTIC INSTRUMENT COMPRISING SUCH A DEVICE AND METHOD OF MANUFACTURING SUCH A DEVICE

Title (de)  
HALBLEITER-SENSORVORRICHTUNG, DIAGNOSTISCHES GERÄT MIT EINER SOLCHEN VORRICHTUNG UND VERFAHREN ZUR HESTELLUNG EINER SOLCHEN VORRICHTUNG

Title (fr)  
DISPOSITIF DE DÉTECTEUR SEMI-CONDUCTEUR, INSTRUMENT DE DIAGNOSTIC COMPRENANT UN TEL DISPOSITIF ET PROCÉDÉ DE FABRICATION D'UN TEL DISPOSITIF

Publication  
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Application  
**EP 07849347 A 20071206**

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Abstract (en)  
[origin: WO2008068721A1] Semiconductor sensor device (10) for sensing a substance (30) comprising a mesa- shaped semiconductor region (11,11') which is formed on a surface of a semiconductor body (12) while a fluid (20) comprising the substance (30) to be sensed can flow along the mesa-shaped semiconductor region (11), wherein the mesa- shaped semiconductor region (11) comprises viewed in a longitudinal direction subsequently a first semiconductor subregion (1) comprising a first semiconductor material, a second semiconductor subregion (2) comprising a second semiconductor material different from the first semiconductor material and a third subregion (3) comprising a third semiconductor material different from the second semiconductor material. According to the invention the first and third semiconductor material comprise an optically passive material and the second semiconductor material comprises an optically active material, the substance (30) to be sensed can change a property of electromagnetic radiation (E) coming from the second subregion (2) and the semiconductor sensor device (10) is formed such that the electromagnetic radiation (E) of which the property has been changed can reach a detector (50). The sensor device (10) according to the invention can be very sensitive, relatively compact and easy to manufacture. The radiation (E) can originate from an external source (40) or can be generated in the device (10).

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