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(54) Title: PHOTOELECTRIC DETECTOR

(54) 发明名称: 光电探测器

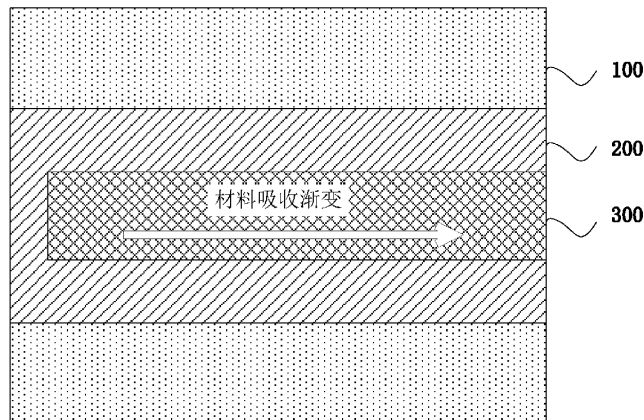


图 14

300 The absorption by a material gradually changes

(57) Abstract: The present application relates to the technical field of integrated circuits, and in particular to a photoelectric detector. The photoelectric detector comprises: a waveguide layer; an absorption layer, wherein the absorption layer is located on the waveguide layer or is at least partially embedded into the waveguide layer; and a cladding material, wherein the cladding material covers the tops and side walls of the waveguide layer and the absorption layer. At least one end surface of the photoelectric detector is a light incident surface, and the amount of light energy absorbed by the portion of the absorption layer that is close to the light incident surface is less than the amount of light energy absorbed by the other portion of the absorption layer. In the present application, the amount of light energy absorbed by a portion adjacent to a light incident surface is less than the amount of light energy absorbed by another portion of an absorption layer, thereby reducing the aggregation degree of photon-generated carriers in an intrinsic area of a photoelectric detector, improving the electric field intensity of an aggregation area of the photon-generated carriers, reducing the impact of large-light input

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根据细则4.17的声明:

- 关于发明人身份(细则4.17(i))
- 关于申请人有权申请并被授予专利(细则4.17(ii))
- 发明人资格(细则4.17(iv))

本国际公布:

- 包括国际检索报告(条约第21条(3))。

on the bandwidth and responsivity performance of the photoelectric detector, and finally, improving a large-light input threshold value of the photoelectric detector.

(57) 摘要: 本申请涉及集成电路技术领域, 特别是涉及一种光电探测器。一种光电探测器包括: 波导层; 吸收层, 所述吸收层位于所述波导层上或至少部分嵌入所述波导层内; 包层材料, 所述包层材料覆盖所述波导层及吸收层的顶部及侧壁; 其中, 所述光电探测器至少一端面为入光面, 所述吸收层临近所述入光面部分的吸收的光能量小于所述吸收层其他部分吸收的光能量。本申请通过使临近入光面部分的吸收的光能量小于吸收层其他部分吸收的光能量, 进而减小光生载流子在光电探测器的本征区域的聚集程度, 增加光生载流子聚集区域的电场强度, 减小大光输入对光电探测器带宽和响应度性能的影响, 最终提升光电探测器的大光输入阈值。