

PHOTOELECTRIC DETECTOR

ABSTRACT

5 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
10 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
15 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 on the bandwidth and responsivity performance
of the photoelectric detector, and finally, improving a large-light input threshold value of the
photoelectric detector.

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FIG. 14