

Title (en)
SEMICONDUCTOR PHOTODETECTOR AND RADIATION DETECTOR SYSTEM

Title (de)
HALBLEITER-PHOTODETEKTOR UND STRAHLUNGSDETEKTORSYSTEM

Title (fr)
PHOTO-DÉTECTEUR SEMI-CONDUCTEUR ET SYSTÈME DE DÉTECTEUR DE RAYONNEMENT

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Application
EP 10790888 A 20101013

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Abstract (en)
[origin: WO2011044896A2] The invention relates to a semiconductor photodetector, comprising: a semiconductor substrate (1), an upper doping zone (3), which is doped according to a first doping type and extends laterally on an upper face (2) in the semiconductor substrate (1), a lower doping zone (4), which is doped according to a second doping type and is associated with the upper doping zone (3) to form avalanche areas (6), such that the lower doping zone (4) extends laterally opposite the upper diode doping zone (3) in the semiconductor substrate (1) and is interrupted in that at least one intermediate area (5) is formed, a snubber resistor area (9), which is formed in the semiconductor substrate between the lower doping zone (4) and a contacting layer (8) formed on the rear side of the semiconductor substrate (1), a first additional doping zone (11), which is doped according to the first doping type, is arranged in the semiconductor substrate (1) in the area between the lower doping zone (4) and the contacting layer (8), extends laterally below the at least one intermediate area (5) and into the area below the lower doping zone (4), and is interrupted in the area below the lower doping zone (4), and a second additional doping zone (12), which is doped according to the second doping type, is arranged in the semiconductor substrate (1) in the area between the lower doping zone (4) and the first additional doping zone (11), extends laterally below the at least one intermediate area (5), and forms a potential barrier between the upper doping zone (3) and the first additional doping zone (11). The invention further relates to a radiation detector system.

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