

Abstract

The present invention relates to a photodetector (3) comprising: a longitudinal portion (12) of a waveguide (11) which comprises or is formed by two
5 waveguide segments (12a, 12b), which extend at least substantially parallel to one another in the longitudinal direction and are preferably distanced from one another in the transverse direction, forming a gap (14) between them; and an active element (13), which overlies the longitudinal portion (12) of the waveguide and comprises at least one material or consists of at least one
10 material that absorbs electromagnetic radiation of at least one wavelength and generates an electric photosignal as a result of the absorption, the two waveguide segments (12a, 12b) each being in contact, at least in some portions, on at least one side, in particular on the side facing the active element (14), with a gate electrode (15a, 15b) which preferably comprises silicon or
15 consists of silicon.