

Abstract

The present application relates to a semiconductor device comprising a wafer (1) with a preferably single-piece semiconductor substrate (2), in particular silicon substrate, and at least one integrated electronic component (3) extending
5 in and/or on the semiconductor substrate (2), the wafer (1) having a front-end-of-line (5) and a back-end-of-line (6) lying there above, the front-end-of-line (5) comprising the integrated electronic component or at least one of the integrated electronic components (3), and a photonic platform (8) fabricated on
10 the side (9) of the wafer (1) facing away from the front-end-of-line (5), which photonic platform (8) comprises at least one waveguide (12) and at least one electro-optical device (15), in particular at least one photodetector and/or at least one electro-optical modulator, wherein the electro-optical device (15) or at least one of the electro-optical devices (15) of the photonic platform (8) is
15 connected to the integrated electronic component (3) or at least one of the integrated electronic components (3) of the wafer (1).