Abstract

Epitaxially coated Semiconductor Wafer and Device and Method for Producing an Epitaxially coated Semiconductor Wafer

The invention relates to a method for producing epitaxially coated semiconductor wafers, in which a multiplicity of semiconductor wafers polished at least on their front sides are prepared and successively coated individually by applying an epitaxial layer onto their polished front sides by chemical vapor deposition at temperatures of 800-1200°C in an epitaxial reactor, by respectively supporting one of the prepared semiconductor wafers on a device for supporting a semiconductor wafer during the deposition of a layer on a front side of the semiconductor wafer by chemical vapor deposition in an epitaxial reactor, containing a susceptor which has a gas-permeable structure and a ring, placed on the susceptor, which acts as a thermal buffer between the susceptor and the supported semiconductor wafer, so that the semiconductor wafer rests on the ring, its backside faces a bottom of the susceptor having a gas-permeable structure but does not touch the susceptor, so that gaseous substances are delivered from a region over the backside of the semiconductor wafer by gas diffusion through the susceptor into a region over the backside of the susceptor, and furthermore the semiconductor wafer comes in contact with the ring only in the edge region of its backside, with no stresses measurable by means of photoelastic stress measurement ("SIRD") occurring in the semiconductor wafer.