

Abstract:

Method for machining a semiconductor wafer on both sides in a carrier, carrier and a semiconductor wafer produced by the method

5

The invention comprises a method and a carrier for machining a semiconductor wafer on both sides, which semiconductor wafer is guided in a cutout in a carrier while a thickness of the semiconductor wafer is being reduced to a target thickness by material being removed from a front surface and a back surface of the semiconductor wafer simultaneously. In the method, the semiconductor wafer is machined until it is thinner than a carrier body and thicker than an inlay used to line the cutout in the carrier to protect the semiconductor wafer. The carrier is distinguished by the fact that the carrier body and the inlay have different thicknesses throughout the entire duration of the machining of the semiconductor wafer and the carrier body is thicker than the inlay, with the thickness difference amounting to 20 to 70 μm . The invention also relates to a semiconductor wafer which has been polished on both sides, having a front surface, a back surface and an edge as well as a local flatness of the front surface, expressed as SFQR_{max} of less than 50 nm with an edge exclusion of $R - 2 \text{ mm}$ and of less than 115 nm with an edge exclusion of $R - 1 \text{ mm}$, and based on a site area of $26 * 8 \text{ mm}$.

20
25