Title (en)

METHOD FOR SINGULATING SEMICONDUCTOR COMPONENTS

Title (de)

VERFAHREN ZUM VEREINZELN VON HALBLEITERBAUELEMENTEN

Title (fr)

PROCÉDÉ DE SÉPARATION DE COMPOSANTS SEMI-CONDUCTEURS

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Abstract (en)

[origin: WO2023021002A1] The invention relates to a method for singulating semiconductor components (5), comprising a method step A comprising providing a semiconductor workpiece (1), which has a carrier substrate (2) and a plurality of semiconductor components (5), the semiconductor components (5) having: - at least one functional semiconductor layer (3), which is located on a front side of the carrier substrate (2) and which is in the form of a III-V compound semiconductor, and - at least one metal rear contacting layer (4), which is located on a rear side of the carrier substrate (2), and comprising a method step B comprising cutting through the semiconductor workpiece (1) along a plurality of cutting paths in order to singulate the semiconductor components. It is essential that method step B comprises the following method steps: in a method step B1, the metal rear contacting layer (4) of the semiconductor components (5) is cut through on the rear side of the carrier substrate (2) along the cutting paths and a cutting trench (9) is produced on the rear side of the carrier substrate (2), at least in portions of the cutting paths, by means of ablation by laser radiation, and in a method step B2, the carrier substrate (2) is cut through along the cutting paths by energy input into the carrier substrate (2) by means of laser radiation, wherein the carrier substrate (2) is heated below the melting temperature of the carrier substrate (2). The invention also relates to a singulated semiconductor component (2).

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