Title (en)

METHOD FOR PRODUCING A SILICON CARBIDE-BASED SEMICONDUCTOR STRUCTURE AND INTERMEDIATE COMPOSITE STRUCTURE

Title (de)

VERFAHREN ZUR HERSTELLUNG EINER SILICIUMCARBIDBASIERTEN HALBLEITERSTRUKTUR UND ZWISCHENVERBUNDSTRUKTUR

Title (fr)

PROCEDE DE FABRICATION D'UNE STRUCTURE SEMI-CONDUCTRICE A BASE DE CARBURE DE SILICIUM ET STRUCTURE COMPOSITE INTERMEDIAIRE

Publication

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Application

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Abstract (en)

[origin: WO2022189732A1] The invention relates to a method for producing a semiconductor structure, comprising: a) a step of providing a temporary substrate made of graphite having a grain size of between 4 microns and 35 microns, a porosity of between 6 and 17%, and a coefficient of thermal expansion of between 4×10-6/°C and 5×10-6/°C; b) a step of depositing, on a front face of the temporary substrate, a carrier layer made of polycrystalline silicon carbide having a thickness of between 10 microns and 200 microns, c) a step of transferring a working layer made of monocrystalline silicon carbide to the carrier layer, directly or via an intermediate layer, to form a composite structure, said transfer implementing bonding by molecular adhesion, d) a step of forming an active layer on the working layer, e) a step of removing the temporary substrate to form the semiconductor structure, said structure including the active layer, the working layer and the carrier layer. The invention also relates to the composite structure obtained in an intermediate step of the production method.

IPC 8 full level

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