

Title (en)

METHOD FOR MANUFACTURING A SEMICONDUCTOR-ON-INSULATOR SUBSTRATE FOR RADIOFREQUENCY APPLICATIONS

Title (de)

VERFAHREN ZUR HERSTELLUNG EINES HALBLEITER-AUF-ISOLATOR-SUBSTRATS FÜR HOCHFREQUENZANWENDUNGEN

Title (fr)

PROCEDE DE FABRICATION D'UN SUBSTRAT SEMI-CONDUCTEUR SUR ISOLANT POUR APPLICATIONS RADIOFREQUENCES

Publication

**EP 4154306 A1 20230329 (FR)**

Application

**EP 21732481 A 20210518**

Priority

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Abstract (en)

[origin: WO2021234277A1] The invention relates to a method for manufacturing a semiconductor-on-insulator substrate for radiofrequency applications, comprising the following steps: - forming a donor substrate (1) by epitaxial growth of a non-doped semiconductor layer (101) on a P-doped semiconductor seed substrate (100), - forming an electrically insulating layer (10) on the non-doped epitaxial semiconductor layer (101); - implanting ionic species through said electrically insulating layer (10) so as to form in the non-doped epitaxial semiconductor layer (101) an area of embrittlement (11) defining a thin semiconductor layer (12) to be transferred, - providing a supporting semiconductor substrate (2) having an electrical resistivity greater than or equal to 500  $\Omega$ .cm, - bonding the donor substrate (1) on the supporting substrate (2) via the electrically insulating layer (10), - detaching the donor substrate (1) along the area of embrittlement (11) so as to transfer the thin semiconductor layer (12) from the donor substrate (1) onto the supporting substrate (2).

IPC 8 full level

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