

Title (en)

BIPOLAR SOI DEVICE HAVING A TILTED PN-JUNCTION, AND A METHOD FOR PRODUCING SUCH A DEVICE

Title (de)

BIPOLARE SOI-ANORDNUNG MIT GEKIPPTEM PN-ÜBERGANG, UND VERFAHREN ZUR HERSTELLUNG DIESER ANORDNUNG

Title (fr)

DISPOSITIF A SEMI-CONDUCTEUR SUR ISOLANT AVEC JONCTION PN INCLINEE ET PROCEDE DE PRODUCTION DE CE DISPOSITIF

Publication

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Application

EP 97908624 A 19970305

Priority

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- SE 9600898 A 19960307

Abstract (en)

[origin: WO9733319A1] In a bipolar semiconductor-on-insulator transistor device (1) comprising an emitter region (4), a base region (5), a collector region (2) and a collector contacting region (6) in a semiconductor wafer, e.g. a monocrystalline silicon wafer (2), on top of an insulator (3), the base-emitter and collector-base junctions are tilted relative to the interface between the semiconductor wafer (2) and the insulator (3). The device can be made by anisotropic etching in order to produce a tilted surface (7) at an edge of the device or equivalently a V-groove having tilted sidewalls. The base and emitter regions (5, 4) are then produced by diffusing suitable donor and acceptor atoms into the material inside the tilted surface. Such a bipolar semiconductor-on-insulator transistor combines the high speed features of a lateral semiconductor device and the high voltage features of a vertical semiconductor device.

IPC 1-7

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IPC 8 full level

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CPC (source: EP KR)

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