

Title (en)

VERTICAL BIPOLAR TRANSISTOR, IN PARTICULAR WITH SiGe BASE HETEROJUNCTION AND METHOD FOR MAKING SAME

Title (de)

VERTIKALER BIPOLARTRANSISTOR, INSBESONDERE AUF DER BASIS EINES SIGE-HETEROÜBERGANGES UND VERFAHREN ZU DESSEN HERSTELLUNG

Title (fr)

TRANSISTOR BIPOLAIRE VERTICAL, EN PARTICULIER A BASE A HETEROJONCTION SiGe, ET PROCEDE DE FABRICATION

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Application

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Priority

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Abstract (en)

[origin: FR2778022A1] A vertical bipolar transistor has extrinsic base and collector regions, formed in a semiconductor layer (6) between an emitter (90) and an intrinsic collector (4), and base and collector metallizations (S) overlapping a field oxide. A vertical bipolar transistor comprises: (a) an intrinsic collector region (4) surrounded by a lateral insulation region; (b) a semiconductor layer (6) located partially between the emitter (90) and the intrinsic collector (4) and extending on both sides of the emitter above the lateral insulation region; (c) an intrinsic base region (60) formed in the semiconductor layer (6); (d) extrinsic base and collector regions respectively comprising first zones (61, 63), formed in the semiconductor layer at each side of the emitter and above a first portion (200, 201) of the lateral insulation region and mutually electrically isolated by a second portion of the lateral insulation region, and second zones (62, 64) extending in the intrinsic collector; and (e) base and collector metallizations (S) respectively located in contact with the corresponding first zones above the first portion of the lateral insulation region. An Independent claim is also included for a process for producing the above bipolar transistor.

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