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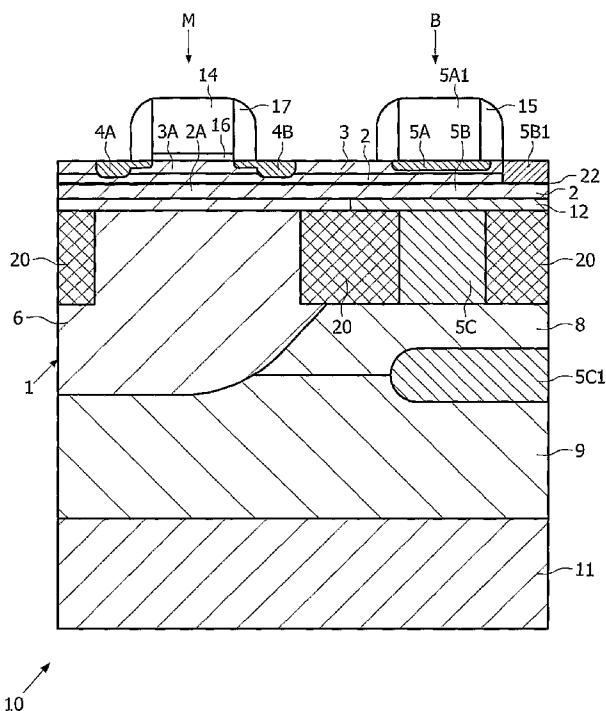
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(54) Title: SEMICONDUCTOR DEVICE AND METHOD OF MANUFACTURING SUCH A DEVICE



(57) Abstract: The invention relates to a semiconductor device (10) comprising a substrate (11) and a semiconductor body (1) of silicon having a semiconductor layer structure comprising, in succession, a first and a second semiconductor layer (2, 3), and having a surface region of a first conductivity type which is provided with a field effect transistor (M) with a channel of a second conductivity type, opposite to the first conductivity type, wherein the surface region is provided with source and drain regions (4A, 4B) of the second conductivity type for the field effect transistor (M) and with - interposed between said source and drain regions - a channel region (3A) with a lower doping concentration which forms part of the second semiconductor layer (3) and with a buried first-conductivity-type semiconductor region (2A), buried below the channel region (3A), with a doping concentration that is much higher than that of the channel region (3A) and which forms part of the first semiconductor layer (2). According to the invention, the semiconductor body (1) is provided not only with the field effect transistor (M) but also with a bipolar transistor (B) with emitter, base and collector regions (5A, 5B, 5C) of respectively the second, the first and the second conductivity type, and the emitter region (5A) is formed in the second semiconductor layer (3) and the base region (5B) is formed in the first semiconductor layer (2). In this way a Bi(C)MOS IC (10) is obtained which is very

suitable for high-frequency applications and which is easy to manufacture using a method according to the invention. Preferably the first semiconductor layer (2) comprises Si-Ge and is delta-doped, whereas the second semiconductor layer (3) comprises strained Si.

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SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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