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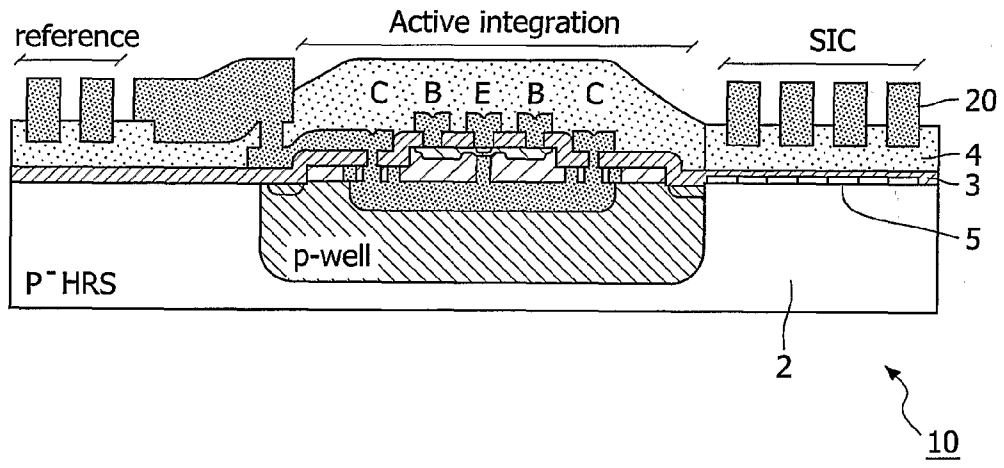
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(54) Title: SEMICONDUCTOR DEVICE AND METHOD OF MANUFACTURING SUCH A DEVICE



(57) Abstract: The invention relates to a semiconductor device (10) comprising a semiconductor body (1) with a high-ohmic semiconductor substrate (2) which is covered with a dielectric layer (3, 4) containing charges, on which dielectric layer one or more passive electronic components (20) comprising conductor tracks (20) are provided, wherein, at the location of the passive elements (20), a region (5) is present at the interface between the semiconductor substrate (2) and the dielectric layer (3, 4), as a result of which the conductivity of an electrically conducting channel induced in the device (10) by the charges is limited at the location of the region (5). According to the invention, the region (5) is formed by deposition and comprises a semi-insulating material. As a result, the device (10) has a very low high-frequency power loss because the inversion channel is formed in the semi-insulating region (5). The device (10) further allows for a higher temperature budget and hence for the integration of active semiconductor elements (8) into the semiconductor body (1). A very suitable semi-insulating material for the region (5) is SiC, SIPOS or POLYDOX.

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