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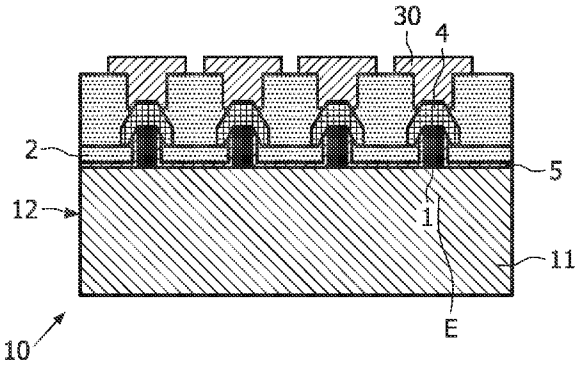
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(54) Title: METHOD OF MANUFACTURING A SEMICONDUCTOR DEVICE AND SEMICONDUCTOR DEVICE OBTAINED WITH SUCH A METHOD



(57) Abstract: The invention relates to a method of manufacturing a semiconductor device (10) with a substrate (11) and a semiconductor body (12) which is provided with at least one semiconductor element (E), wherein on the surface of the semiconductor body (12) a mesa- shaped semiconductor region (1) is formed, an insulating layer (2) is deposited over the mesa-shaped semiconductor region (1) having a smaller thickness on top of the mesa-shaped semiconductor region (1) than in a region (3) bordering the mesa-shaped semiconductor region (1), subsequently a part of the insulating layer (2) on top of the mesa-shaped semiconductor region (1) is removed freeing the upper side of the mesa-shaped semiconductor region (1), and subsequently a conducting layer (4) contacting the mesa- shaped semiconducting region (1) is deposited over the resulting structure. According to the invention the insulating layer (2) is deposited using a high-density plasma deposition process. Such a process is particular suitable for the manufacturing of devices with small mesa-shaped regions (1) e.g. in the form of nano wires. Preferably a thin further insulating layer (5) is deposited using another, conformal deposition process before the insulating layer (2) is deposited.

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