

**Petitioner Bluehouse Global Ltd.**

**Ex. 1004**



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(54) **SEMICONDUCTOR DEVICE**

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(57) **ABSTRACT**

An object is to provide a semiconductor device including an oxide semiconductor in which miniaturization is achieved while favorable characteristics are maintained. The semiconductor includes an oxide semiconductor layer, a source electrode and a drain electrode in contact with the oxide semiconductor layer, a gate electrode overlapping with the oxide semiconductor layer, a gate insulating layer provided between the oxide semiconductor layer and the gate electrode, and an insulating layer provided in contact with the oxide semiconductor layer. A side surface of the oxide semiconductor layer is in contact with the source electrode or the drain electrode. An upper surface of the oxide semiconductor layer overlaps with the source electrode or the drain electrode with the insulating layer interposed between the oxide semiconductor layer and the source electrode or the drain electrode.

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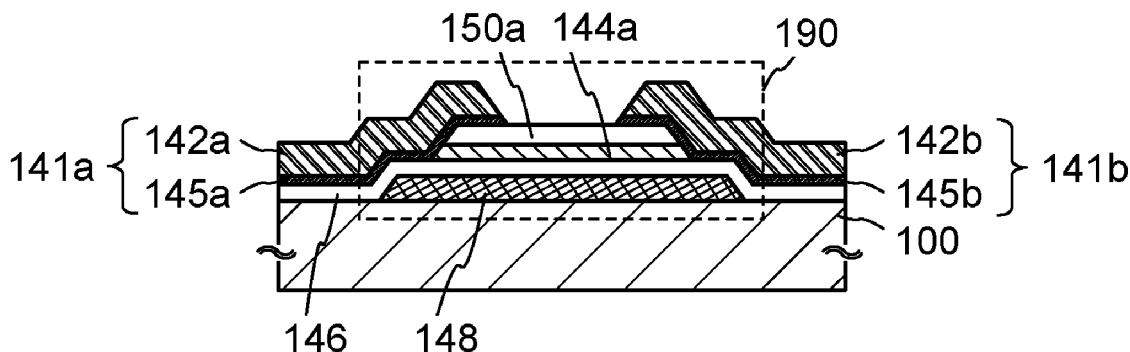


FIG. 1A

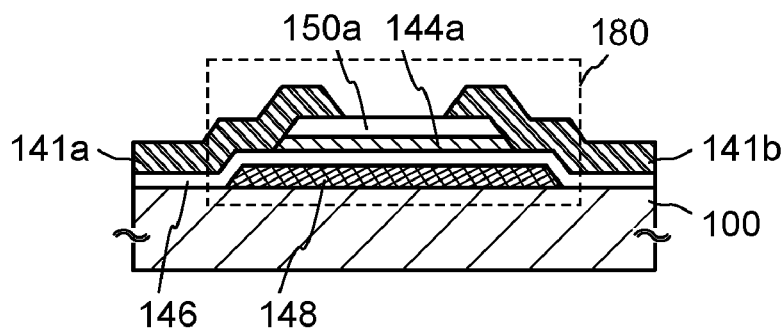


FIG. 1B

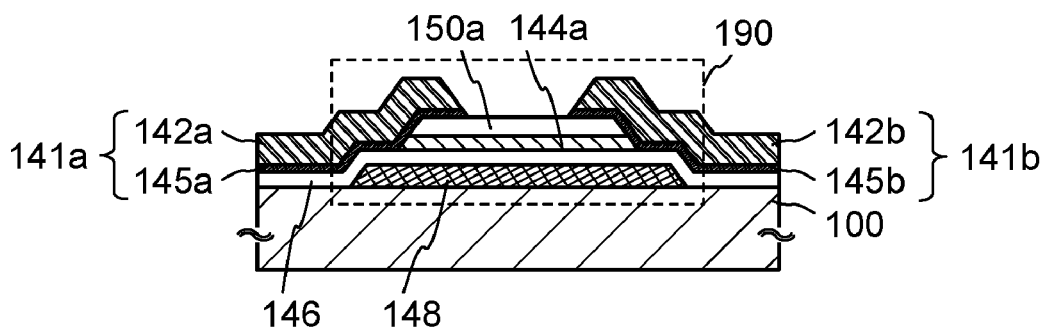


FIG. 2A

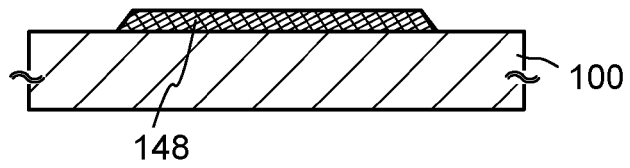


FIG. 2B

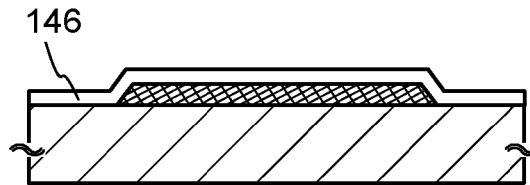


FIG. 2C

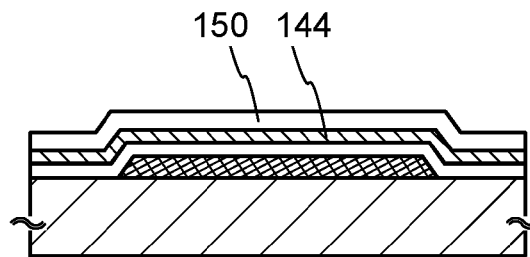


FIG. 2D

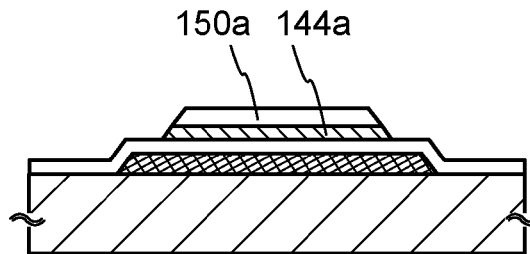


FIG. 2E

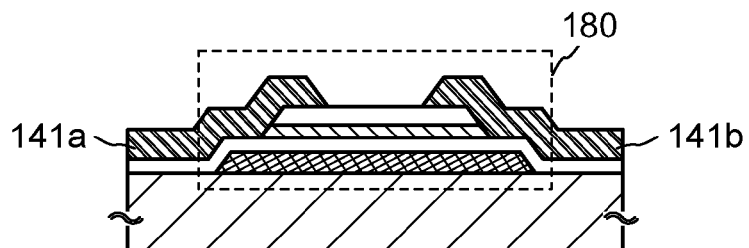


FIG. 3A

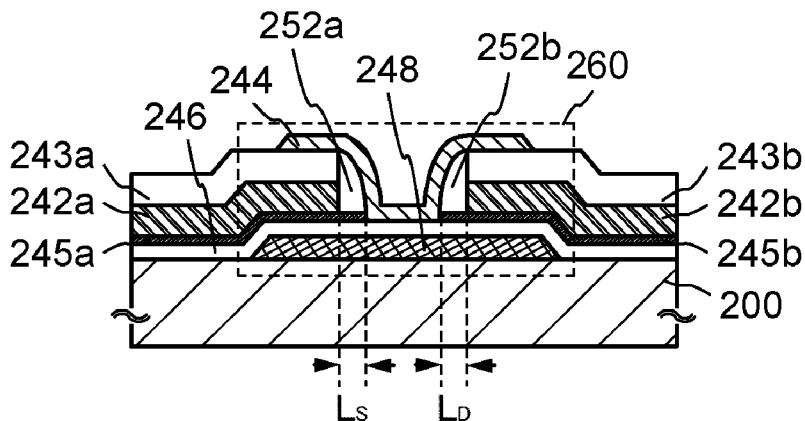


FIG. 3B

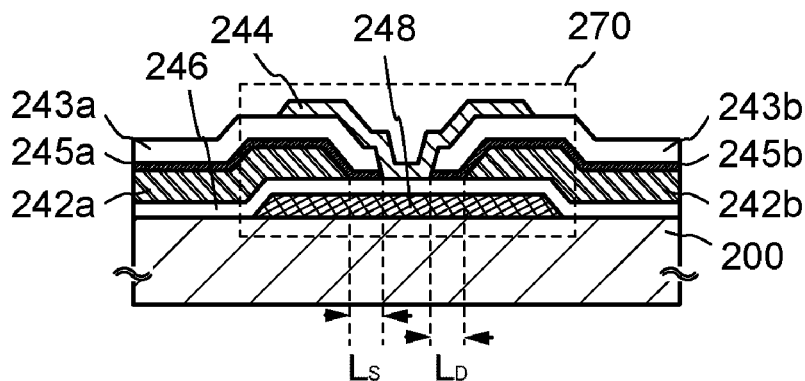
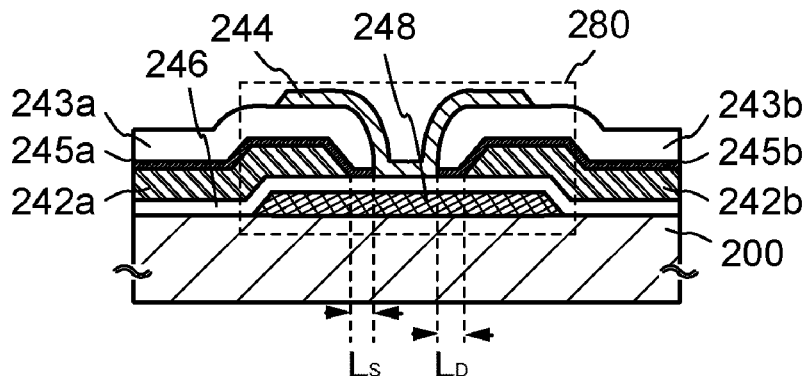


FIG. 3C



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