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(54) **SEMICONDUCTOR DEVICE AND METHOD OF MANUFACTURING THE SAME**

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(57) **ABSTRACT**
The present disclosure provides a method of manufacturing a semiconductor device. The method includes: sequentially forming a first supporting layer, a first mold layer, and a second supporting layer on a surface of a substrate; forming a plurality of first openings on the second supporting layer to expose the first mold layer; sequentially forming a second mold layer and a third supporting layer on the second supporting layer including the first openings; forming a plurality of second openings on the third supporting layer to expose the second mold layer; filling a mold material in the second openings; forming a plurality of trenches to expose the substrate, and the trenches are separated from the second openings; conformally forming a conductive layer on inner sidewalls of the trenches; and removing the mold material, the second mold layer, and the first mold layer.

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