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(54) **A SEMICONDUCTOR STRUCTURE AND A METHOD OF MAKING THE SAME**

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(71) Applicant: **ChangXin Memory Technologies, Inc.**,  
Hefei City (CN)

(57)

**ABSTRACT**

(72) Inventor: **Xiaojie Li**, Hefei City (CN)

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Embodiments of the present disclosure provide a semiconductor device, comprising a semiconductor layer, extending along the first direction; the semiconductor layer includes a capacitor area facing the capacitor structure, and the capacitor structure includes: a lower electrode layer, the capacitor dielectric layer and the upper electrode layer, sequentially surrounding the sidewalls of the capacitor area extending along the first direction, a part of the lower electrode layer surrounds the sidewalls of the capacitor region, and also surrounds the bottom of the upper electrode layer, the sidewalls extending along the first direction, and the capacitor dielectric layer is located between the upper electrode layer and the lower electrode layer. The disclosed device improves the capacitance of the capacitor structure while improving the integration density of the semiconductor structure.

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