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(57) **ABSTRACT**

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A semiconductor device including a substrate, a low-k dielectric layer, a cap layer, and a conductive layer is provided. The low-k dielectric layer is disposed over the substrate. The cap layer is disposed on the low-k dielectric layer, wherein a carbon atom content of the cap layer is greater than a carbon atom content of the low-k dielectric layer. The conductive layer is disposed in the cap layer and the low-k dielectric layer.

