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(54) **VERTICAL NAND FLASH MEMORY DEVICE**

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(57) **ABSTRACT**

A vertical NAND flash memory device may include a plurality of cell arrays. Each of the plurality of cell arrays may include a channel layer, a charge trap layer on the channel layer, and a plurality of gate electrodes on the charge trap layer. The charge trap layer may include silicon oxynitride comprising a metal. The metal may include at least one of Ga or In.

