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(54) **THREE-DIMENSIONAL MEMORY DEVICE  
AND METHOD OF MAKING THEREOF BY  
NON-CONFORMAL SELECTIVE  
DEPOSITION OF INSULATING SPACERS IN  
A MEMORY OPENING**

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(57) **ABSTRACT**

A method of forming a memory device includes forming an alternating stack of insulating layers including a first insulating material and sacrificial material layers including a first sacrificial material over a substrate, forming a memory opening through the alternating stack, performing a first selective material deposition process that selectively grows a second sacrificial material from physically exposed surfaces of the sacrificial material layers to form a vertical stack of sacrificial material portions; forming a memory opening fill structure in the memory opening, where the memory opening fill structure includes a vertical stack of memory elements and a vertical semiconductor channel, and replacing a combination of the vertical stack of sacrificial material portions and the sacrificial material layers with electrically conductive layers.

