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(54) **Title**: SEMICONDUCTOR DEVICES INCLUDING AN ELECTRICALLY PERCOLATING SOURCE LAYER AND METHODS OF FABRICATING THE SAME

(57) **Abstract**: Various embodiments are provided for semiconductor devices including an electrically percolating source layer and methods of fabricating the same. In one embodiment, a semiconductor device includes a gate layer, a dielectric layer, a memory layer, a source layer, a semiconducting channel layer, and a drain layer. The source layer is electrically percolating and perforated. The semiconducting channel layer is in contact with the source layer and the memory layer. The source layer and the semiconducting channel layer form a gate voltage tunable charge injection barrier.