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(54) **NEURONS AND SYNAPSES WITH FERROELECTRICALLY MODULATED METAL-SEMICONDUCTOR SCHOTTKY DIODES AND METHOD**

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(57) **ABSTRACT**

This disclosure relates to a synaptic component for a neural network having a layer of a semiconductor and a source electrode connected to the semiconducting layer and a drain electrode connected to the semiconducting layer, wherein the source electrode is spatially separated from the drain electrode, wherein the source electrode and the semiconducting layer form a Schottky diode, wherein the source electrode is separated from a first gate electrode by ferroelectric material. This disclosure further relates to a method for operating a synaptic component according to the disclosure in which the first Schottky diode is connected in reverse direction and an electric voltage is applied on the first gate electrode in a pulsed manner.

