US 20240237566A1

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0237566 A1

PARK et al. (43) Pub. Date: Jul. 11, 2024

(54) **ARTIFICIAL SYNAPSE DEVICE BASED ON RESISTIVE CHANGE MEMORY DEVICE, AND METHOD FOR MANUFACTURING SAME**

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(21) Appl. No.: **18/443,283**

(22) Filed: **Feb. 15, 2024**

Related U.S. Application Data

(63) Continuation of application No. PCT/KR2022/012483, filed on Aug. 22, 2022.

(30) **Foreign Application Priority Data**

Aug. 23, 2021 (KR) 10-2021-0110991

Publication Classification

(51) **Int. Cl.**

H10N 70/00	(2006.01)
G06N 3/063	(2006.01)
H10B 63/00	(2006.01)
H10N 70/20	(2006.01)

(52) **U.S. Cl.**

CPC ***H10N 70/8845*** (2023.02); ***G06N 3/063*** (2013.01); ***H10B 63/80*** (2023.02); ***H10N 70/026*** (2023.02); ***H10N 70/24*** (2023.02); ***H10N 70/841*** (2023.02)

(57) **ABSTRACT**

Disclosed is an artificial synapse device including an amorphous carbon oxide-based resistance change memory device and a method of fabricating the same, and more particularly to a technology for providing an artificial synapse device capable of implementing the characteristics of biological synapses responsible for memory and information transfer in the human brain using a resistance change memory device. More particularly, the artificial synapse device according to an embodiment of the provided includes a first electrode; a second electrode disposed to face the first electrode; and a switching layer formed of an amorphous carbon oxide deposited by injecting oxygen when sputtering carbon into a target between the first electrode and the second electrode, wherein the artificial synapse device has synaptic characteristics wherein a value of an output current changes gradually when a same voltage of either set voltage or reset voltage is repeatedly applied to the first electrode.