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(71) Applicant: **YANGTZE MEMORY TECHNOLOGIES CO., LTD.** [CN/CN]; Room 7018, No.18, Huaguang Road, Guangdong Science and Technology Industrial Park, East Lake Development Zone, Wuhan, Hubei 430074 (CN).

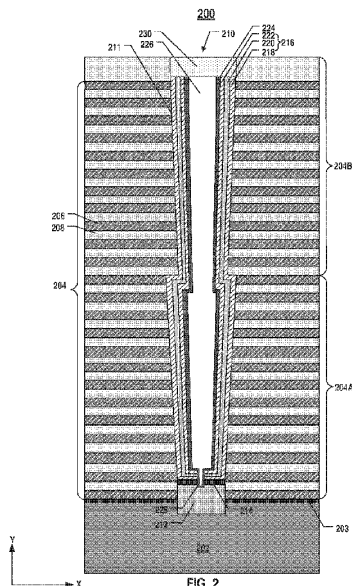
(72) Inventors: **YANG, Haohao**; Room 7018, No.18, Huaguang Road, Guangdong Science and Technology Industrial Park, East Lake High-Tech Development Zone, Wuhan, Hubei 430074 (CN). **ZHANG, Yong**; Room 7018, No.18, Huaguang Road, Guangdong Science and Technology Industrial Park, East Lake High-Tech Development Zone, Wuhan, Hubei 430074 (CN). **WANG, EnBo**; Room 7018, No.18, Huaguang Road, Guangdong Science and Technology Industrial Park, East Lake High-Tech Development Zone, Wuhan, Hubei 430074 (CN). **ZHANG,**

Ruo Fang; Room 7018, No.18, Huaguang Road, Guangdong Science and Technology Industrial Park, East Lake High-Tech Development Zone, Wuhan, Hubei 430074 (CN). **ZHANG, Fushan**; Room 7018, No.18, Huaguang Road, Guangdong Science and Technology Industrial Park, East Lake High-Tech Development Zone, Wuhan, Hubei 430074 (CN). **XU, Qianbing**; Room 7018, No.18, Huaguang Road, Guangdong Science and Technology Industrial Park, East Lake High-Tech Development Zone, Wuhan, Hubei 430074 (CN).

(74) Agent: **NTD UNIVATION INTELLECTUAL PROPERTY AGENCY LTD.**; 10th Floor, Tower C, Beijing Global Trade Center, 36 North Third Ring Road East, Dongcheng District, Beijing 100013 (CN).

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(54) Title: SEMICONDUCTOR PLUG PROTECTED BY PROTECTIVE DIELECTRIC LAYER IN THREE-DIMENSIONAL MEMORY DEVICE AND METHOD FOR FORMING THE SAME



(57) Abstract: Embodiments of 3D memory devices with a semiconductor plug protected by a dielectric layer and methods for forming the same are disclosed. In an example, a 3D memory device includes a substrate, a memory stack including a plurality of interleaved conductor layers and dielectric layers on the substrate, and a memory string extending vertically through the memory stack. The memory string includes a semiconductor plug in a lower portion of the memory string, a protective dielectric layer on the semiconductor plug, and a memory film above the protective dielectric layer and along a sidewall of the memory string.

WO 2020/061868 A1

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