# A HYBRID MEMORY DEVICE

## CROSS-REFERENCE

**[0001]** The present Application for Patent claims priority to PCT Application No. PCT/US2017/047787, entitled "Hybrid Memory Device," filed August 21, 2017, which claims priority to U.S. Patent Application No. 15/252,886 by Ryan et al., entitled "Hybrid
Memory Device," filed August 31, 2016, each of which is assigned to the assignee hereof, and each of which is expressly incorporated by reference in its entirety herein.

## BACKGROUND

**[0002]** The following relates generally to memory devices and more specifically to a hybrid memory device.

**[0003]** Memory devices are widely used to store information in various electronic devices such as computers, wireless communication devices, cameras, digital displays, and the like. Information is stored by programing different states of a memory device. For example, binary devices have two states, often denoted by a logic "1" or a logic "0." In other systems, more than two states may be stored. To access the stored information, the electronic device may read, or sense, the stored state in the memory device. To store information, the electronic device may write, or program, the state in the memory device.

**[0004]** Various types of memory devices exist, including random access memory (RAM), read only memory (ROM), dynamic RAM (DRAM), synchronous dynamic RAM (SDRAM), ferroelectric RAM (FeRAM), magnetic RAM (MRAM), resistive RAM (RRAM), flash memory, and others. Memory devices may be volatile or non-volatile. Non-volatile memory, e.g., flash memory, can store data for extended periods of time even in the absence of an external power source. Volatile memory devices, e.g., DRAM, may lose their stored state over time unless they are periodically refreshed by an external power source. A binary memory device may, for example, include a charged or discharged capacitor. A charged capacitor may, however, become discharged over time through leakage currents, resulting in the loss of the stored information. Certain features of volatile memory may, however, offer