

CHALCOGENIDE MEMORY DEVICE COMPONENTS AND COMPOSITION

ABSTRACT

Systems, devices, and methods related to or that employ chalcogenide memory components and compositions are described. A memory device, such as a selector device, may be made of a chalcogenide material composition. A chalcogenide material may have a composition that includes one or more elements from the boron group, such as boron, aluminum, gallium, indium, or thallium. A selector device, for instance, may have a composition of selenium, arsenic, and at least one of boron, aluminum, gallium, indium, or thallium. The selector device may also be composed of germanium or silicon, or both. The relative amount of boron, aluminum, gallium, indium, or thallium may affect a threshold voltage of a memory component, and the relative amount may be selected accordingly. A memory component may, for instance have a composition that includes selenium, arsenic, and some combination of germanium, silicon, and at least one of boron, aluminum, gallium, indium, or thallium.

FIG. 3