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(54) Title: CHALCOGENIDE GLASS CONSTANT CURRENT DEVICE, AND ITS METHOD OF FABRICATION AND OPERATION

(57) Abstract: The invention is related to methods and apparatus for providing a two-terminal constant current device, and its operation thereof. The invention provides a constant current device that maintains a constant current over an applied voltage range of at least approximately 700 mV. The invention also provides a method of changing and resetting the constant current value in a constant current device by either applying a positive potential to decrease the constant current value, or by applying a voltage more negative than the existing constant current's voltage upper limit, thereby resetting or increasing its constant current level to its original fabricated value. The invention further provides a method of forming and converting a memory device into a constant current device. The invention also provides a method for using a constant current device as an analog memory device.

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