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(54) **METHOD FOR MANUFACTURING A PHASE
CHANGE MEMORY DEVICE**

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(57) **ABSTRACT**

A phase change memory device comprising a stack comprising a memory point. The memory point comprises, stacked in a vertical direction (Z), a lower electrode, a chalcogenide section disposed on the lower electrode, and an upper electrode disposed on the chalcogenide section. The memory point has a side surface and an upper face, and comprises an encapsulation layer disposed in contact with the side surface and the upper face, and a doped portion extending from the side surface and inside the chalcogenide section, along its entire height. The chalcogenide section also has a non-doped portion having a zero doping or a doping less than the doping of the doped portion and extending from the doped portion up to the center of the chalcogenide section.

