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Lowrey

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(54) **MEMORY AND ACCESS DEVICE AND METHOD THEREFOR**

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(58) **Field of Classification Search** 257/3, 257/4, 5, 300, 2, E27.004, E45.002, E45.003; 365/100, 167, 158, 171, 137, 154, 163, 105
See application file for complete search history.

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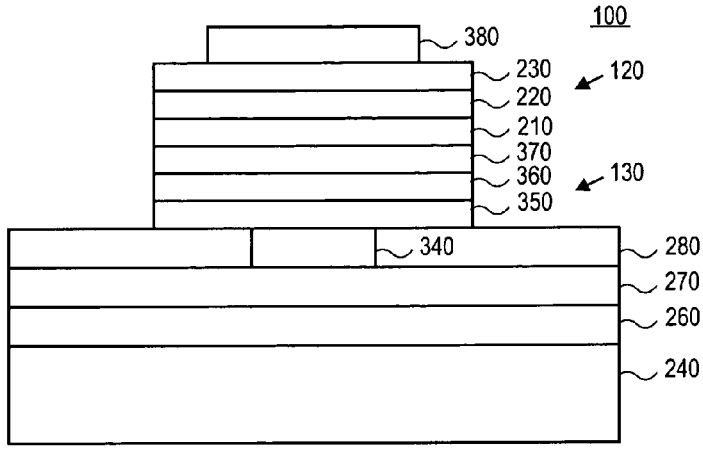
(57) **ABSTRACT**

Briefly, in accordance with an embodiment of the invention, a memory and a method to manufacture the memory is provided. The memory may include a phase change material over a substrate. The memory may further include a switching material coupled to the phase change material, wherein the switching material comprises a chalcogen other than oxygen and wherein the switching material and the phase change material form portions of a vertical structure over the substrate.

8 Claims, 12 Drawing Sheets