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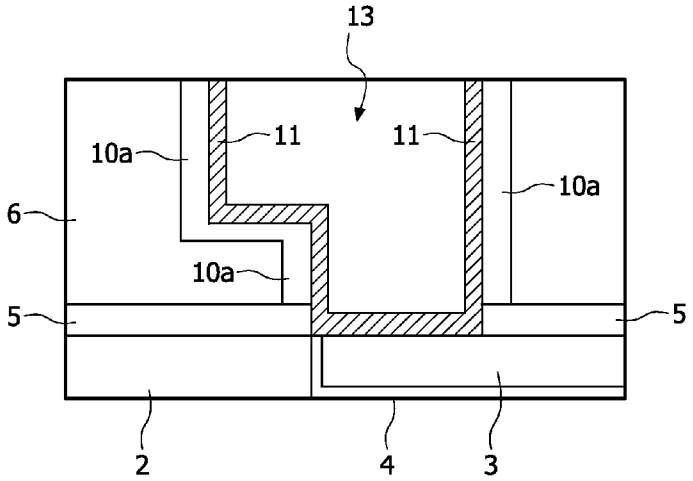
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(54) Title: A STRUCTURE FOR A SEMICONDUCTOR DEVICE AND A METHOD OF MANUFACTURING THE SAME



(57) Abstract: There is described a method of manufacturing a damascene interconnect (1) for a semiconductor device. A non conductive diffusion barrier (10) is formed over the wall(s) of a passage (7) defined by a porous low K di-electric material (6) and over the surface of a copper region (3) that closes one end of the passage (7). The non-conductive barrier layer (10) is plasma treated to transform an upper portion thereof (10b) into a conductive layer, while a low portion thereof (10a) comprising material that has penetrated pores of the di- electric material remains non-conductive. The passage (7) is then filled with a second copper region (13) forming an electrical interconnect with the first copper region (3) via the now conductive upper portion (1Ob) of the barrier (10). As a person skilled in the art will know, all embodiments of the invention described and claimed in this document may be combined without departing from the scope of the invention.

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