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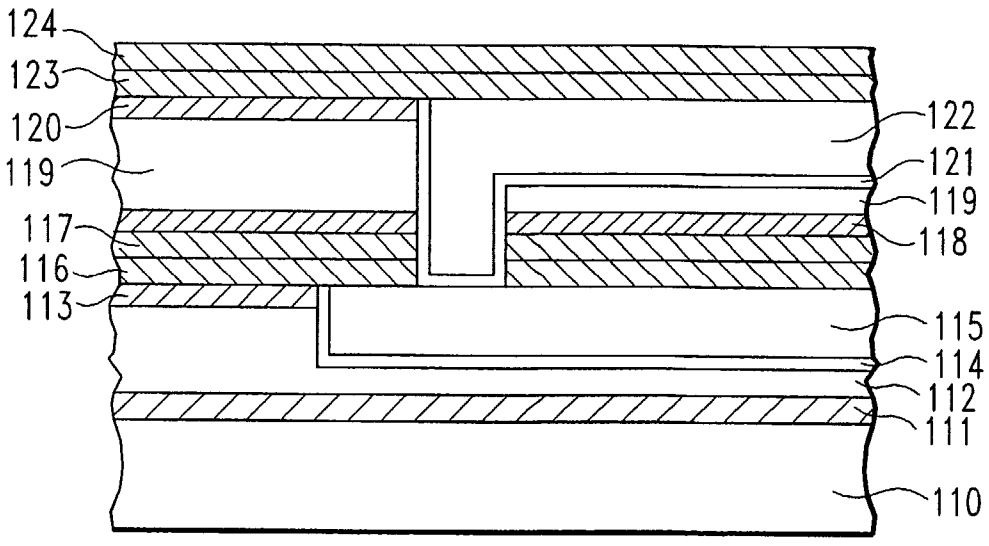
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(54) Title: BILAYER HDP CVD / PE CVD CAP IN ADVANCED BEOL INTERCONNECT STRUCTURES AND METHOD THEREOF



(57) Abstract: An advanced back-end-of-line (BEOL) metallization structure is disclosed. The structure includes a bilayer diffusion barrier or cap, where the first cap layer (116, 123) is formed of a dielectric material preferably deposited by a high density plasma chemical vapor deposition (HDP CVD) process, and the second cap layer (117, 124) is formed of a dielectric material preferably deposited by a plasma-enhanced chemical vapor deposition (PE CVD) process. A method for forming the BEOL metallization structure is also disclosed. The invention is particularly useful in interconnect structures comprising low-k dielectric material for the inter-layer dielectric (ILD) and copper for the conductors.

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