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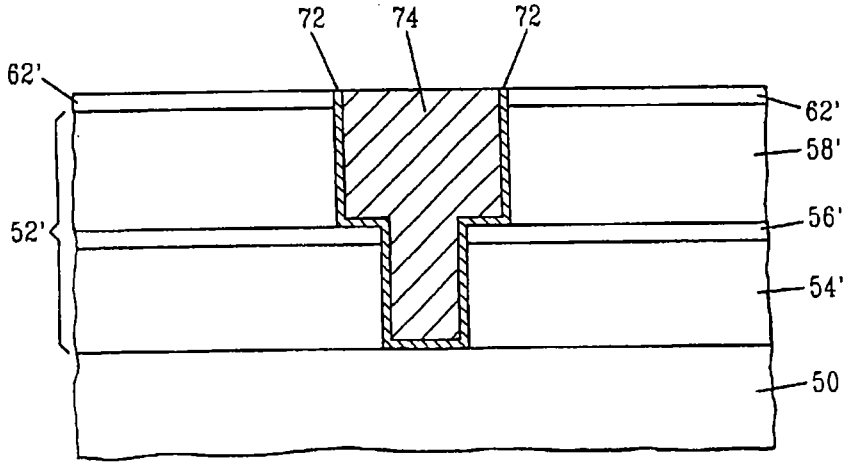
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[Continued on next page]

(54) Title: LOW-K INTERCONNECT STRUCTURE COMPRISED OF A MULTILAYER OF SPIN-ON POROUS DIELECTRICS



(57) Abstract: A low-k dielectric metal conductor interconnect structure having no micro-trenches present therein and a method of forming such a structure are provided. The control over the conductor resistance is obtained using a buried etch stop layer (56) having a second atomic composition located between the line and via dielectric layers (54', 58') of porous low-k dielectrics having a first atomic composition. The inventive interconnect structure also includes a hard mask (60) which assists in forming the interconnect structure of the dual damascene-type. The first and second composition are selected to obtain etch selectivity of at least 10 to 1 or higher, and are selected from specific groups of porous low-k organic or inorganic materials with specific atomic compositions and other discoverable quantities.

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