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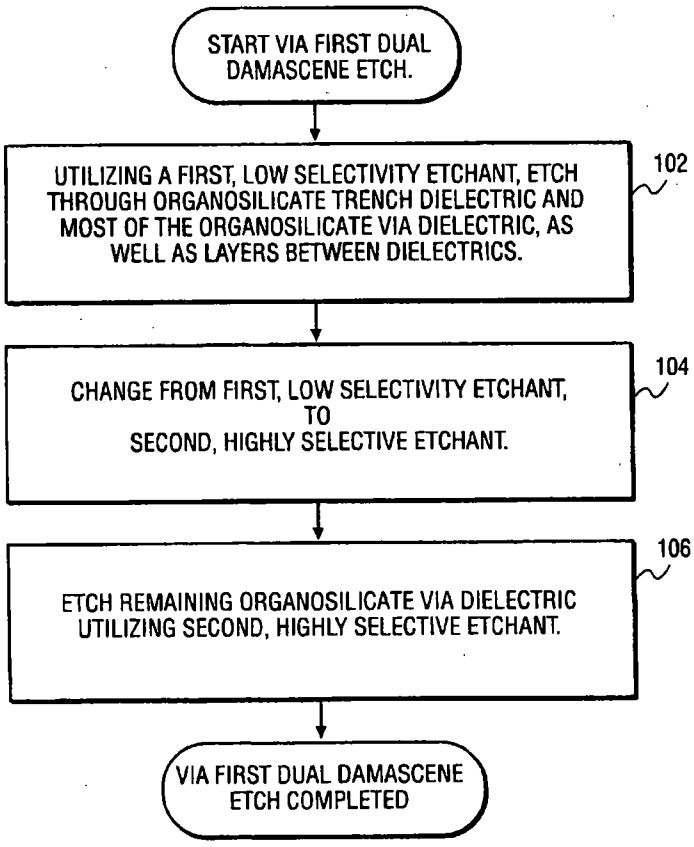
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(54) Title: METHOD FOR ETCHING DUAL DAMASCENE STRUCTURES IN ORGANOSILICATE GLASS



(57) Abstract: Method for forming dual damascene etch structures in wafers, and semiconductor devices formed according to the method. The present invention utilizes the two-step etch process to form dual damascene structures in organosilicate dielectric layers. According to one embodiment of the present invention, a first etch step is undertaken utilizing a first, low selectivity etchant, which etches completely through the trench dielectric (8) and almost completely through the via dielectric (12), leaving a small remainder of the via dielectric over the barrier layer protecting metalized objects protected by the barrier layer (14). After the first etch step, a second etch step is performed utilizing a second, highly selective etchant. This second etch step is conducted with little damage to the barrier layer. An alternative embodiment of the present invention contemplates a "trench-first" etch strategy.

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