

INTERCONNECT WITH SELF-FORMED BARRIER

ABSTRACT OF THE DISCLOSURE

A method of filling of vias and trenches in a dual damascene structure with a filling comprising copper or copper alloy is provided. An electroless deposition filling of
5 the vias with a via filling comprising copper or copper alloy is provided. A trench barrier layer is formed over the via filling with a trench barrier layer comprising Mn or Al. The trench barrier layer is annealed at a temperature that causes a component of the trench barrier layer to pass into the via filling. The trenches are filled with a trench filling comprising copper or copper alloy.

10 FIG. 1