SEMICONDUCTOR WAFER HAVING ALIGNMENT MARKS FOR A TUNGSTEN PLUG PROCESS AND A METHOD OF MANUFACTURE THEREFORE

Abstract

The present invention provides a semiconductor wafer having a substrate with an active region and an inactive region located therein and that comprises a dielectric substrate located over the active and inactive regions, and an alignment mark located in the dielectric substrate over the inactive region wherein the alignment mark comprises a plurality of discrete individual marks that cooperate to form a perimeter of the alignment mark. Thus, the discrete individual marks can allow for more reliable deposition within the marks and substantially reduce the possibility of contaminants during the fabrication process. Moreover, this particular embodiment provides a mark that can be read by a stepper when a metal stack is formed on a polished metal, such as tungsten.

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