INTERCONNECTS WITH IMPROVED TDDB

ABSTRACT

A method for forming a semiconductor device is presented. A substrate prepared with a dielectric layer formed thereon is provided. A first upper etch stop layer is formed on the dielectric layer. The first upper etch stop layer includes a first dielectric material. The dielectric layer and first upper etch stop layer are patterned to form an interconnect opening. The interconnect opening is filled with a conductive material to form an interconnect. The interconnect and first upper etch stop layer have coplanar top surfaces. A second upper etch stop layer is formed over the coplanar top surfaces. The second upper etch stop layer includes a second material having sufficient adhesion with the first material to reduce diffusion of the conductive material.

Fig. 1