ABSTRACT

INTEGRATED CIRCUIT WITH SIMULTANEOUS FABRICATION OF DUAL DAMASCENE VIA AND TRENCH

An integrated circuit [100] [200] manufacturing method [300] includes providing a base [102] [202], forming a first conductor [104] [204], forming a first barrier layer [106] [206], forming a first dielectric layer [108] [208], and forming a masking layer [116]. The method [300] further including forming a first via opening [120] [218] in the masking layer [116], forming a first trench opening [124] [226] in the masking layer [116], and simultaneously forming a second via opening [130] [220] in a layer under the masking layer [116], and forming a second trench [132] [230] opening through the masking layer [116] [214] and in the layer under the masking layer [116] [214] and simultaneously forming a third via opening [134] [228] in another layer under the masking layer [116]. The method [300] further including removing the first barrier layer [106] [206] using the third via opening [134] [228] and the masking layer [116] [214] to form a trench [132] [230] and a via [134] [232], and filling the trench [132] [230] and the via [134] [232] with a conductor to form a trench and via conductor [136] [234] in contact with the first conductor [104] [204].

FIGURE 14