

ABSTRACT

The present invention relates to a metal interconnect structure containing no barrier metal and a method of manufacturing the metal interconnect structure. The method includes: filling at least a first interconnect trench (1) with an intermetallic compound (6) by depositing the intermetallic compound (6) on an insulating layer (3) having the first interconnect trench (1) and a second interconnect trench (2) formed in the insulating layer (3), the second interconnect trench (2) being wider than the first interconnect trench (1); performing a planarization process of polishing the intermetallic compound (6) until the insulating layer (3) is exposed; and then performing a height adjustment process of polishing the intermetallic compound (6) and the insulating layer (3) until a height of the intermetallic compound (6) in the first interconnect trench (1) reaches a predetermined height.

Figure 1