

METHOD AND APPARATUS FOR MATERIAL DEPOSITION

ABSTRACT OF THE DISCLOSURE

A method and an apparatus are provided for selective heating of a surface of a wafer
5 exposed to an electroless plating solution. Selective heating by a radiant energy source causes a
temperature increase at an interface between the wafer surface and the electroless plating
solution. This temperature increase causes a plating reaction to occur at the wafer surface.
Thus, material is deposited on the wafer surface through an electroless plating reaction that is
initiated and controlled by varying the temperature of the wafer surface using an appropriately
10 defined radiant energy source. Additionally, a planar member can be positioned over and
proximate to the wafer surface to entrap electroless plating solution between the planar member
and the wafer surface. Material deposited through the plating reactions forms a planarizing
layer that conforms to a planarity of the planar member.

15 Figure 2A