METHOD OF APPLICATION OF DISPLACEMENT REACTION TO FORM A CONDUCTIVE CAP LAYER FOR FLIP-CHIP, COB, AND MICROMETAL BONDING

ABSTRACT

A method of forming a conductive cap layer over a metal bonding pad comprises the following steps. A semiconductor structure is provided having an exposed, recessed metal bonding pad within a layer opening. The layer has an upper surface. The exposed metal bonding pad is treated with a solution containing soluble metal ions to form a conductive cap over the metal bonding pad. The conductive cap layer is comprised of the solution metal and has a predetermined thickness. An external bonding element may then be bonded to the conductive cap, forming an electrical connection with the metal bonding pad.

(Figure 1)