METHOD OF USING HYDROGEN PLASMA TO PRE-CLEAN COPPER SURFACES DURING Cu/Cu OR CU/METAL BONDING

ABSTRACT

A method of bonding a wire to a metal bonding pad, comprising the following steps. A semiconductor die structure having an exposed metal bonding pad within a chamber is provided. The bonding pad has an upper surface. A hydrogen-plasma is produced within the chamber from a plasma source. The metal bonding pad is pre-cleaned and passivated with the hydrogen-plasma to remove any metal oxide formed on the metal bonding pad upper surface. A wire is then bonded to the passivated metal bonding pad.

FIGURE 1



