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ABSTRACT

METHOD TO REMOVE COPPER CONTAMINATION BY USING DOWNSTREAM OXYGEN AND CHELATING AGENT PLASMA

A method of removing copper contamination from a semiconductor wafer, comprising the following steps. A semiconductor wafer having copper contamination thereon is provided. An oxidizing radical containing downstream plasma is provided from a first source (alternatively halogen (F_2, Cl_2, or Br_2) may be used as on oxidizing agent). A vaporized chelating agent is provided from a second source. The oxidizing radical containing downstream plasma and vaporized chelating agent are mixed to form an oxidizing radical containing downstream plasma / vaporized chelating agent mixture. The mixture is directed to the copper contamination so that the mixture reacts with the copper contamination to form a volatile product. The volatile product is removed from the proximity of the wafer.

FIGURE 1