

ABSTRACT**IMP TECHNOLOGY WITH HEAVY GAS SPUTTERING**

The present invention generally provides a copper metallization method for depositing a conformal barrier layer and seed layer in a plasma chamber. The barrier layer and seed layer are preferably deposited in a plasma chamber having an inductive coil and a target comprising the material to be sputtered. One or more plasma gases having high molar masses relative to the target material are then introduced into the chamber to form a plasma. Preferably, the plasma gases are selected from xenon, krypton or a combination thereof.

Fig. 1