

This paper describes a thermally robust and low cost Cu-Al wiring technology using solid phase reaction between ECD Cu and PVD Al-Cu. No significant sheet resistance and uniformity change has been obtained with precise Al concentration control. This technology dramatically improves reliable performance for stress induced voiding (SIV) as well as electro-migration (EM) and the most promising candidate for SIV free 90nm Cu-Al process with lower cost.