S2-P002

Temperature cycling test of Cu films on anodized aluminum substrate of metal-PC application

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We applied N-ion bombardment and heat treatment to the Cu thin films deposited on aluminum oxide layer for the enhancement of adhesion. With e-beam evaporation method. 1,000Å thick Cu pre-bombardment layer was deposited on the aluminum oxide surface and then N-ion beam was bombared in order to mix the atoms at the film/substrate interface. Additional 4,000Å-thick Cu film was the coated. Subsequently, the ion mixide Cu on aluminum oxide was annealed at 200°C and 300°C in vacuum.

Keywords: ion beam mixing, metal PCB, temperature cycling