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Abstract

Multilayer Substrate Metallization for IC Interconnection

A substrate metallization for soldering, with a Pb-free solder or a eutectic SnPb solder, to a thin film under-bump-metallization (UBM) of a Si die, comprising:

- a substrate;
- a layer of Cu formed on a portion of the substrate;
- a layer of Ni formed on the Cu layer;
- an oxidation protection layer; and
- a Ni-barrier layer, between the Ni layer and the oxidation protection layer, adapted to inhibit diffusion of Ni from the Ni layer to the solder during a reflow process or during high temperature storage.

[Figure 2]