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(54) Title: SEMICONDUCTOR DEVICE PROVIDED WITH LOW MELTING POINT METAL BUMPS AND PROCESS FOR PRODUCING SAME

(57) Abstract

A semiconductor device (1) comprising electrodes formed on a semiconductor chip (2) and bumps (3) which consist of a low melting point metal ball spherically formed and having a given size and which are adhesive bonded to the electrodes (5). The electrodes (5) are formed from an electrode material of Cu or a Cu alloy, Al or an Al alloy, or Au or a Au alloy. When the electrode material is composed of Al or an Al alloy, the electrodes contain, on the electrode material layer of Al or an Al alloy, at least one layer (6) composed of a metal or metal alloy (preferably a metal selected from Ti, W, Ni, Cr, Au, Pd, Cu, Pt, Ag, Sn or Pb, or an alloy of these metals) having a melting point higher than the electrode material. The low melting point metal balls (3) are adhesive bonded to the electrodes (5) preferably with a flux. The low melting point metal balls (3) adhesive bonded to the respective electrodes (3) may also be reflowed to form semispherical bumps (10) before use.

