

サブミクロンAu粒子焼結体を用いた低温接合技術

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Low-Temperature Bonding Technique Using Sub-Micron Au Particles

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Abstract

This study focused on the Au/Au junction, using a sub-micron gold particle with low temperature sintering. The mechanical properties and the micro-structures were measured with the micro-bumps of the Au sintered compact, and mechanical shear fatigue tests for flip-chip specimens were then carried out. The cluster structure of the sintered bump heated at 220°C possessed ductility and turned to a grain growth structure with thermo-compression, resulting in a densely packed structure. In the mechanical shear fatigue test for the flip-chip specimens, the number of cycles to failure for the sintered bump was superior to that of a Sn-Ag alloy solder.

Key Words: *Sub-Micron Au Particle, Sintered Compact, Low-Temperature Bonding, Flip-Chip Bonding, Low-Cycle Fatigue*