열처리에 따른 Sn-3.5Ag 솔더 범프의 전기저항 변화와 미세구조와의 관계

(Relation between Electrical Resistance and Microstructure of Heat Treated Sn-3.5Ag Solder Bumps)

이정섭, 주건모, 전덕영
한국과학기술원 신소재공학과

Abstract

Electrical resistance of Sn-3.5Ag solder bumps was measured by 4-point probe method as a function of heat treatment. Sn-3.5Ag solder bumps were formed on FR-4 printed circuit board (PCB) by stencil printing method. As Cu surface finish of PCB, organic solderability preservative (OSP) and Ni/Au were used respectively. Solder bumps were heat treated by multiple reflow steps and the microstructure of solder bumps was observed after each reflow step. Solder bumps formed on OSP treated Cu surface showed lower electrical resistance than those on Ni/Au plated one. Electrical resistance increased as number of reflow steps increased.