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Ionic contaminations level and cleaning flip chip BGA package via a new cleaning solvent technology

Abstract

Purpose - This paper aims to discuss the effects of ionic contaminations on the die surface of high lead flip chip ball grid array (FCBGA) package. Ionic contaminations from the flux residue, formed during the die attachment process, could affect the package long-term performance. Design/methodology/approach - Thus, the flux-cleaning process was implemented and the cleanliness effect was evaluated. Cleaning experiments using a new water-based solvent were carried out to investigate the flux-cleaning efficiency. The test packages were then evaluated via ion chromatography (IC). Findings - Ion chromatograms show that there are high levels of ionic elements detected prior to the cleaning process. After the cleaning process, the contamination levels reduced significantly. Originality/value - The value of the work here is testing of the new environmental friendly water-based MPC cleaning efficiency. The reduction of ionic contaminations thus reported.

Keywords

Contamination; Decontamination; Flip chip; Flux cleaning; Ionic contaminations; Solvents; Water-based solvent