EMC 특성이 Package warpage 거동에 미치는 영향
Effect of EMC Characteristics on Package Warpage Behavior

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Abstract

A structure of plastic encapsulated semiconductor package is comprised of at least more than four of materials (i.e. the molding compound, the substrate, the die attach adhesive and the silicon chip) with different material properties. Warpage essentially occurs when there is a thermal mismatch between the various components that make up a semiconductor package and a chemical shrinkage. Excessive warpage can lead to ball joint defect (open/short) and reliability problems. Control of package warpage is one of the most important criteria for producing quality Ball Grid Array (BGA) and Land Grid Array (LGA) products. Based on our previous research, epoxy molding compound (EMC) is the main factor for the warpage of large body PBGA package so, we prepared several kind of EMC by resin type, filler contents, modulus etc... In this study, we performed characterization for the EMC candidates with thermal analysis system and warpage measurement via Shadow Moire technique with simulated surface mount reflow profile.