A STUDY OF BENDING DEFORMATION OF ELECTRONIC PACKAGING
MULTILAYER SUBSTRATE SUBJECTED TO UNIFORM THERMAL LOADING

劉孟峰、梁卓中
E-mail: 9126610@mail.dyu.edu.tw

ABSTRACT
RECENTLY, BENDING DEFORMATION ANALYSIS OF MULTI-LAYERED STACKS DURING DIE BONDING PROCESSES OF ELECTRONIC PACKAGING HAS RECEIVED CONSIDERABLE RENEWED INTEREST. INTERFACE SHEAR STRESS, PEELING STRESS DUE TO THERMAL AND ELASTIC MISMATCH IN LAYERED ELECTRONIC ASSEMBLIES ARE ONE OF THE MAJOR CAUSES OF THE MECHANICAL FAILURE OF ELECTRONIC PACKAGES. IN THIS RESEARCH, A COMPARATIVE ANALYSIS OF A SERIES OF MULTILAYER STRUCTURES WILL BE STUDIED. COMPARE CLOSED-FORM SOLUTION WITH FINITE ELEMENT ANALYSIS, ADOPT THE MOST ACCURATE THEORY TO BUILD UP A COMPLETE THERMAL STRESS ANALYTICAL SYSTEM IN ELECTRONIC PACKAGING. WITH THIS RESEARCH, THE DESIGNER CAN ACCURATELY EVALUATE THE THERMO-MECHANICAL INTEGRITY OF VARIOUS ELECTRONIC DEVICES.

Keywords : THERMAL STRESS, BENDING DEFORMATION, DIE BONDING

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