

Bondability Study of Chip-on-Film (COF) Inner Lead Bonding (ILB) Using
Conventional Gang Bonder

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Abstract

Abstract—Inner lead bonding (ILB) is used to thermomechanically join the Cu inner leads on a flexible film tape and Au bumps on a driver IC chip to form electrical paths. With the newly developed film carrier assembly technology, called chip on film (COF), the bumps are prepared separately on a film tape substrate and bonded on the finger lead ends beforehand; therefore, the assembly of IC chips can be made much simpler and cheaper. In this paper, three kinds of COF samples, namely forming, wrinkle, and flat samples, were prepared using conventional gang bonder. The peeling test was used to examine the bondability of ILB in terms of the adhesion strength between the inner leads and the bumps. According to the peeling test results, flat samples have competent strength, less variation, and better appearance than when using flip-chip bonder.

Keyword : Bondability, chip on film (COF), inner lead bonding (ILB), peeling test