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EFFECTS OF LOOPING FORMATION ON WIRE SWEEPING PROBLEM OF A NEWLY DEVELOPED QFN PACKAGE

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ABSTRACT

The deflection of gold wire bonds during encapsulation of IC packaging can seriously cause wire crossover and shorting. This paper presents the wire looping formation in affecting the wire sweep in Quad Flat No Lead (QFN) packages. The design of experiment was performed using the 2^k factorial method. Three looping parameters were considered in order to perform nine combinations of looping formations, and these looping parameters are kink height, reverse motion and loop factor. In order to get the most effected factor for wire sweep, the analytical method was applied using the specific statistical software. The results showed the maximum value of kink height and loop factor gave the lowest sweep stiffness. It was also found that the looping formation with higher loop height and wire payout gave the higher readings of wire sweep.

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