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Corresponding Author: shahrum@eng.ukm.my 25

LOW LOOPING CHALLENGES IN THE QFN WIRE BONDING PROCESS

S. Abdullah, Z.A. Aziz, I. Ahmad and M.F. Abdullah
Faculty of Engineering, Universiti Kebangsaan Malaysia,
43600 UKM Bangi, Selangor, Malaysia.

ABSTRACT

Low looping in bonding wire is become more challenges in the current technology application of advanced packages. In an advanced application, the wire bond process is demanded 100μm low loop height for three dimensional stacked die packages. The purpose of applying the low loop wire bonding is to form the minimum overall package size. The growth of stacked die packages and its requirement for a low profile gives so many challenges the wire bonding process. This paper examines the capability of the low looping advancements in today's wire bonder to meet the unique challenges associated with stacked die applications. It determines the factors that should be considered in the forming of the low looping using soft gold wire. The lowest achievable loop heights are physically constrained by the dimensions and plastics deformation behavior of the wire. The type of loop that has been used in this study is worked loop because it takes a short duration per bond and also the fastest. The demand for stacked die, die-to-die and multi-tiered packages have produced a demand for low loop in wire bonding process.

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