

## **REDUCTION OF DESIGN STEPS FOR STACKED DIE QFN USING OPTIMIZATION TECHNIQUE**

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### **ABSTRACT**

Taguchi method has been shown to be successful in optimizing design parameters in the manufacturing industry. Finite element (FE) simulation, on the other hand, is used as a design tool and helps to reduce design time and cost. In this paper, the finite element analysis and Taguchi method were combined to aid in the design steps and to optimize the design parameters of Quad Flat No-Lead (QFN) stacked die package. Control factors of bottom die area and thickness, bottom epoxy thickness, top die area and thickness and top epoxy thickness of QFN package design were evaluated with finite element analysis. Both shear and principal stresses results were used as the evaluation variables. The results were then subjected to the Taguchi method to determine the optimal design parameters and to produce predicted stresses values. The predicted stresses results were then successfully verified with FE simulation.

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