

《微电子封装组件的建模和仿真》

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内容概要

随着电子封装的发展，电子封装已从传统的四个主要功能（电源系统、信号分布及传递、散热及机械保护）扩展为六个功能，即增加了DFX及系统测试两个新的功能。其中DFX是为“X”而设计，X包括：可制造性、可靠性、可维护性、成本，甚至六西格玛。DFX有望在产品阶段实现工艺窗口的确定、可靠性评估和测试结构及参数的设计等功能，真正做到“第一次就能成功”，从而将计算机辅助工程（CAE）变为计算机主导工程（CE），以大大加速产品的上市速度。本书是全面介绍DFX在封装中应用的图书。作为封装工艺过程和快速可靠性评估及测试建模仿真的第一本专著，《微电子封装组件的建模和仿真——制造、可靠性与测试》中包含两位作者刘胜、刘勇在工业界二十多年的丰富经验，以及在MEMS、IC和LED封装部分成功的实例，希望能给国内同行起到抛砖引玉的作用。同时，读者将会从书中的先进工程设计和微电子产品的并行工程和协同设计方法中受益。

《微电子封装组件的建模和仿真——制造、可靠性与测试》主要读者对象为学习DFX（制造工艺设计、测试设计、可靠性设计等）的研究人员、工程师和学生等。

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编辑推荐

虽然集成电路封装在设计阶段对建模和仿真的需求正在不断增加，但是目前的大多数组件工艺和多种可靠性测试仍然依据耗时的“测试一尝试”的方法来获得最优的方案。建模和仿真能够自如地通过虚拟实验设计的方法获得最优方案。这种方法极大地降低了电子产品的成本和生产时间，对于新产品的开发效果尤其显著。使用建模和仿真技术对促进未来三维封装的发展将会越来越有必要。在《微电子封装组件的建模和仿真：制造可靠性与测试》中，刘胜博士和刘勇博士将会介绍建模与仿真的基础知识和高级技巧以帮助相关领域的人员运用建模与仿真的方法解决他们遇到的问题。本书适用于微电子封装和互联设计、装配制造、可靠性/质量及半导体材料相关领域的工程师、研究人员和研究生。相关行业的产品经理、应用工程师和销售人员，在需要向客户介绍装配制造过程、可靠性和测试会如何影响产品质量时，也可以从本书中获得裨益。

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