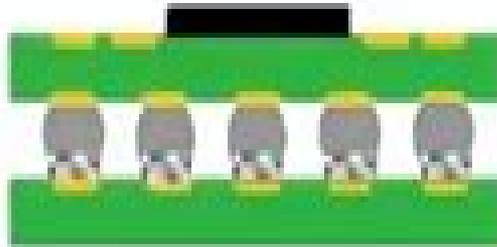


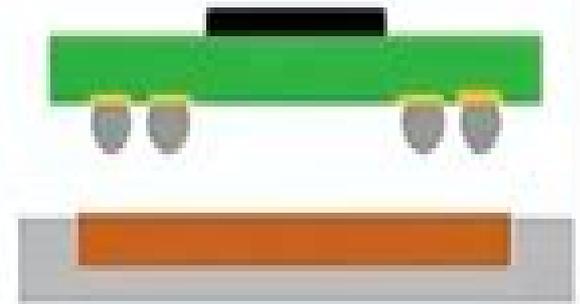
1. Print Paste



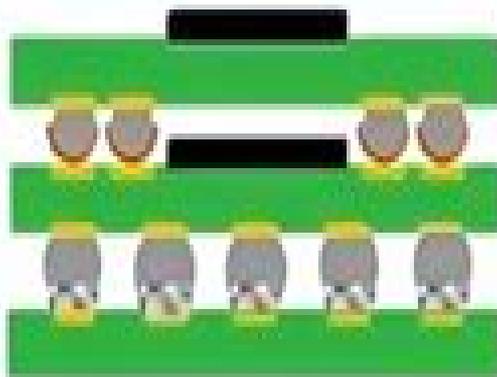
2. Place Bottom Stack Package



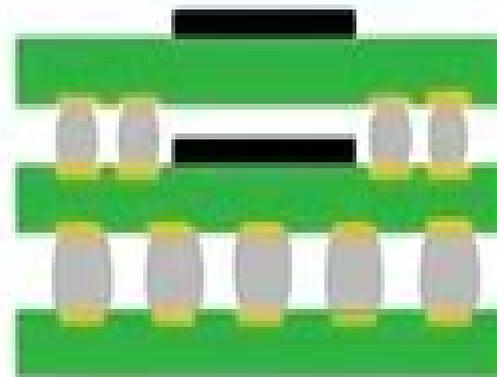
3. Dip Top Package in Flux/PoP paste



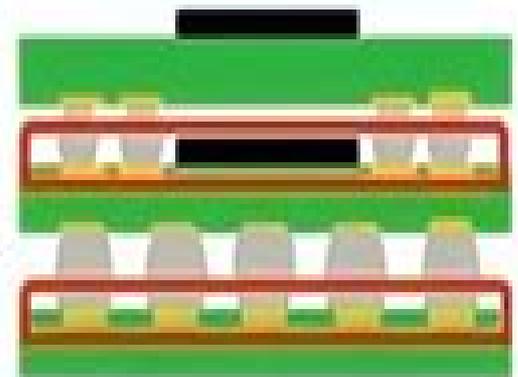
4. Place Top Package



5. Reflow



Where HIP can occur



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**Vern Solberg, Semiconductor
Equipment and Materials International**

A red circular graphic element, possibly a stylized 'C' or a partial circle, is positioned to the right of the author's name. It has a gradient from light red to dark red.

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Semiconductor International ,2007 *Complete PCB Design Using OrCad Capture and Layout* Kraig Mitzner,2011-04-01 Complete PCB Design Using OrCad Capture and Layout provides instruction on how to use the OrCAD design suite to design and manufacture printed circuit boards The book is written for both students and practicing engineers who need a quick tutorial on how to use the software and who need in depth knowledge of the capabilities and limitations of the software package There are two goals the book aims to reach The primary goal is to show the reader how to design a PCB using OrCAD Capture and OrCAD Layout Capture is used to build the schematic diagram of the circuit and Layout is used to design the circuit board so that it can be manufactured The secondary goal is to show the reader how to add PSpice simulation capabilities to the design and how to develop custom schematic parts footprints and PSpice models Often times separate designs are produced for documentation simulation and board fabrication This book shows how to perform all three functions from the same schematic design This approach saves time and money and ensures continuity between the design and the manufactured product Information is presented in the exact order a circuit and PCB are designed Straightforward realistic examples present the how and why the designs work providing a comprehensive toolset for understanding the OrCAD software Introduction to the IPC JEDEC and IEEE standards relating to PCB design Full color interior and extensive illustrations allow readers to learn features of the product in the most realistic manner possible *Surface Mount & Mixed Technology PCB Design Guidelines* David Boswell,1990

Power Electronic Packaging Yong Liu,2012-02-15 Power Electronic Packaging presents an in depth overview of power electronic packaging design assembly reliability and modeling Since there is a drastic difference between IC fabrication and power electronic packaging the book systematically introduces typical power electronic packaging design assembly reliability and failure analysis and material selection so readers can clearly understand each task s unique characteristics Power electronic packaging is one of the fastest growing segments in the power electronic industry due to the rapid growth of power integrated circuit IC fabrication especially for applications like portable consumer home computing and automotive electronics This book also covers how advances in both semiconductor content and power advanced package design have helped cause advances in power device capability in recent years The author extrapolates the most recent trends in the book s areas of focus to highlight where further improvement in materials and techniques can drive continued advancements particularly in thermal management usability efficiency reliability and overall cost of power semiconductor solutions *Introduction to Chip Scale Packaging* Vern

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with the design layout while Chapter 4 talks about preparing the master artworks The book also covers generating computer aided design CAD master patterns and then discusses how to prepare the production drawing and production photography The subsequent chapters tackle the preparation of assembly drawings and case histories The last chapter talks about the manufacturing and flow soldering the PCB The book will be of great use to both novice and experienced mechanical designers who wish to get acquainted with the basics of PCB design

Handbook of Electronic Package Design Michael Pecht, 1991-08-16 Both a handbook for practitioners and a text for use in teaching electronic packaging concepts guidelines and techniques The treatment begins with an overview of the electronics design process and proceeds to examine the levels of electronic packaging and the fundamental issues in the development

Quality Conformance and Qualification of Microelectronic Packages and Interconnects Michael G. Pecht, Abhijit Dasgupta, John W. Evans, Jillian Y. Evans, 1994-12-13 All packaging engineers and technologists who want to ensure that they give their customers the highest quality most cost effective products should know that the paradigm has shifted It has shifted away from the MIL STDs and other government standards and test procedures that do not cost effectively address potential failure mechanisms or the manufacturing processes of the product It has shifted decisively towards tackling the root causes of failure and the appropriate implementation of cost effective process controls quality screens and tests This book's groundbreaking science based approach to developing qualification and quality assurance programs helps engineers reach a new level of reliability in today's high performance microelectronics It does this with powerful Techniques for identifying and modeling failure mechanisms earlier in the design cycle breaking the need to rely on field data Physics of failure product reliability assessment methods that can be proactively implemented throughout the design and manufacture of the product Process controls that decrease variabilities in the end product and reduce end of line screening and testing A wide range of microelectronic package and interconnect configurations for both single and multi chip modules is examined including chip and wire bonds tape automated TAB flip TAB flip chip bonds high density interconnects chip on board designs COB MCM 3 D stack and many more The remaining package elements such as die attachment case and lid leads and lid and lead seals are also discussed in detail The product of a distinguished team of authors and editors this book's guidelines for avoiding potential high risk manufacturing and qualification problems as well as for implementing ongoing quality assurance are sure to prove invaluable to both students and practicing professionals For the professional engineer involved in the design and manufacture of products containing electronic components here is a comprehensive handbook to the theory and methods surrounding the assembly of microelectronic and electronic components The book focuses on computers and consumer electronic products with internal subsystems that reflect mechanical design constraints cost limitations and aesthetic and ergonomic concerns Taking a total system approach to packaging the book systematically examines basic chip and computer architecture design and layout interassembly and interconnections cooling scheme materials selection including ceramics glasses and metals

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