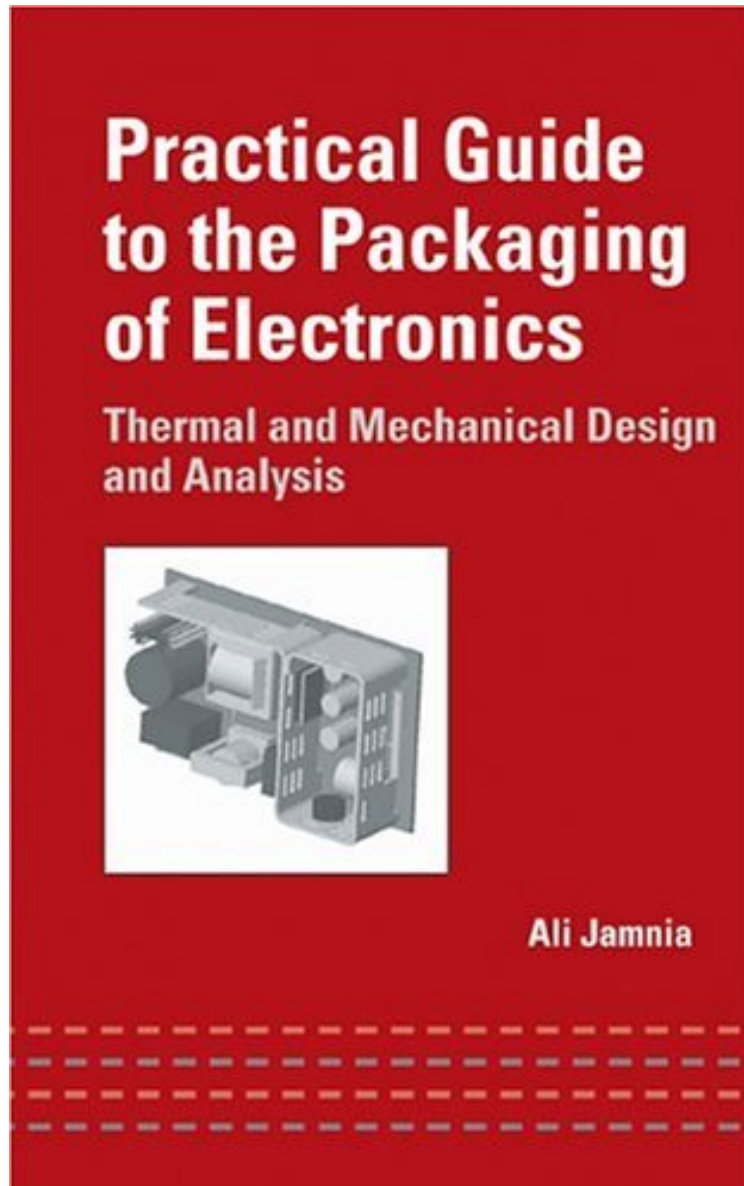


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Practical Guide To The Packaging Of Electronics: Thermal And Mechanical Design And Analysis

Ali Jamnia

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3 of 3 people found the following review helpful. In Need of a revision!!By ReviewerThis book was very helpful in providing an overview of performing a first-order thermal analysis. The book is very easy to read and understand for basic understanding. Nevertheless, this book has its flaws for practical use. Most practical texts should provide charts and tables to calculate basic losses for convection, for example. The book provides only limited information insufficient for a good first-order analysis. It forces a reader to purchase or review other books for missing information for a sufficient analysis. Also, the equations and examples are missing units in many places. This makes it difficult to correlate to other texts for comparison or else to transfer to other units not used by the author. Comparing to Dave Steinberg's book on Cooling Techniques for Electronic Equipment, 1st edition, the latter has a better explanation and references for forced air convection in electronic systems. I'd definitely choose the latter over this book in the future even though the latter is not as straight-forward. Steinberg provides other system setup hints with diagrams not available in this book.

Taking a simple approach for estimating thermal and mechanical characteristics of electronic systems, this reference emphasizes reliability problems and the design of systems with incomplete criteria and components. Topics include packaging design and reliability; thermal, junction-to-case, and contact interface resistance; direct and indirect flow system design; fin design and fan selection; vital elements of shock and vibration; the finite element method; thermal stresses and strains in the design and analysis of mechanically reliable systems; the selection of engineering software to facilitate system analysis; and design parameters in an avionics electronics package; and more.

Anyone looking to learn quickly about the fundamentals of basic thermal heat transfer and vibration needs this book. The author has written a concise practical book intended for all engineers who need to understand the fundamentals of heat transfer and mechanical vibration, especially in electronics and electronics packaging. *hellip*; Engineers who need to perform back-of-the-envelope calculations for heat transfer or vibration problems will find this book to be an excellent resource. The material is written for quick learning and is geared for applying to practical problems encountered by engineers. - IEEE Electrical Insulation, Vol. 20, No. 2, March/April 2004