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Heat Transfer: Thermal Management Of Electronics





Synopsis

The continuing trend toward miniaturization and high power density electronics results in a growing interdependency between different fields of engineering. In particular, thermal management has become essential to the design and manufacturing of most electronic systems. Heat Transfer: Thermal Management of Electronics details how engineers can use intelligent thermal design to prevent heat-related failures, increase the life expectancy of the system, and reduce emitted noise, energy consumption, cost, and time to market. Appropriate thermal management can also create a significant market differentiation, compared to similar systems. Since there are more design flexibilities in the earlier stages of product design, it would be productive to keep the thermal design in mind as early as the concept and feasibility phase. The author first provides the basic knowledge necessary to understand and solve simple electronic cooling problems. He then delves into more detail about heat transfer fundamentals to give the reader a deeper understanding of the physics of heat transfer. Next, he describes experimental and numerical techniques and tools that are used in a typical thermal design process. The book concludes with a chapter on some advanced cooling methods. With its comprehensive coverage of thermal design, this book can help all engineers to develop the necessary expertise in thermal management of electronics and move a step closer to being a multidisciplinary engineer.

Book Information

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Customer Reviews

As an electrical engineering students required to take a heat transfer class, this book did the job. I took the course with the author as the professor, and I thought that this book for the most part is concise and highlights the points which engineers need to know. Some of the later chapters seem slightly less polished. There were also some typos, but I suppose it is not the first time I have run into typos in a textbook. Overall, this book was refreshingly to-the-point compared to some of the other engineering texts I have encountered so far. An added bonus is the form factor, it's about half the size of a regular textbook which makes it easy to bring around.

This book is very well written, with the necessary theory and realistic examples of many different heat transfer techniques that really helps a packaging engineer to do his job correctly. The author has a thorough understanding of heat transfer and knows how to explain this in a good way. The only thing I miss is the answers to the exercises, in order to see if I have found the correct answeer. A great book that I would use in undergraduate teaching if was giving such a course !!!

Written well. Wish that there were some back of the book answers for end of chapter problems. Bought for on the job reference.

This is the first edition. I won't really recommend the book cuz it's the first edition and has a lot of errors. Shipping was fast and book was brand new fresh from the publisher.

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