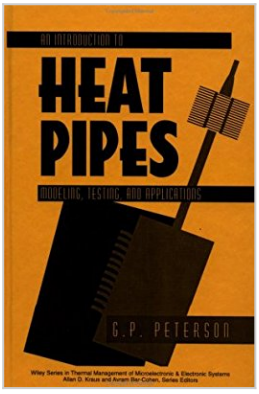

An Introduction to Heat Pipes: Modeling, Testing, and Applications

By G. P. Peterson

An Introduction to Heat Pipes: Modeling, Testing, and Applications By G. P. Peterson

Your complete resource on heat pipe operation, behavior, performance characteristics, and limitations

This book is designed to help students, operations engineers, and mechanical and electrical engineers in the electronic packaging industry grasp the principles of operation for a wide range of heat pipes. Packed with examples and design information, it takes you through the background and historical development of heat pipes, discusses the interfacial phenomena that govern their operational characteristics, and presents the fundamental operating principles and limitations of both heat pipes and thermosyphons.

Along with detailed presentations of the governing physical phenomena involved, this comprehensive guide features extensive coverage of:
* The background physics of fluids, their behavior in heat pipes, and associated interfacial phenomena
* Heat pipe design methodologies and manufacturing considerations
* Applications for cooling both electrical and mechanical systems
* The full range of heat pipe classifications, including rotating and revolving, micro, cryogenic, and variable conductance heat pipes, as well as thermal diodes and switches

This book provides all the information and guidance you need to increase your understanding of these innovative devices and to begin to apply them to the thermal control of electronic devices and components.

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Editorial Review

From the Publisher
Commences with the background and historical development of heat pipes and their relative advantages, followed by a discussion of interfacial phenomena governing the operational properties and basic operating principles and limits of heat pipes and thermosyphons. Features expansive coverage regarding modeling of heat pipe performance. Describes such heat pipes as revolving, micro, cryogenic, variable conductance as well as thermal diodes and switches. Concludes with commentary on recent heat pipes' applications to the thermal control of electronic equipment.

From the Back Cover
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About the Author
G. P. PETERSON is the Tenneco Professor and Head of the Department of Mechanical Engineering at Texas A&M University, where he received his PhD in Mechanical Engineering. He has been Program Director of the National Science Foundation's Thermal Transport and Thermal Processing Program and a research scientist at NASA's Johnson Space Center.

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