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Autore	Thierauf Stephen C.
Titolo	High-speed circuit board signal integrity / / Stephen C. Thierauf
Pubbl/distr/stampa	Boston : , : Artech House, , ©2004 [Piscataqay, New Jersey] : , : IEEE Xplore, , [2004]
ISBN	1-58053-846-0
Descrizione fisica	1 online resource (260 p.)
Collana	Artech House microwave library
Disciplina	621.3815/31
Soggetti	Printed circuits - Design and construction Electronic circuits - Noise Electromagnetic interference Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Ch. 1. Characteristics and Construction of Printed Wiring Boards -- Ch. 2. Resistance of Etched Conductors -- Ch. 3. Capacitance of Etched Conductors -- Ch. 4. Inductance of Etched Conductors -- Ch. 5. Transmission Lines -- Ch. 6. Return Paths and Power Supply Decoupling -- Ch. 7. Serial Communication, Loss, and Equalization -- Ch. 8. Single-Ended and Differential Signaling and Crosstalk -- Ch. 9. Characteristics of Printed Wiring Stripline and Microstrips -- Ch. 10. Surface Mount Capacitors.
Sommario/riassunto	As circuit boards are increasingly required to transmit signals at higher and higher speeds, signal and power integrity become increasingly crucial. Rules of thumb that you have used over and over again to prevent signal loss no longer apply to these new, high-speed, high-density circuit designs. This leading-edge circuit design resource offers you the knowledge needed to quickly pinpoint transmission problems that can compromise your entire circuit design. Discussing both design and debug issues at gigabit per second data rates, the book serves as a practical reference for your projects involving high-speed serial signaling on printed wiring boards. Step-by-step, this book goes from reviewing the essentials of linear circuit theory, to examining practical issues of pulse propagation along lossless and lossy transmission lines.

	It provides detailed guidelines for crosstalk, attenuation, power supply decoupling, and layer stackup tradeoffs (including pad/antipad tradeoffs). Other key topics include the construction of etched conductors, analysis of return paths and split planes, microstrip and stripline characteristics, and SMT capacitors. Filled with on-the-job-proven examples, this hands-on reference is the book that you can turn to time and again to design out and troubleshoot circuit signal loss and impedance problems.

2.

Record Nr.	UNINA9910457356903321
Autore	Hoffman E. J (Edward Jack), <1925-2012.>
Titolo	Membrane separations technology [[electronic resource]] : single-stage, multistage, and differential permeation / / E.J. Hoffman
Pubbl/distr/stampa	Amsterdam ; ; Boston, : Gulf Professional Pub., c2003
ISBN	1-281-01464-8 9786611014643 0-08-049654-7
Descrizione fisica	1 online resource (329 p.)
Disciplina	660/.28424
Soggetti	Membrane separation Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover; Copyright Page; Contents; Preface; Chapter 1. Introduction; 1.1 Membrane Materials; 1.2 Membrane Cells; 1.3 The Enhancement of Separation; 1.4 Subquality Natural Gas; 1.5 Representations and Calculations; 1.6 Permeation Units; Chapter 2. Membrane Permeation Relationships; 2.1 Permeation Rates; 2.2 Permeability Relationships and Units; Chapter 3. Single-Stage Membrane Separations; 3.1 Terms and Units; 3.2 Mole Fraction Relationships; 3.3 Multicomponent Separation Calculations; 3.4 Two-Component Calculations; 3.5 Effect of Recycle; 3.6 Alternate Representation and Calculation Chapter 4. Multistage Membrane Separations4.1 Multistage Distillation; 4.2 The Analogy; 4.3 Graphical Representation of Binary Membrane

Calculations; 4.4 Rectifying Section; 4.5 Stripping Section; 4.6 Stripping Section vs. Rectifying Section; 4.7 Feed Location; 4.8 Separation Requirements; 4.9 Total Reflux; 4.10 Minimum Reflux; 4.11 Simplifications; 4.12 Conclusions; Chapter 5. Differential Permeation with Point Permeate Withdrawal; 5.1 Differential Permeation; 5.2 Overall Material Balances; 5.3 Differential Material Balances; 5.4 Bubble-Point Type Calculation; 5.5 Accumulation
5.6 Differential Rate Balances5.7 Equilibrium; Chapter 6. Differential Permeation with Permeate Flow; 6.1 Material and Rate Balances; 6.2 Component Relationships; 6.3 Recycle; 6.4 Limiting Conditions; 6.5 Equilibrium; Chapter 7. Countercurrent Flow with Recycle; 7.1 Constant Flow Rates; 7.2 Analogy with Wetted-Wall Distillation; 7.3 Integration of the Fundamental Rate Equations; Chapter 8. Membrane Reactors; Symbols; Appendices: Data and Spreadsheet Calculations; 1 Representative Membrane Permeabilities and Selectivities; 2 Membrane Permeation Relationships
3 Single-Stage Membrane Separations4 Multistage Membrane Separations; 5 Differential Permeation with Point Permeate Withdrawal; 6 Differential Permeation with Permeate Flow; 7 Countercurrent Flow with Recycle; 8 Membrane Reactors; Index

Sommario/riassunto

The petroleum, natural gas, and the chemical & petrochemical process industries, variously require the separation of mixtures -- whether of raw feedstream materials, reactants, intermediates, or products -- as comprising gases, liquids, or solutions. Membrane separations add another weapon to the arsenal of separation methods, including the upgrading of subquality natural gas reserves. This book furnishes the necessary derivations and calculations for numerically predicting the separations that can be obtained, based on the known respective membrane permeabilities of the pure components. A ver