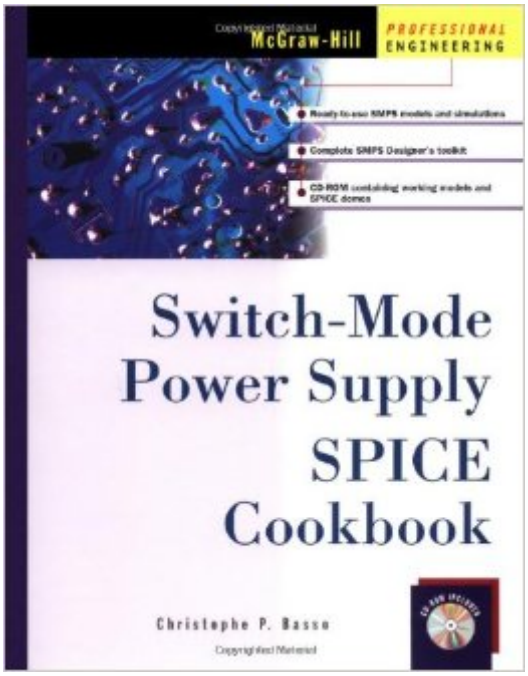
Switch-Mode Power Supply SPICE Cookbook



Synopsis

Ready-made SPICE power supply solutions Now you can get solutions to the most difficult problems facing power supply designers: shrinking size and increased thermal constraints. Christophe Bassoâ ™s SMPS SPICE Cookbook is a complete designerâ ™s toolkit with tested, ready-to-run SPICE models on an accompanying CD-ROM. The models come in all three SPICE flavors with demo versions. You can start from scratch, installing the software and simulating the examples in the book without any SPICE experience whatsoever. All the common SMPS topologies are covered: buck, boost, buck-boost, and SEPIC. Each is described in terms of relative strengths and weaknesses and then modeled. Just turn to the CD, pull out the model in the flavor of SPICE you use, plug in your own values â " and out comes a design solution. All the models in the book have been carefully simulated and tested. A special website even lets you access new models that will be posted on a continuing basis

Book Information

Series: McGraw Hill Enterprise Computing

Hardcover: 320 pages

Publisher: McGraw-Hill Professional; 1 edition (March 19, 2001)

Language: English

ISBN-10: 0071375090

ISBN-13: 978-0071375092

Product Dimensions: 7.5 x 1.1 x 9.1 inches

Shipping Weight: 1.6 pounds

Average Customer Review: 3.2 out of 5 starsÂ Â See all reviewsÂ (6 customer reviews)

Best Sellers Rank: #3,057,679 in Books (See Top 100 in Books) #68 inÂ Books > Engineering & Transportation > Engineering > Electrical & Electronics > Electronics > Solid State #501 inÂ Books > Engineering & Transportation > Engineering > Energy Production & Extraction > Power Systems #572 inÂ Books > Engineering & Transportation > Engineering > Electrical & Electronics > Electronics > Semiconductors

Customer Reviews

This is a complete Power Supply Designers Toolkit/cookbook with ready to run simulation templates for optimun solutions to loop stabilization. There is just enought backgrown information for understanding the models derivation. The attached CD-ROM contains all the models necessary for fast solutions. I particually liked the spreadsheet for solving loop components values using K Factor

analysis. I don’t know how many times in the last 20 years that I could have used this solver. The real power of this book is access to the author thru his web site. I just e-mailed him my faulty file and he quickly told me how to fix my mistakes. It’s like having an expert on call. The author does a nice job of tying in other well known experts in the field and using their expertise to make this book a complete study in the art of Power Supply loop design.

To my best knowledge, the well-written book gives for the first time a comprehensive treatment of spice and switched-mode power supplies (SMPS’s). A short history of modelling techniques is discussed with references to relevant literature; also some tricks to speed up a simulation are given. The main part of the book consists of the small-signal (averaged) and transient models for the most common converters, such as buck, boost, flyback, forward, half-bridge, etc.; all illustrated by examples. Most of the examples are available in electronic format on the accompanying CD-ROM; the reader can start quite quickly with experimenting with the templates. Unfortunately, extracting the models from IsSpice (which we use) is quite cumbersome, since first the demo version has to be installed before the models are available. This demo version conflicts with the commercial version (although Intusoft gives a solution on their web-site). In a next release it would be very helpful to distribute the models separately on the CD (or web?). Nevertheless, the book is according to my opinion very useful for people working in the field of SMPS’s. Calculating the closed-loop response and stability analysis is now really easy. Comprehensive, easy to read. Good work.

I can understand why many people who bought this book thinking that it would be usefull for learning how to use SPICE or learning how to design power supplies were dissappointed. Basso is definitely not for beginners. The book assumes you have a fundamental knowledge of SPICE and electronics. He provides a generous list of papers and books which the beginner can use to come up to speed on the various complex principals of power supply design.If you are a working professional in power electronics, buy this book. Basso gives away a lot of very accurate cookbook designs that can be easily "tweaked" to fit any design requirement. The circuits provided in this book made it very easy for me to make a complete working SPICE model of my design in just a few hours.Learn the fundamentals about power electronics and SPICE, then buy this book.

Delicious Spice Mix Recipes [A Seasoning Cookbook] (Recipe Top 50's Book 104) Water Treatment WSO: Principles and Practices of Water Supply Operations Volume 1 (Water Supply Operations Series) Supply Chain Network Design: Applying Optimization and Analytics to the Global Supply Chain (FT Press Operations Management) Swap Meets (Volume 2): A 13 Book Excite Spice Hotwife Erotica MEGA Bundle (Excite Spice Boxed Sets) Power Training: For Combat, MMA, Boxing, Wrestling, Martial Arts, and Self-Defense: How to Develop Knockout Punching Power, Kicking Power, Grappling Power, and Ground Fighting Power The Big Switch: Rewiring the World, from Edison to Google Cisco Routers for the Desperate: Router and Switch Management, the Easy Way Your Appetite Switch: Master Your Eating & Free Your Life Swapped And Expecting: Taboo Forbidden Gender Swap Male To Female Fertile Switch Erotica Eating in the Light: Making the Switch to Veganism on Your Spiritual Path Blind Switch: A Jack Doyle Mystery (Jack Doyle Series Book 1) Switching Power Supply Design, 3rd Ed. Switching Power Supply Design and Optimization, Second Edition Water and Power: The Conflict over Los Angeles' Water Supply in the Owens Valley Les Petites Dames de Mode: An Adventure in Design