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Nota di contenuto	Front Cover; Power Sources and Supplies: World Class Designs; Copyright Page; Contents; Preface; About the Editor; About the Contributors; Chapter 1: An Introduction to the Linear Regulator; 1.1 Basic Linear Regulator Operation; 1.2 General Linear Regulator Considerations; 1.3 Linear Power Supply Design Examples; Chapter 2: Basic Switching Circuits; 2.1 Energy Storage Basics; 2.2 Buck Converter; 2.3 Boost Converter; 2.4 Inverting Boost Converter; 2.5 Buck-Boost Converter; 2.6 Transformer Isolated Converters; 2.7 Synchronous Rectification; 2.8 Charge Pumps Chapter 3: DC-DC Converter Design and Magnetics 3.1 DC Transfer Functions; 3.2 The DC Level and the ""Swing"" of the Inductor Current Waveform; 3.3 Defining the AC, DC, and Peak Currents; 3.4 Understanding the AC, DC and Peak Currents; 3.5 Defining the ""Worst-case"" Input Voltage; 3.6 The Current Ripple Ratio r; 3.7 Relating r to the Inductance; 3.8 The Optimum Value of r; 3.9 Do We Mean Inductor? or Inductance?; 3.10 How Inductance and Inductor Size Depend on Frequency; 3.11 How Inductance and Inductor Size Depend on Load Current 3.12 How Vendors Specify the Current Rating of an Off-the-shelf Inductor and How to Select it 3.13 What is the Inductor Current Rating

We Need to Consider for a Given Application?; 3.14 The Spread and Tolerance of the Current Limit; 3.15 Worked Example (1); 3.16 Worked Examples (2, 3, and 4); 3.17 Worked Example (5)-When Not to Increase the Number of Turns; 3.18 Worked Example (6)-Characterizing an Off-the-shelf Inductor in a Specific Application; 3.19 Calculating the "Other" Worst-case Stresses; Chapter 4: Control Circuits; 4.1 Basic Control Circuits; 4.2 The Error Amplifier  
4.3 Error Amplifier Compensation 4.4 A Representative Voltage Mode PWM Controller; 4.5 Current Mode Control; 4.6 A Representative Current Mode PWM Controller; 4.7 Charge Pump Circuits; 4.8 Multiple Phase PWM Controllers; 4.9 Resonant Mode Controllers; Chapter 5: Non-isolated Circuits; 5.1 General Design Method; 5.2 Buck Converter Designs; 5.3 Boost Converter Designs; 5.4 Inverting Designs; 5.5 Step Up/Step Down (Buck/Boost) Designs; 5.6 Charge Pump Designs; 5.7 Layout Considerations; Chapter 6: Transformer-isolated Circuits; 6.1 Feedback Mechanisms; 6.2 Flyback Circuits  
6.3 Practical Flyback Circuit Design 6.4 Off-Line Flyback Example; 6.5 Non-isolated Flyback Example; 6.6 Forward Converter Circuits; 6.7 Practical Forward Converter Design; 6.8 Off-Line Forward Converter Example; 6.9 Non-isolated Forward Converter Example; 6.10 Push-Pull Circuits; 6.11 Practical Push-Pull Circuit Design; 6.12 Half Bridge Circuits; 6.13 Practical Half Bridge Circuit Design; 6.14 Full Bridge Circuits; Chapter 7: Power Semiconductors; 7.1 Introduction; 7.2 Power Diodes and Thyristors; 7.3 Gate Turn-Off Thyristors; 7.4 Bipolar Power Transistors; 7.5 Power MOSFETs  
7.6 Insulated Gate Bipolar Transistor (IGBT)

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## Sommario/riassunto

Newnes has worked with Marty Brown, a leader in the field of power design to select the very best design-specific material from the Newnes portfolio. Marty selected material for its timelessness, its relevance to current power supply design needs, and its real-world approach to design issues. Special attention is given to switching power supplies and their design issues, including component selection, minimization of EMI, toroid selection, and breadboarding of designs. Emphasis is also placed on design strategies for power supplies, including case histories and design examples. This is a book

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