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IGBT Performance Parameters; 5.6 Gate Drive Requirements; 5.7 Circuit Models; 5.8 Applications; Further Reading; Chapter 6. Thyristors; 6.1 Introduction; 6.2 Basic Structure and Operation; 6.3 Static Characteristics; 6.4 Dynamic Switching Characteristics; 6.5 Thyristor Parameters; 6.6 Types of Thyristors; 6.7 Gate Drive Requirements; 6.8 PSpice Model; 6.9 Applications; Further Reading; Chapter 7. Gate Turn-off Thyristors; 7.1 Introduction; 7.2 Basic Structure and Operation; 7.3 GTO Thyristor Models
7.4 Static Characteristics7.5 Switching Phases; 7.6 SPICE GTO Model; 7.7 Applications; References; Chapter 8. MOS Controlled Thyristors (MCTs); 8.1 Introduction; 8.2 Equivalent Circuit and Switching Characteristics; 8.3 Comparison of MCT and Other Power Devices; 8.4 Gate Drive for MCTs; 8.5 Protection of MCTs; 8.6 Simulation Model of an MCT; 8.7 Generation-1 and Generation-2 MCTs; 8.8 N-channel MCT; 8.9 Base Resistance-controlled Thyristor [14]; 8.10 MOS Turn-off Thyristor [15]; 8.11 Applications of PMCT; 8.12 Conclusions; Acknowledgment; 8.13 Appendix; References
Chapter 9. Static Induction DevicesSummary; 9.1 Introduction; 9.2 Theory of Static Induction Devices; 9.3 Characteristics of Static Induction Transistor; 9.4 Bipolar Mode Operation of SI devices (BSIT); 9.5 Emitters for Static Induction Devices; 9.6 Static Induction Diode; 9.7 Lateral Punch-through Transistor; 9.8 Static Induction Transistor Logic; 9.9 BJT Saturation Protected by SIT; 9.10 Static Induction MOS Transistor; 9.11 Space Charge Limiting Load (SCLL); 9.12 Power MOS Transistors; 9.13 Static Induction Thyristor; 9.14 Gate Turn Off Thyristor; References; Chapter 10. Diode Recti.ers
10.1 Introduction

Sommario/riassunto

Power electronics, which is a rapidly growing area in terms of research and applications, uses modern electronics technology to convert electric power from one form to another, such as ac-dc, dc-dc, dc-ac, and ac-ac with a variable output magnitude and frequency. Power electronics has many applications in our every day life such as air-conditioners, electric cars, sub-way trains, motor drives, renewable energy sources and power supplies for computers. This book covers all aspects of switching devices, converter circuit topologies, control techniques, analytical methods and some examples of the