

Contents

Preface

About the author

Introduction

Part I. Power diodes and rectifiers. Power diodes and switched RLC circuits

Diode rectifiers

Part II. Power transistors and DC-DC converters. DC-DC converters

Part III. Inverters. DC-AC converters

Resonant pulse inverters

Multilevel inverters

Part IV. Thyristors and thyristorized converters

Controlled rectifiers

AC voltage controllers

Part V. Power electronics applications and protection. Flexible AC transmission systems

Power supplies

Dc drives

Ac drives

Introduction to renewable energy

Protections of devices and circuits

Appendix A. Three-phase circuits

Appendix B. Magnetic circuits

Appendix C. Switching functions of converters

Appendix D. DC transient analysis

Appendix E. Fourier analysis

Appendix F. Reference frame transformation

Bibliography

Answers to selected problems

Index