Principles and Elements

of

POWER ELECTRONICS

Devices, Drivers, Applications, and Passive Components

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PREFACE

The book is in four parts.

Part 1 covers power semiconductor switching devices, their static and dynamic electrical and thermal characteristics and properties. Part 2 describes device driving and protection, while Part 3 presents a number of generic applications. Part 4 covers systems and energy sources. The final part, Part 5, introduces capacitors, magnetic components, resistors, and dc relays and their characteristics relevant to power electronic applications.

1	Basic Semiconductor Physics and Technology
2	The pn Junction
3	Power Switching Devices and their Static Electrical Characteristics
4	Electrical Ratings and Characteristics of Power Semiconductor Switching Devices
5	Cooling of Power Switching Semiconductor Devices
6	High-Performance Cooling for Power Electronics
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The 168 non-trivial worked examples cover the key issues in power electronics.

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