

Comprehensive Semiconductor Science and Technology , 2e 綜合半導體科學與技術 第二版 2025

Written and edited by a team of international experts, this complete, newly updated review of the semiconductor world is the ideal one-stop reference for students and researchers in this dynamic field.

半導體是現代生活的核心。幾乎我們所做的一切，無論是工作、旅行、通訊或娛樂，都依賴半導體技術的某些特性。《綜合半導體科學與技術·第二版》，三卷集涵蓋了這一重要領域的廣度，並將其以單一來源呈現給研究、製造和使用半導體裝置的廣大受眾。本書由真正的國際專家團隊撰寫和編輯，並進行了最新更新，以捕捉該領域的關鍵進展，對半導體世界進行了客觀而有凝聚力的回顧。開始全面更新和擴展。

第一部分涉及半導體的基礎物理，展示當系統從塊體結構變化到低維結構並進一步變化到奈米尺寸時，電子特徵和晶格動力學如何發生巨大變化。本節始終強調對基礎物理學，尤其是量子現象的充分理解。第二部分主要涉及固態物理概念框架向裝置和系統的轉變，這需要生長具有低缺陷密度和良好控制的電學和光學特性的高純度或摻雜的塊體和外延材料。第三部分致力於分立和整合半導體裝置的設計、製造和評估。它將涵蓋我們周圍看到的所有設備，包括電信、計算、自動化、顯示器、照明和消費性電子產品。



Key features/ benefits

- Provides a comprehensive global picture of the semiconductor world
- Compiles the most important semiconductor knowledge into one comprehensive resource
- Moves from fundamentals and theory to more advanced knowledge, such as applications, allowing readers to gain a deeper understanding of the field
- Written and Edited by an international team of experts
- 提供半導體世界的全面全球概況
- 由國際專家團隊撰寫與編輯
- 將最重要的半導體知識編譯成一個綜合資源
- 從基礎知識和理論轉向應用等更高階的知識，讓讀者對該領域有更深入的了解

What problem does this MRW solve?

Researchers in this interdisciplinary field need detailed coverage of the wide spectrum of semiconductor science and technology, from fundamentals to some of the state-of-the-art practice in the industry. The comprehensive nature of this work allows readers to access all the information in one resource, connecting the foundational science with real-world applications and devices.

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Important Areas of Coverage:

- Materials, Preparation and Properties
- Physics and Fundamental Theory
- Devices and Applications



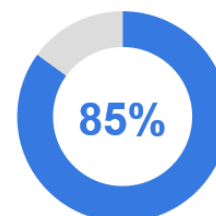
80
Chapters



>80
Authors/
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- Novel materials and technologies
- Technology solutions for improved cost/performance



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TA TONG BOOK COMPANY LIMITED
19F-12, No. 99, Section 1, Xintai 5th Rd.,
Xizhi District, New Taipei City 22175, Taiwan

22175 新北市汐止區新台五路一段99號19樓之12
TEL: (02)2697-5677 FAX: (02)2697-5688
E-mail: tatong@tatong.com.tw
http: //tatong.com.tw