



**electronics**



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## **Challenges and New Trends in Power Electronic Devices Reliability**

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The rapid increase in new power electronic devices and converters for electric transportation and smart grid technologies requires a deep analysis of their component performances, considering all of the different environmental scenarios, overload conditions, and high stress operations. Therefore, evaluation of the reliability and availability of these devices becomes fundamental both from technical and economical points of view. The rapid evolution of technologies and the high reliability level offered by these components have shown that estimating reliability through the traditional approaches is difficult, as historical failure data and/or past observed scenarios demonstrate. With the aim to propose new approaches for the evaluation of reliability, in this book, eleven innovative contributions are collected, all focused on the reliability assessment of power electronic devices and related components.



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