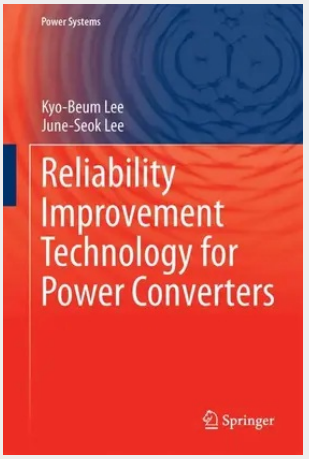
Lee

Reliability Improvement Technology for Power Converters



This book describes how to design circuits in power electronics systems using a reliability approach in three-level topologies, which have many advantages in terms of the current total harmonic distortion and efficiency. Such converter types are increasingly used in large power applications and photovoltaics (PV), therefore research on improvements in the reliability of such systems using multi-level topologies has become important. Four studies for reliability improvement are contained in this book: an open-circuited switch fault detection scheme, tolerance control for an open-circuited switch fault, neutral-point voltage ripple reduction, and leakage current reduction. This book treats not only the topology, but also the fault tolerance and the reduction of the ripples and leakage. This book is aimed at advanced students of electrical engineering and power electronics specialists.

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