Special Issue

High Power Density Power Electronics

Message from the Guest Editors

With the application of wide bandgap semiconductors, the switching frequency and power density of power electronic converters are expected to be greatly improved. However, at the same time, the influence of parasitic parameters in the circuit is more significant, and the optimization of the switching process becomes more complicated; the magnetic components such as inductors and transformers in the circuit become the bottleneck to improving the efficiency and power density of the converter, and new designs are required to meet the requirements. Higher power density also requires higher conversion efficiency and heat dissipation capability, so high-frequency soft switching technology and advanced thermal management technology are particularly important. In this Special Issue, original research articles and reviews are welcome. Research areas may include (but are not limited to) the following:

- Integration technology of wide bandgap devices;
- Integrated current sensing, protection, and control;
- High frequency soft switching techniques;
- High power density magnetic devices;
- Advanced thermal management;
- New topologies and applications.

Guest Editors

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Deadline for manuscript submissions

closed (15 September 2024)

Electronics

an Open Access Journal by MDPI

Impact Factor 2.6
CiteScore 6.1

mdpi.com/si/176765

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Message from the Editor-in-Chief

Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guest-edited by leading experts in selected topics of interest.

Editor-in-Chief

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.8 days after submission; acceptance to publication is undertaken in 2.4 days (median values for papers published in this journal in the first half of 2025).

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