



Call for Papers

IEEE Journal of Emerging and Selected Topics in Power Electronics

Special Issue on Applications of Wide-bandgap Technology for Innovative Future Grid Applications

Wide bandgap (WBG) power semiconductors have become widely used in grid applications in recent years. These devices can bring many benefits in grid applications such as higher power density, high efficiency, multi-function integration, etc. But the application of WBG devices in grids brings new challenges both for the grid and the devices, including WBG device design to meet grid requirements including thermal management, reliability and health monitoring, high voltage withstand and protection, WBG-based converter control and interaction with power system, etc. The issue will cover WBG related research progress in future grid applications, including WBG packaging, gate driver, different types of WBG grid converter design, control, reliability, grid integration, etc.

Topics of interest include, but are not limited to:

- Gate driver/IC and package for WBG devices in grid applications
- Switching optimization with WBG for high frequency high power grid converters
- Passive components for WBG based grid converters
- High power density and high efficiency DC/DC and DC/AC power modules for grid converters
- EMC design in WBG based grid converters
- Interaction between grid and WBG based converters
- Reliability improvement and online health monitoring of WBG with flexible grid conditions
- Thermal management considering harsh grid requirements
- WBG based grid-tied PCSs (e.g. PV, BESS, etc.)
- WBG based grid forming converters
- WBG based solid state transformer (SST) and multi-port SST for grids
- High performance control of WBG based converters in grid applications

All submissions should be made through *Manuscript Central* at <http://mc.manuscriptcentral.com/jestpe-ieee>. The cover page should be clearly marked with "Special Issue on Wide Bandgap Power Semiconductors for Future Grid Applications" and the appropriate manuscript type should be selected when uploading the submission. Manuscripts submitted for this special issue will be handled by the guest editorial board outlined below. For more information on special issues and electronic submissions, please go to <http://www.ieee-pels.org/publications/jestpe>.

Deadline for Submission of Manuscript: March 1, 2026

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Proposed Timeline

- **November 1, 2025**: Call for papers to IEEE JESTPE Editorial Office
- **September 15, 2026**: Manuscript forwarded to IEEE for publication
- **March 1, 2026**: Manuscript submission deadline
- **December 1, 2026**: Special Issue appears in IEEE JESTPE
- **August 1, 2026**: Final acceptance notification