



onsemi and Sungrow Advance Utility-Scale Energy Storage Performance with SiC Hybrid Technology

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Advanced EliteSiC hybrid technology maximizes usable energy as electricity demand surges

Summary

As AI-driven electricity demand accelerates worldwide, utilities and energy providers are under growing pressure to store and deliver energy more efficiently. Battery energy storage system (BESS) providers are seeking advanced power conversion technologies to improve performance and system economics. To address these needs, Sungrow has adopted onsemi's latest SiC hybrid power module technology for its PowerTitan 3.0 energy storage platform. The design improves system efficiency, helping utilities and energy providers increase usable energy output while lowering operating costs.

News Highlights

- onsemi's EliteSiC hybrid power module enables the highest-density battery energy storage system deployments, helping energy providers meet growing electricity demand from AI, renewable energy and electrification
- New BESS architecture improves inverter-level efficiency by 0.4%, helping maximize energy delivered to the grid while reducing losses and improving reliability
- Sungrow's PowerTitan 3.0 energy storage platform integrates onsemi's latest EliteSiC hybrid power module technology, optimized for high-power DC-AC energy conversion in utility-scale battery storage applications

SCOTTSDALE, Ariz., Oct. 14, 2026 (GLOBE NEWSWIRE) -- onsemi (Nasdaq: ON) today announced that Sungrow, a global leader in renewable energy technology, has adopted onsemi's latest [EliteSiC](#) silicon carbide (SiC) [hybrid power module technology](#) for the Sungrow PowerTitan 3.0 energy storage platform. The integration enables improved efficiency and enhanced system performance for utility-scale battery energy storage systems (BESS).

Helping Sungrow Deliver More Usable Energy

The PowerTitan 3.0 platform incorporates onsemi's [high-density power integrated modules \(PIMs\)](#), optimized for advanced three-level inverter architectures used in high-power energy storage applications.

Compared with the previous-generation platform, the new architecture improves inverter-level efficiency by 0.4%, enabling higher-power battery storage deployments without sacrificing efficiency. The architecture supports power conversion units rated up to 450 kW, contributing to the platform's increased power density and higher-power deployment capability.

With the performance advantages of [SiC](#), the solution supports key system-level benefits including:

- Peak efficiency exceeding 99.3% to reduce energy loss in utility-scale systems
- Increased power density supports higher-power BESS deployments
- Enhanced thermal performance supports reliable operation in high-power applications
- Improved system economics through a hybrid SiC design optimized for large-scale deployment

The design win builds on a long-standing strategic relationship between onsemi and Sungrow. Through extensive engineering and validation activities, the companies collaborated throughout platform definition, system optimization and qualification to meet the demanding performance requirements of next-generation energy storage deployments.

"PowerTitan 3.0 represents Sungrow's continued innovation in advanced energy storage system design," said Chen Peng, General Manager of Energy Storage Conversion Product Line at Sungrow Energy Storage Business Unit. "By integrating advanced technologies and collaborating with strategic partners such as onsemi, Sungrow is accelerating the deployment of higher-performance storage solutions that deliver greater value throughout the lifecycle of energy assets. With growing market recognition, Sungrow estimates delivering 10 GWh of PowerTitan 3.0 across Europe in 2026, further supporting the region's transition toward a more flexible and resilient energy system."

"At utility scale, even small improvements in power conversion efficiency can have a meaningful impact on battery energy storage system (BESS) performance and total cost of ownership," said Sergio Fissore, Vice President and General Manager, IPD Power Division, onsemi. "Our EliteSiC hybrid power module enables higher-efficiency, higher-density energy storage systems that help maximize usable energy and improve system reliability. Together with Sungrow, we're advancing the power conversion technologies needed to support the next generation of energy infrastructure."

Why Fractions of a Percent Matter

At utility scale, even small efficiency improvements can generate meaningful financial and environmental benefits. According to onsemi analysis, a 0.4% efficiency improvement delivered by the new SiC hybrid module could save more than 475 MWh of energy annually in a 100 MW battery energy storage installation compared with the previous-generation module.

Those energy savings can help reduce operating costs, increase usable energy delivered to customers and lower overall emissions. The architecture also enables higher overload capability and improved thermal performance, helping customers extract more usable energy from every storage asset.

Supporting the Infrastructure Behind the AI Era

Utilities and energy providers are seeking ways to store more energy, reduce conversion losses and improve overall system economics to meet unprecedented demand amid the AI infrastructure buildout and electrification transition.

Industry forecasts project the battery energy storage market will more than double by 2030 as utilities invest in infrastructure needed to support increasing electricity demand and renewable energy deployment. At the same time, energy storage providers are moving toward higher-power, higher-voltage architectures to improve system economics.

Additional Information

- [High-Density Si/SiC Hybrid Power Integrated Module \(PIM\) Product Page](#)
- [Si/SiC Hybrid PIM Product Portfolio](#)
- [Energy Storage System Solutions](#)
- [EliteSiC Technology Page](#)
- [EliteSiC M3e Product Page](#)
- [Insulated Gate Bipolar Transistors \(IGBTs\) Products Page](#)

About onsemi

onsemi (Nasdaq: ON) delivers intelligent power and sensing technologies that enable electrification, energy efficiency, safety, and automation across automotive, industrial, and AI data center end-markets. With a highly differentiated and innovative product portfolio, **onsemi** helps customers solve complex challenges to achieve higher efficiency, improved performance, and lower system cost, while supporting a safer, cleaner, and more energy-efficient world. The company is part of the S&P 500® index. Learn more at www.onsemi.com.

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