

EPC Releases Phase 17 Reliability Report: Advancing GaN Reliability and Lifetime Projections

EPC, the leader in GaN, announces the release of its Phase 17 Reliability Report, further solidifying GaN's position as a highly reliable technology.

EL SEGUNDO, CA, CA, UNITED STATES, March 11, 2025 /EINPresswire.com/ -- Efficient Power Conversion ([EPC](#)), the leader in gallium nitride ([GaN](#)) power devices, announces the release of its [Phase 17 Reliability Report](#), further solidifying GaN's position as a highly reliable technology for power electronics, automotive, AI, space, and industrial applications.



This report advances GaN reliability modeling with mission-specific projections and new lifetime models, enabling engineers to integrate GaN into efficient and robust designs with confidence,"

Alex Lidow, EPC CEO and co-founder

The latest reliability report introduces expanded lifetime models, mission-specific reliability projections, and new physics-based wear-out mechanisms, providing engineers with more accurate and practical reliability data for GaN power devices.

Key Highlights of the Phase 17 Reliability Report:

- Expanded Gate Lifetime Model: Incorporates gate leakage current effects across voltages and temperatures, leading to enhanced impact ionization modeling.
- Repetitive Transient Gate Overvoltage Testing: Develops and validates a 7 V gate overvoltage rating, addressing resonance-like transient stress in real-world applications.
- Enhanced Drain Overvoltage Robustness: Further validation of GaN's superior durability under repetitive transient drain-source overvoltage conditions.
- New Pulsed Current Rating Data: Extends testing to over 100 million pulses, proving minimal parametric shifts in Gen-5 and Gen-6 GaN devices.
- Comprehensive Thermomechanical Lifetime Model: Now includes power cycling (PC) modeling,

essential for high-stress applications like automotive and AI power systems.

- Mission-Specific Reliability Insights: Expanded analysis for solar, lidar, and DC-DC conversion applications, allowing engineers to fine-tune their designs for long-term operation.

Driving GaN Forward in Reliability & Performance

EPC's test-to-fail methodology continues to push GaN technology beyond traditional silicon MOSFETs. By integrating real-world stress conditions into advanced lifetime models, the Phase 17 report ensures more accurate reliability projections for next-generation power applications.

"This report advances GaN reliability modeling with mission-specific projections and new lifetime models, enabling engineers to integrate GaN into high-power, efficient, and robust designs with confidence," said Alex Lidow, EPC CEO and co-founder.

Availability

The EPC Phase 17 Reliability Report is available for download at epc-co.com. For additional technical details, Ask a GaN Expert.

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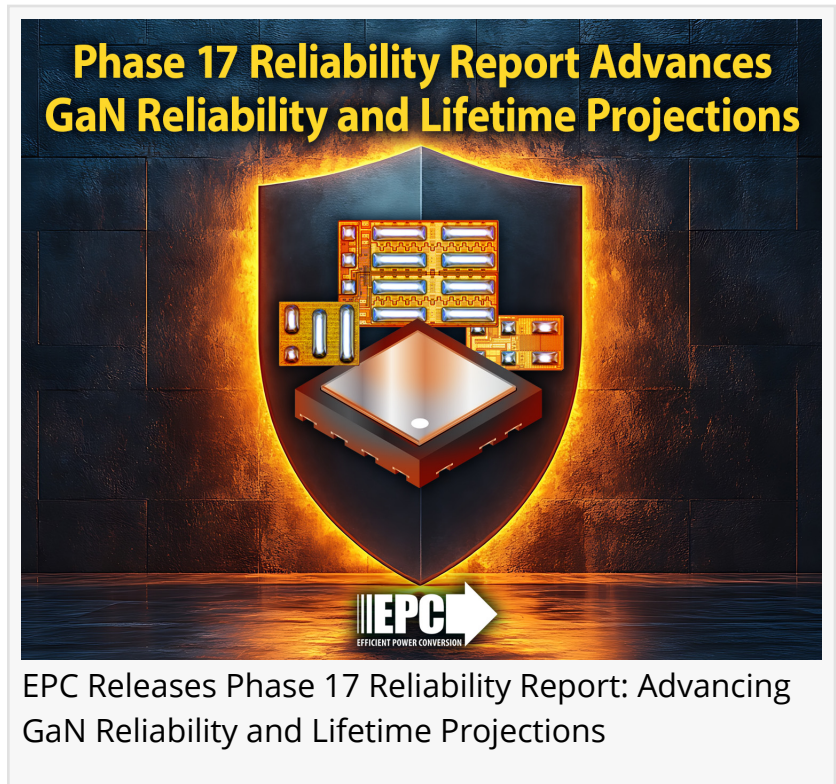
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The image is a promotional graphic for EPC's Phase 17 Reliability Report. It features a central shield-shaped emblem with a glowing orange and yellow border. Inside the shield, there is a detailed illustration of a GaN power device, showing a top-down view of a square chip and a side view of a multi-layered structure. The background is dark with a textured, stone-like appearance. At the bottom of the shield, the EPC logo is displayed, consisting of the letters 'EPC' in a bold, white font with a stylized arrow pointing to the right, and the tagline 'EFFICIENT POWER CONVERSION' underneath. The main title of the report is written in large, bold, yellow text at the top of the graphic.

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This press release can be viewed online at: <https://www.einpresswire.com/article/792389762>

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