

News Release

October 21, 2026

Headspring Inc.

Osamu Hoshino, President & CEO

HS PowerDevice Lab HIBIKINO Begins Full-Scale Operations Headspring Completes Installation of Four Planned Types of Test Systems

**Proprietary test systems support the development of testing technologies,
contract testing and equipment selection**

TOKYO, Japan, October 21, 2026 — Headspring Inc. (headquartered in Shinagawa-ku, Tokyo; President & CEO: Osamu Hoshino; hereinafter “Headspring”) today announced the commencement of full-scale operations at HS PowerDevice Lab HIBIKINO, its power semiconductor evaluation and technology development facility in Wakamatsu-ku, Kitakyushu, Fukuoka Prefecture. The milestone follows the completion of installation of all four types of test systems originally planned when the facility opened in December 2025.

The laboratory is dedicated to advancing evaluation equipment and methodologies, power semiconductor technology and power electronics technology. Using evaluation systems developed in-house, Headspring conducts measurements and analyses while developing new equipment and test methods. Contract evaluation services using the laboratory’s facilities and technical expertise are already being used by multiple customers. Trial evaluations are also available for companies considering the adoption of evaluation equipment.



Inside HS PowerDevice Lab HIBIKINO

Evaluation and R&D Capabilities for the Growing Adoption of SiC and GaN

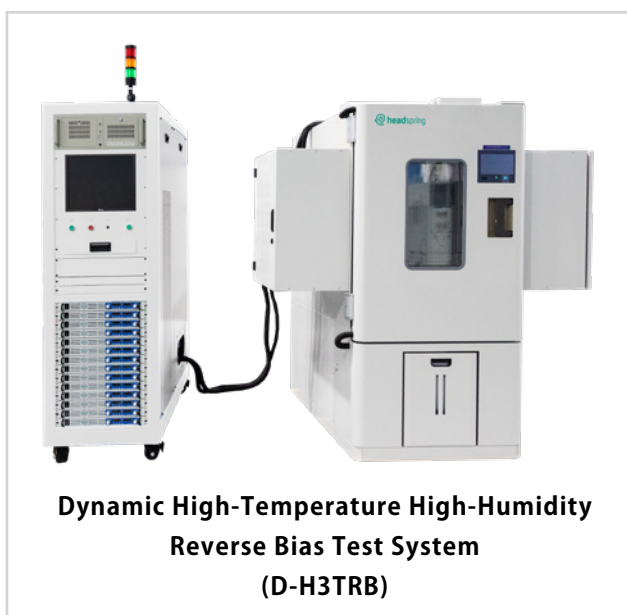
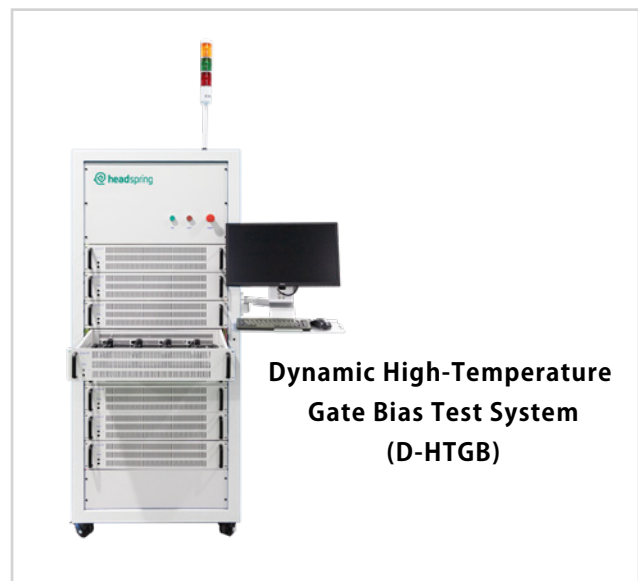
Silicon carbide (SiC) and gallium nitride (GaN) power semiconductors are seeing wider adoption in power conversion applications, including electric vehicles, energy storage systems and data centers, as demand grows for higher efficiency and more compact designs. Evaluating the performance and reliability of these devices requires not only static tests under constant voltage or temperature conditions, but also tests reflecting real operating conditions, such as switching operation and temperature cycling.

The laboratory has installed the following four evaluation systems:

- Dynamic High Temperature Reverse Bias Test system (D-HTRB) — Model HAT-DHTRB01A
- Dynamic High Temperature Gate Bias Test system (D-HTGB) — Model HAT-DHTGB01A
- Dynamic High Temperature High Humidity Reverse Bias Test system (D-H3TRB) — Model HAT-DH3TRB01A
- 3ch Power Cycle Test system (PC) with Transient Thermal Resistance (R_{th}) Measurement — Model HAT-PC01A

These systems evaluate changes caused by dynamic electrical stress and repeated current application. By adjusting test conditions and equipment operation, they also support static reliability testing. Findings from these evaluations will be used to improve test methods and equipment, deepen understanding of device behavior and inform circuit design.

The four evaluation systems installed at the laboratory



Principal Tests and Evaluations Available at the Laboratory

Using its in-house-developed HAT Series evaluation equipment, the laboratory offers the following reliability tests and thermal characterization services. Dynamic test systems can also be used for static tests by modifying the test conditions.

Evaluation Test	Scope and Method	Relevant Standards / Guidelines
Dynamic High-Temperature Reverse Bias D-HTRB (DRB)	Evaluates changes in characteristics under repetitive voltage stress, including degradation at high dV/dt and changes in leakage current.	AQG 324
Dynamic High-Temperature Gate Bias D-HTGB (DGS)	Evaluates degradation from repeated gate-voltage application, including threshold-voltage shifts and gate leakage current.	AQG 324 JEDEC JEP195 / JEP183 (evaluation and measurement guidelines)
Dynamic High-Temperature, High-Humidity Reverse Bias D-H3TRB	Combines high-temperature, high-humidity conditions with repeated voltage stress to evaluate insulation degradation and changes in leakage current.	AQG 324
High-Temperature Gate Bias HTGB (static)	Applies a constant gate voltage at high temperature to assess changes in device characteristics.	AEC-Q101 / AEC-Q104 JEDEC JESD22-A108
High-Temperature Reverse Bias HTRB (static)	Applies a constant reverse-bias voltage at high temperature to assess device reliability.	AEC-Q101 / AEC-Q104 JEDEC JESD22-A108
High-Temperature, High-Humidity Reverse Bias H3TRB (static)	Applies a constant reverse-bias voltage in high-temperature, high-humidity conditions to assess reliability.	AEC-Q101 / AEC-Q104 JEDEC JESD22-A101
Power Cycling PC	Repeatedly heats and cools devices through current application to assess thermal fatigue in die-attach layers, solder joints, wire bonds and related structures.	AQG 324
Thermal Characterization Transient Thermal Resistance Measurement	Uses the power cycling system's thermal resistance measurement function to assess heat dissipation and changes in thermal resistance associated with degradation.	JEDEC JESD51

Note: The standards and guidelines listed above are relevant to the respective tests. Listing these standards and guidelines does not imply full compliance with them or certification. Specific test items and conditions are determined on a case-by-case basis after confirming the applicable editions of standards, the target device and equipment operating ranges, including temperature, voltage and frequency.

Note: JEDEC JEP183 and JEP195 are referenced for threshold-voltage measurement and evaluation. Guidance on structure-function analysis in thermal characterization is provided subject to confirmation of the equipment configuration and available options.

Supporting Device Selection and Circuit Design with Evaluation Results

In addition to device characterization and reliability testing, the laboratory can evaluate devices integrated into actual power conversion circuits. Using bidirectional DC power supplies and power electronics development tools such as biRAPID, it assesses operation in the context of gate driving, circuit layout and thermal design.

Drawing on its experience in power converter development, Headspring provides not only measurement data but also interpretations of evaluation results from a circuit-design perspective. Customers can use these results to compare and select devices and assess the design of circuits in which the devices may be incorporated.

Contract Evaluation Services Utilizing In-House Equipment and Expertise

The laboratory's contract evaluation services are already being used by multiple customers. After reviewing the specifications and operating conditions of a customer's device or module, together with the characteristics to be investigated, Headspring works with the customer to define test items and conditions, then performs measurements and analyses and provides an evaluation report. Customers can also consult the laboratory about tests that are difficult to conduct with their own facilities, including evaluations for device comparison and selection.

Headspring reviews customers' requested standards and test conditions and confirms the tests and conditions it can support on an individual basis. For specialized measurements that cannot be performed with the laboratory's own equipment, it works with partner evaluation organizations.

Trial Evaluations for Prospective HAT Series Customers

Companies considering the purchase or installation of HAT Series systems can arrange trial evaluations using their own devices. By conducting tests on the actual equipment, customers can review the measurement methods and data obtained for their devices before making an investment decision. Headspring also welcomes inquiries about selecting models to meet specific test conditions or operating requirements, as well as customizing test fixtures and measurement functions.

For inquiries about contract evaluation services, equipment purchase or trial evaluations, please contact:

Tel: +81-3-5495-7957 Email: hs-sales@headspring.co.jp

Future Initiatives

The laboratory plans to continue expanding the range of tests it can provide. As a potential future addition to its facilities, Headspring is considering the installation of a High-Temperature Forward Bias (HTFB) Test System.

Headspring will incorporate insights gained from laboratory evaluations and customer projects into the development of evaluation methodologies, enhancements to existing systems and the development of new models. By applying evaluation findings to device characterization and circuit design, the company aims to contribute to advances in evaluation equipment, testing technologies, power semiconductors and power electronics.

Facility Overview

Facility	HS PowerDevice Lab HIBIKINO Headspring Inc., Kitakyushu Office
Location	2-5 Hibikino, Wakamatsu-ku, Kitakyushu, Fukuoka 808-0135, Japan Information Technology Advancement Center, Kitakyushu Science and Research Park
Opened	December 22, 2025
Installed Equipment	D-HTRB, D-HTGB, D-H3TRB and Power Cycling Test Systems Static testing is supported by modifying operating conditions of installed equipment.
Principal Devices Evaluated	SiC MOSFETs, Si IGBTs/MOSFETs, GaN HEMTs and power modules Available tests and conditions vary by device.
Dedicated Website	https://headspring.co.jp/brand_testsol_semicon_eval/

Company Overview

Company Name	Headspring Inc.
Head Office	Harbor One bldg. 3F, 2-5-5 Higashi-Shinagawa, Shinagawa-ku, Tokyo 140-0002, Japan
President & CEO	Osamu Hoshino
Business Overview	- Providing Support for Energy Conservation - Development, manufacture and sales of power electronics devices - New energy business and consultation business for emerging markets
Capital	100 million yen
Established	July, 2014

Media Contact

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