



NEWS RELEASE

Lumentum Showcases Breakthrough Optical Scale-Up Demonstration at OFC 2026 Using VCSEL Technology

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SAN JOSE, Calif.--(BUSINESS WIRE)-- Lumentum Holdings Inc. ("Lumentum"), a global leader in photonic solutions, today announced a breakthrough optical interconnect solution designed to support next-generation AI infrastructure using VCSEL technology. This solution offers a scalable optical platform for next-generation rack-level architectures to address the bandwidth, power, and integration challenges of AI scale-up networks. Attendees can see the demonstration at Lumentum's booth #1439 during OFC, March 17–19, at the Los Angeles Convention Center.

The solution is presented in a host evaluation system and features a high-density multimode 1060nm VCSEL array co-packaged with a host ASIC, targeting "slow and wide" scale-up protocols such as UCIe and PCIe. It is implemented in a fan-out wafer-level package, leveraging standard semiconductor packaging flows, and advanced multimode fiber connectivity.

The 1060nm VCSELs and photodetectors are integrated in a two-dimensional monolithic array incorporating backside lens technology to enable precise optical alignment and superior signal integrity. The array architecture also supports channel sparing for enhanced system reliability. Designed for demanding environments, the platform supports high-temperature operation exceeding 150°C and leverages the inherent reliability advantages of 1060nm VCSEL technology.

Lumentum's 1060nm VCSEL platform is built on the company's ultra-high-volume 3D sensing (3DS) manufacturing base, which has shipped more than 10 billion emitters to date. Compared to conventional 850nm datacom VCSELs, 1060nm devices deliver improved speed capability, superior high-temperature performance, and exceptional long-term reliability. As a VCSEL-based scale-up solution, the platform also provides an independent supply chain alternative to silicon photonics and InP laser-based architectures.

"AI infrastructure is pushing the limits of conventional electrical interconnects," said Matt Sysak, Chief Technology Officer at Lumentum. "Our 1060nm VCSEL scale-up platform optically enables ASICs with high shoreline bandwidth density, strong signal integrity, and thermal resilience, while providing a differentiated and highly reliable alternative to traditional silicon photonics-based approaches."

About Lumentum

Lumentum (NASDAQ: LITE) is a global leader in optical and photonic technologies that power the networks and infrastructure behind AI, cloud computing, and next-generation communications. Built on decades of photonics innovation, Lumentum delivers high-performance lasers, modules, and optical subsystems that enable scalable, energy-efficient data center connectivity, advanced telecom networks, industrial manufacturing, and sensing applications. Headquartered in San Jose, California, the company operates R&D, manufacturing, and sales facilities worldwide. Learn more at www.lumentum.com.

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