



NEWS RELEASE

# Lumentum Announces Five and Six Junction VCSEL Array Products For Advanced Consumer, Automotive, and Other 3D Sensing Applications

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Latest multi-junction VCSEL arrays raise the bar for performance to meet the challenges of new customer applications

SAN JOSE, Calif., March 3, 2021 /PRNewswire/ -- Lumentum Holdings Inc. ("[Lumentum](#)"), a leading provider of VCSEL arrays for 3D sensing and LiDAR applications, today announced new high-power and high-efficiency [five and six junction vertical cavity surface-emitting laser](#) (VCSEL) arrays for advanced consumer, automotive LiDAR, and other 3D sensing applications.

The use of LiDAR and 3D sensing is expanding into new applications in the consumer electronics, automotive, and industrial markets. New applications and new functionality are driving the need for higher power and higher efficiency from smaller form factor devices. Lumentum's innovative five and six junction VCSEL arrays enable much lower power dissipation, very high slope efficiencies, and record-breaking optical peak powers compared with existing devices. Optical powers exceeding 2 W per individual VCSEL emitter have resulted in over 800 W of peak power from a compact one square millimeter sized VCSEL array. The peak optical power, low thermal dissipation, and small die size of these new multi-junction VCSELs arrays are important to extending their use to high performance all-solid-state medium and long-range LiDAR.

"Automotive, consumer, and industrial customers increasingly need higher performance VCSEL arrays to drive increased functionality and adoption of LiDAR and 3D sensing enabled products," said Dr. André Wong, Vice President of 3D Sensing Product Line Management. "Our latest multi-junction VCSEL arrays continue our long history of pioneering innovative optical solutions in close collaboration with customers. These new products leverage the well proven high-volume, 6-inch wafer supply that we established more than four years ago."

## About the Products

Lumentum's multi-junction VCSEL arrays emit at 940 nm and 905 nm and are manufactured on the same production lines as current high-volume VCSEL array products serving the consumer electronics market. In addition to these new high-power VCSEL array illuminators, Lumentum also offers a wide variety of optical solutions for 3D sensing, automotive, and LiDAR applications. These include VCSEL

solutions for vehicle in-cabin monitoring, high-performance Gallium Arsenide and Indium Phosphide edge-emitting laser chips for 3D sensing and LiDAR, and 1550 nm narrow-linewidth DBR diode lasers for long-range frequency-modulated continuous-wave (FMCW) coherent LiDAR.

To learn more, Lumentum will be showcasing its broad product line of lasers and optics for 3D sensing and LiDAR at the [SPIE Photonics West 2021 Digital Forum](#), March 6-11, 2021, along with giving several technical presentations and participating in industry panel discussions.

### **About Lumentum**

Lumentum (NASDAQ: LITE) is a market-leading designer and manufacturer of innovative optical and photonic products enabling optical networking and laser applications worldwide. Lumentum optical components and subsystems are part of virtually every type of telecom, enterprise, and data center network. Lumentum lasers enable advanced manufacturing techniques and diverse applications including next-generation 3D sensing capabilities. Lumentum is headquartered in San Jose, California with R&D, manufacturing, and sales offices worldwide. For more information, visit [www.lumentum.com](http://www.lumentum.com).

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