



FOR IMMEDIATE RELEASE:

Excelitas Launches Next-Generation 905 nm Triple-Cavity Pulsed Laser Diodes

New ultra-robust, high-power laser diodes deliver enhanced beam quality, efficiency and reliability for LiDAR and ToF applications



Pittsburgh, Pa., June 5, 2025 – [Excelitas®](#), the leading provider of advanced, life-enriching technologies that make a difference, serving global market leaders in the life sciences, advanced industrial, next-generation semiconductor and avionics sectors, announces the launch of its next-generation [905 nm TPG3 Series of Triple-Cavity](#) Pulsed Laser Diodes in a TO-56 can. Designed for high-volume range finding and LiDAR systems, the new series delivers improved beam uniformity, higher reliability and tailored performance options for diverse short- to long-range applications.

All four of the new diodes feature Excelitas' triple-cavity architecture, offering consistent optical output, low voltage requirements, improved conversion efficiency and rugged TO-can packaging for high-reliability use in harsh environments. The series spans a range of power outputs and emission areas to meet specific system needs:

- **TPG3AU1S1.5 (16 W / 6 A, 40×10 µm)** – Ultra-compact, energy-efficient diode ideal for short-range Time-of-Flight, 3D sensing and portable LiDAR systems requiring tight beam collimation and low thermal load.
- **TPG3AU1S03 (38 W / 13 A, 75×10 µm)** – Mid-power option balancing output power and size, suited for industrial mid- to long-range ToF sensing and mobile mapping systems.
- **TPG3AU1S04 (54 W / 18 A, 100×10 µm)** – High-efficiency diode with a moderate aperture, optimized for extended-range LiDAR and continuous-use sensing where thermal stability is critical.
- **TPG3AU1S09 (120 W / 40 A, 225×10 µm)** – High-power solution for long-range industrial and automotive LiDAR, outdoor scanning, and mapping platforms requiring maximum reach and optical density.

“As demand grows for greater performance and reliability in LiDAR and sensing systems, we continue advancing our laser diode technology to meet it,” said Jens Krause, Program Manager at Excelitas. “This next-generation lineup gives customers more flexibility to optimize power, range and optical footprint for their unique application needs.”

Excelitas will display the new 905 nm TPG3 Series of Pulsed Laser Diodes at [Laser World of Photonics](#) 2025, Booth 110 Hall B1 in Munich, Germany, June 24 - 27, 2025, and at [Sensors Converge](#), Booth 1140 in Santa Clara, California, USA, June 25 - 26, 2025. For additional information please visit: <https://www.excelitas.com/product-category/905nm-high-volume-pulsed-semiconductor-laser-diodes>.

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About Excelitas

Excelitas is the leading provider of advanced, life-enriching technologies that make a difference, serving global market leaders in the life sciences, advanced industrial, next-generation semiconductor and avionics end markets. Headquartered in Pittsburgh, PA, USA, Excelitas is an essential partner in the design, development and manufacture of photonic technologies, offering leading-edge innovation in sensing, detection, imaging, optics and specialty illumination for customers worldwide.

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