

## Excelitas Technologies' New Surface Mount 905 nm Pulsed Semiconductor Laser Offers High Beam Placement Accuracy at Competitive Price

Unique Solution Meets the Growing Need for High-Volume, Cost-Effective Lasers for LIDAR and Other Commercial Range Finding Applications





WALTHAM, Mass., February 16, 2016 – Excelitas Technologies® Corp., a global technology leader focused on delivering innovative, customized photonic solutions, introduced today the Surface Mount 905 nm Pulsed Semiconductor Laser (SMD Laser), offering the capability of automated pickand-place high-volume assembly. In addition, the

unique SMD design delivers higher beam placement accuracy than a lead-frame, plastic packaged laser at comparable price points.

With a patented, ultra-compact, surface mount-compatible design, the new lasers can emit light either perpendicular or parallel to the mounting plane to meet the demand for high-volume, cost-effective lasers for commercial applications — including LIDAR, time-of-flight (ToF), range finding, safety light curtains, adaptive cruise control and laser therapy.

Featuring a multi-layer monolithic design, Excelitas' pulsed semiconductor lasers produce very high optical pulses centered at a wavelength of 905 nm. The laser diode chip is mounted on an FR4 leadless laminate carrier (LLC) substrate and encapsulated to provide excellent thermal management. The encapsulate material is a molded epoxy resin for low-cost and high-volume manufacturing.

Key features include multi-cavity lasers for concentrating emitting source size, quantum well structure, high-peak pulsed power into aperture, excellent power stability with temperature, and RoHS compliance.

In addition to standard optical power outputs, the new Surface Mount 905 nm Pulsed Semiconductor Lasers' power output can be customized to achieve higher yields for end users. Different lasers with their own unique beam size and output power can also be assembled in the surface mount package. This can facilitate coupling into customers' optics, or enable them to drive a larger laser to prolong life with a lower current.

As the only surface-mount technology (SMT) product that can be mounted in either parallel or perpendicular plane, the Excelitas Surface Mount 905 nm Pulsed Semiconductor Laser is flexible and adaptable to various designs. The package design and assembly processing techniques are such that the die positioning is well controlled to the reference surface. This aids in the alignment of optical elements to the package and is superior to many of the commercially available plastic lead-frame TO- 18 and SMD style packages in the market. Its quantum well laser design offers rise and fall times of <1 ns.



"Excelitas' new Surface Mount Pulsed Semiconductor Lasers offer an ideal solution for OEM design engineers seeking an alternative to plastic packaged lasers for high-volume surface-mount and hybrid integration applications," said Dr. Juergen Schilz, Vice President of Detection. "With an innovative laser diode design, our new Lasers deliver high beam placement accuracy and tremendous flexibility at a competitive price point for a range of commercial laser applications."

Excelitas Technologies Corp.'s Surface Mount 905 nm Pulsed Semiconductor Lasers will debut at <u>SPIE Photonics West</u> (booth #1323) in San Francisco, February 16-18, 2016. For more information about Excelitas and its products, please contact us or visit www.excelitas.com.

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## **About Excelitas Technologies**

Excelitas® Technologies Corp. is a global technology leader focused on delivering innovative, high-performance, market-driven photonic solutions to meet the lighting, detection and other technology needs of global customers. From biomedical technology to research laboratory, safety and security, consumer, semiconductor, industrial, energy and environment, as well as defense and aerospace applications, Excelitas Technologies is committed to enabling our customers' success in their end-markets. Excelitas Technologies has approximately 5,500 employees in North America, Europe and Asia, serving customers across the world. Connect with Excelitas on <a href="Facebook, LinkedIn">Facebook, LinkedIn</a> and <a href="Twitter">Twitter</a>.

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