

Press

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3D Sensing Gets A Powerful Boost With Vixar's New 10 W VCSEL Chip

Vixar unveils a leading-edge new Vertical Cavity Surface Emitting Laser (VCSEL) product at Photonics West 2020

Vixar - part of global, high-tech lighting company Osram - expanded its VCSEL chip portfolio today with the introduction of a higher power 10 W chip with greater efficiency. The 940 nm wavelength, 10 W chip will be shown in Vixar's booth 5547 at Photonics West, February 4-6, in the Moscone Center in San Francisco.

The new 10 W VCSEL chip will help customers in the 3D sensing industry that want higher power and superior efficiency. The product will allow customers to use just one single chip, instead of a subassembly that incorporates multiple VCSEL chips. The one-chip design results in reduced overall size and lower costs. The 10 W VCSEL chip is an ideal fit for industrial applications such as mapping, automatic guided vehicles and mobile robots.

VCSEL combines the properties of two lighting technologies—high-power density and simple packaging of an Infrared LED (IRED) with the spectral width and speed of a laser. Unlike Fabry-Perot laser diodes, the VCSEL's spectral shift with temperature is four times less, making it more compatible with the filters used in 3D cameras.

Because of their many advantages—including superior beam quality, excellent focusing and a very small footprint—VCSELs are quickly finding their way into many consumer applications such as 3D cameras and facial recognition for mobile devices, as well as proximity sensors to detect the presence of nearby objects. The technology can also enable gesture recognition in gaming systems and greater situational awareness for augmented and virtual reality systems.

“Our powerful, yet highly-efficient 10 W chip is taking VCSEL technology to new heights, while solving a major need of customers,” said Mary Hibbs-Brenner, Co-Founder and CEO of Vixar. “Customers want a chip that is perfectly matched to their power requirements, without having to using multiple chips in a single application. Our new 10 W VCSEL maintains power efficiency in a compact package, so customers don’t have to worry about compromised performance or too high thermal loads. They can now build powerful, streamlined and cost-effective applications with a single VCSEL chip.”

The 10 W chip comes in a compact size of 1.94 mm x 1.94 mm and offers low thermal impedance. It also features a pad layout for a low inductance driving design and boasts up to 40% wall-plug efficiency at 60°C, which is impressive due to the chip’s compact size and high operating temperature. In addition, the chip operates at up to 10 times the optimum power, which increases the distance measured. The 940 nm chip is available immediately, and an 850 nm version will be available later this year.

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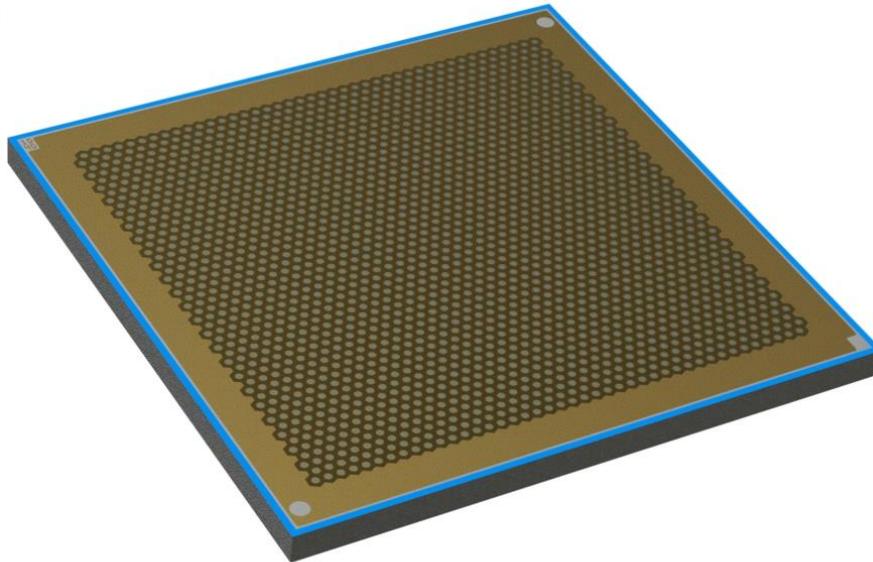
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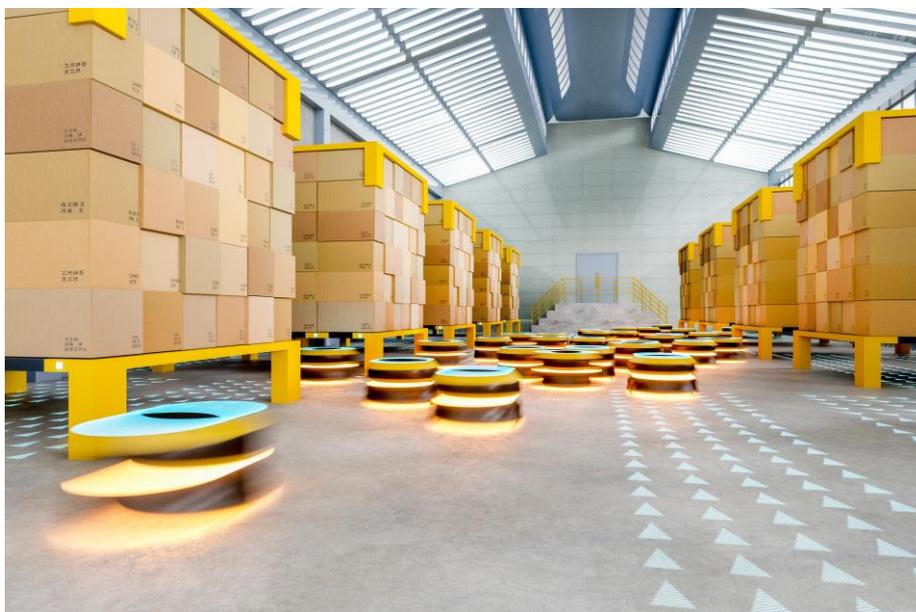
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Vixar's new 10 W VCSEL chip provides increased power and efficiency, compact size and low thermal impedance.
Picture: Osram



The 10 W VCSEL allows customers to introduce VCSEL technology in 3D sensing applications such as automatic guided vehicles.
Picture: Osram

ABOUT OSRAM

OSRAM, based in Munich, is a leading global high-tech company with a history dating back more than 110 years. Primarily focused on semiconductor -based technologies, our products are used in highly diverse applications ranging from virtual reality to autonomous driving and from smartphones to smart and connected lighting solutions in buildings and cities. OSRAM uses the endless possibilities of light to improve the quality of life for individuals and communities. OSRAM's innovations enable people all over the world not only to see better, but also to communicate, travel, work and live better. OSRAM has approximately 23,500 employees worldwide as of end of fiscal 2019 (September 30) and generated revenue of about 3.5 billion euros from continuing activities. The company is listed on the stock exchanges in Frankfurt and Munich (ISIN: DE000LED4000; WKN: LED 400; trading symbol: OSR). Additional information can be found at www.osram.com.