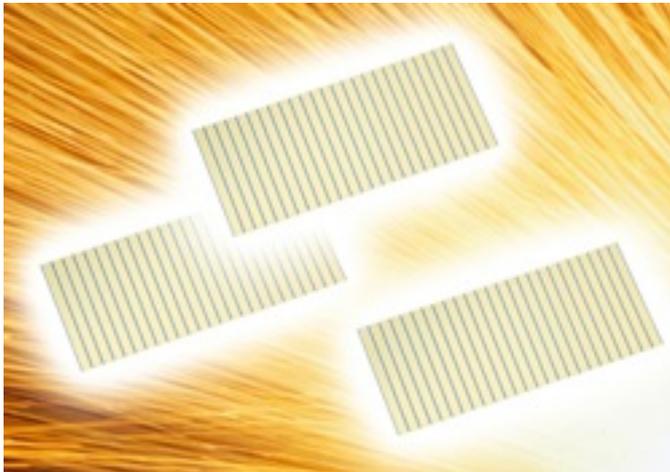


Laser Bars Provide Highest Power Yet for Industrial Lasers



Osram Opto Semiconductors' new laser bars offer extremely high efficiency of up to 65 percent at 200 Watts optical output power and can simplify the design of laser systems and reduce their cost. Laserline, one of the leading manufacturers of diode lasers for industrial material processing, is taking advantage of these benefits in its new fiber-coupled diode lasers used in applications from welding of metals and plastics to surface treatment and cutting.

The new laser bar series, designated SPL BKxx-40WFT, produces infrared radiation in various wavelengths ranging from 915 to 1,020 nanometers (nm). As a result of their excellent efficiency values – up to 65 percent – the bars achieve a long operating lifetime, amply meeting the requirements for industrial laser systems.

Besides the optical pumping of fiber lasers, direct processing of metals – welding , brazing, cutting, hardening, cladding and coating – for use in automotive manufacturing is one of the main applications of infrared lasers with more than 1 kW of power. Direct diode lasers are the most efficient laser light sources for such fiber-coupled systems and are a more efficient alternative to the carbon dioxide lasers that have been traditionally used.

Osram's new laser bars, in fact, are the core of the latest and most powerful fiber-coupled diode laser series from Laserline. The complete system is water-cooled and supplies between 2 and 15 kilowatts (kW) of power via a fiber with a core diameter of 1 to 2 mm. Its overall efficiency reaches maximum levels of more than 40 percent, due to the high efficiency of the laser bars.

“Our developments in the field of laser bars are pushing the utilization of direct diode lasers into ever higher power ranges,” said Michael Klein, Marketing Manager for laser bars with Osram Opto Semiconductors. “This enables our customers to open up new markets, and benefits from the improved technology include lower investment cost because fewer laser bars are required to generate the needed

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power. The cost for electricity and maintenance will also decrease due to their high efficiency and long operating lifetime.”

The cutting-edge laser bars have been developed on the basis of results generated by Osram Opto Semiconductors in the HEMILAS project, which was supported by the German Federal Ministry of Education and Research with the goal of developing a new generation of semiconductor lasers with higher output powers, narrower emission areas and extremely high optical power densities. The main results to date are the efficiency-optimized structure of epitaxy layers and improved mirror technologies with a high damage threshold.

<http://www.osram-os.com/pr-laserline> [1]

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