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Double the power in a compact package

Infrared Platinum Dragon in stack chip technology

The infrared Platinum Dragon from OSRAM Opto Semiconductors provides a high radiance from a small surface. With its 1 mm² thin-film chip in stack technology it generates an optical output of almost 1 W from a driving current of 1 A – that’s almost twice the output of the standard chips that have been used up to now. The viewing angle and radiant intensity can be varied with standard secondary optics. Preferred applications are those which require high radiance so that small optics can be used. This is important for example in pedestrian protection systems and night vision systems in vehicles.

The increased output of the new Platinum Dragon is based on a special thin-film chip. It has not only one p-n junction, but two that have been grown or “stacked” one on top of the other. This stack technology leads to almost twice the optical output power compared to conventional IR thin-film chips. “We were able to bring the infrared Stack Dragon so quickly to the market thanks to our experience in developing the stack technology for our lasers” said Harry Feltges, Marketing Manager for Infrared Components at OSRAM Opto Semiconductors. “Furthermore, its package is the same as the one used for the other IR Dragon components, so existing designs can be used without modification.” The forward voltage of 2.9 V at 1 A enables standard LED drivers to be used which are preferably operated in this voltage range. The IR LED emits at a wavelength of 850 nm and is therefore a perfect compromise between maximum spectral sensitivity for CCD and CMOS cameras and suppressed visibility for the human eye.

With its high optical output from a small surface area the infrared Platinum Dragon is ideal for lighting solutions where space is an important factor. Night vision systems in vehicles, pedestrian protection systems and precrash sensors can also be made much more compact because fewer IR LEDs are needed to provide the same optical output. In industrial applications the high-power IR LEDs can be used in illumination units for CCTV cameras or in systems for automatic number plate recognition (ANPR). 3-D camera technology is another possible application which will be used more and more in consumer equipment such as gaming consoles and TVs for gesture recognition. For this, high modulation frequencies of the light source (typically 20 to 50 MHz) are required, which can be easily achieved with the new infrared Dragon.



Picture: OSRAM

<http://www.osram-os.com/press>

Thanks to its high radiance from a small surface the infrared Stack Dragon gives access to the next level of optical output performance and thus opens up new applications for the future.

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