

## LED packs more power for projectors



Osram Opto Semiconductors has introduced two new high-power versions of the Osram Ostar Projection LED for projectors with a brightness of up to 1700 lumens. Thanks to their optimized design, they offer very high luminous flux from the available chip surface. Between 1000 and 8300 lumens can be produced, depending on the color and the version (two or four chip) used. An anti-reflection coated glass cover instead of the usual lens, together with external optics, ensures that the light is very well bundled. The new LEDs are ideally matched to various additional optics for highly efficient light output.

The two new light emitting diodes offer such high luminous flux that they can be used in office projectors with brightness levels of up to 1700 lumens. At the heart of the products is a 2 mm<sup>2</sup> LED high-current chip based on state-of-the-art thin-film and UX:3 technologies. The two versions of the new Osram Ostar Projection contain two (P1W) or four chips (P2W) with a total luminous area of 4 mm<sup>2</sup> and 8 mm<sup>2</sup> respectively.

In LED projectors, three LEDs in the colors red, green and blue serve as the light source. The LEDs are pulsed one after the other (color sequential mode), making the color filter wheel used in classic lamp projectors unnecessary. The high output of the new LEDs comes from the latest chip technologies and Osram's C<sup>2</sup> ceramic

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conversion technology for a particularly efficient green. The P2W version emits light pulses with brightnesses of 1000, 2500 and 8300 lumens for blue, red and green. These high brightness levels require current pulses of up to 32 amps (8 amps per chip) and optimized product design to efficiently remove the resulting heat. New LEDs with high luminance

Osram Ostar Projection enables light to be routed as efficiently as possible through the optical system, which is restricted by the etendue. The etendue describes the relationship between the emitting light surface and the projected light surface and characterizes how "spread out" the light is in area and angle. The etendue of these light emitting diodes is retained, producing an image with the same etendue as the source and, in conjunction with external optics, an extremely narrow beam of light is produced.

To keep the thermal resistance and, therefore, the temperature rise of the LEDs at an extremely low level, the chips are placed directly on a copper plate and not in a classic LED package. They are screwed down to improve the connection with the heat sink.

The two new Osram Ostar Projection LEDs will be premiered at our suite in the Las Vegas Hotel (#12-121) at the International CES show January 7 to 10, 2014 in Las Vegas. Check out our website for more information at <http://tinyurl.com/OSRAMCES> [1]. Volume production is due to start in March 2014.

### Technical data:

	P1W (LE X P1W)	P2W (LE X P2W)
Number of chips	two	four
Illuminated area	1.5 mm x 2.6 mm	2.6 mm x 3.2 mm
Package	27 mm x 16 mm x 2.1 mm	27 mm x 16 mm x 2.1 mm
Thermal resistance $R_{th}$	1.1 K/W	0.7 K/W
Maximum pulse current (240 Hz, 50% d.c.)	Red: 12 A Green, Blue: 16 A	Red: 24 A Green, Blue: 32 A
Typical brightness at maximum pulse current	Blue: 500 lm Red: 1250 lm Green: 4150 lm	Blue: 1000 lm Red: 2500 lm Green: 8300 lm

For more information go to [www.osram-os.com](http://www.osram-os.com) [2].

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[1] [http://www.osram-os.com/osram\\_os/en/news--events/ces-2014/index.jsp?search\\_result=%2fosram\\_os%2fen%2fsearch%2fadvanced\\_search.jsp%3faction%3ddosearch%26inp\\_searchterm\\_1%3dces%26website\\_name%3dosram\\_os\\_en](http://www.osram-os.com/osram_os/en/news--events/ces-2014/index.jsp?search_result=%2fosram_os%2fen%2fsearch%2fadvanced_search.jsp%3faction%3ddosearch%26inp_searchterm_1%3dces%26website_name%3dosram_os_en)

[2] <http://www.osram-os.com/>