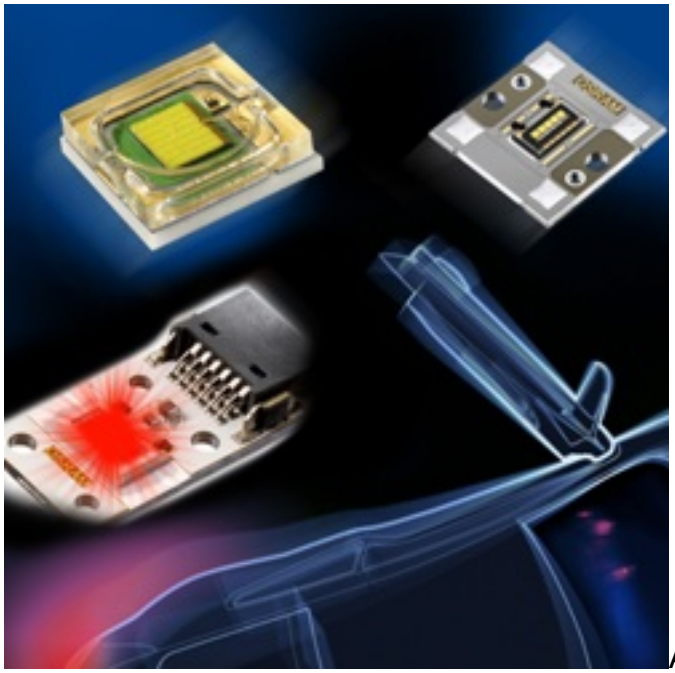
# LEDs Illuminate Automotive Applications



Available as a product platform with up to five LED chips, the Osram OSTAR Headlamp LED has an integrated shutter for horizontal light cutoff to reduce system complexity. This integrated approach significantly reduces mounting depth and takes up considerably less real estate than conventional headlamps. An innovative conversion process provides a seamless white color impression at maximum brightness levels.

Depending on the variant and operating current, values between 125 lm and 1000 lm are achievable. With its scalable brightness and myriad of configuration options, the OSTAR Headlamp offers limitless styling options and is perfectly suited to all headlamp functions, including low and high beams, fog-lamps and daytime running lights (DRL), as well as motorway beams and cornering lights.

As use of DRL has continued to migrate from high-end models into virtually every type of passenger vehicle, OSRAM has developed a new OSTAR Compact LED specifically designed for DRL Light Guide applications. With a power draw of 5 W and an operating current of 1.4 A, the OSTAR Compact achieves a typical brightness of 300 lm and its 2 mm² chip provides high luminance. With this small, high-power light source, light guide systems can be produced with just two LEDs. This robust component also has the optimum heat removal rate of 6 K/W, making it ideal for the high-temperature zones at the front of an automobile.

**Automotive Lighting**

With the OSTAR Compact, OSRAM Opto Semiconductors has not only further extended its offering of LEDs for DRL applications, but has also enabled the entire automotive LED portfolio of a headlight manufacturer to be perfectly matched for all headlamp and front-of-vehicle lighting, bringing color harmony to the entire front of

the vehicle. In addition to the OSTAR line of products, OSRAM offers the OSLON SX ECE and MX ECE as complimentary forward lighting products. The OSLON devices round out OSRAM's LED power forward lighting portfolio and offers a complete range of output from 20 lm to 1000 lm, enabling unmatched styling freedom and performance. All of the forward lighting products offer the same color binning which means the entire forward lighting scheme can be harmonized with homogeneous color.

**Infrared LEDs Provide Visible Benefits**

OSRAM Opto Semiconductors' innovative IR OSTAR Observation family of infrared LED emitters (850 nm) are the most powerful infrared LED arrays in the world. Designed specifically for use in night vision equipment and CCTV applications, they deliver a wavelength specially adapted to CMOS/CCD camera systems. IR OSTAR LEDs can be used with cameras in the vehicle to aid in functions such as pedestrian protection, night vision systems, lane departure warning systems and in detecting objects in the rear of the vehicle when backing up for rear collision avoidance. These LEDs can also be used inside the vehicle for features such as drowsy-driver sensing and out-of-position sensing for air bag deployment. Available as compact, multi-chip arrays, IR OSTAR LEDs are certified for automotive applications at temperatures up to 125°C and provide exceptionally low thermal resistance for optimal thermal management.

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