COMPANY PROFILE
Regensburg, January 2012

OSRAM Opto Semiconductors – LED innovations of the highest quality

OSRAM Opto Semiconductors is one of the world's leading manufacturers of optoelectronic semiconductors and is considered an authority on innovative light technologies. Because the company for decades has been investing in technology and quality, steadily expanding its competencies and resources, it today sets the highest international standards in the fields of illumination, visualization and sensory technology. Its products range from high-performance light-emitting diodes (LED) and infrared diodes (IRED) to semiconductors and detectors.

Innovation leader in LED technologies

The LED market is very dynamic, particularly in the general lighting and display backlighting segments. Leading market researchers say this technology will continue to post double-digit growth rates in various industry sectors. With numerous patented technologies, a deep understanding of customer needs, close customer relations and highly committed employees, OSRAM Opto Semiconductors takes an active part in shaping these developments.

Close cooperation with customers and partners generates new ideas for products and light solutions. Not least, these joint efforts have also resulted in an extensive portfolio of products for a variety of consumer applications: semiconductors are used, for instance, in televisions, monitors and tablet PCs with brilliant color, high-luminosity projectors with sharp, color-intense images, cameras and smartphones with high-output flashes.

Advantages of LEDs

LEDs offer clear advantages in these segments: they not only deliver brilliant color, they are also small, highly efficient and durable. What is more, they emit virtually no heat and boast extremely rapid response times. Infrared light-emitting diodes (IRED) and sensors from OSRAM Opto Semiconductors support new functions in these applications: they adapt the brightness of a monitor to ambient conditions, synchronize a 3D television image with the shutter glasses and make optical touchscreens possible.

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LED lighting in automotive applications

The automotive industry also has discovered the advantages of powerful LEDs. After establishing themselves as standard fittings in daytime running lights and taillights, LEDs are now proving their ability in the low and high beams and in intelligent curve lighting systems. Inside the vehicles, these tiny light sources are not only taking over classical lighting functions in instruments and switches, they are setting new trends in design and interior atmosphere, too. Here, they offer a wealth of new design possibilities, ranging from variable mood lighting in the driver/front passenger compartment, to a softly illuminated headliner and push-button color selection. These multi-talented lights provide for greater safety on the roads, too: semiconductor lasers and high power infrared diodes are used in pedestrian protection and driver assistance systems. Incidentally, IREDs also are being used increasingly in highway and street lighting.

Energy efficient lighting in public and private spaces

General lighting is one of the most promising future industries for tiny LEDs. Apart from their long lamp life and good light quality, the energy efficiency of this new lighting technology is its most impressive winning feature. Whereas an incandescent lamp converts only three to five percent of the input energy into light, white LED components already reach 40 percent and an LED lamp 25 percent. The deciding factor: thanks to the high efficiency of the LEDs themselves, an LED lamp can also achieve high efficiency, and that saves energy. Public agencies in particular are increasingly deciding in favor of long-lasting, eco-friendly LED lighting systems for street and architectural lighting. Across Asia, North America and Europe, more and more town squares, tunnels and roads are being illuminated by LEDs.

Program for a culture of innovation

Continuous investments in research and development have established a solid foundation at OSRAM Opto Semiconductors for product development and manufacturing achievements at a consistently high level. The company has, for example, turned out pioneering technologies over the last 30 years and holds thousands of patents. This is attributable in part to a special innovation program that supports the funding of research work, project partnerships and promotion programs, for instance. Milestones reached in setting numerous standards in LED light technologies include the development of the first surface-mountable LED (TOPLED), the first LED with white light and the OSTAR product platform with its versatile housing design. The company has received awards for many of these innovations.

Competent light solutions around the globe

At company headquarters in Regensburg, highly complex semiconductor chips are engineered and manufactured, and new products developed for new applications. The fabrication and worldwide distribution of LEDs has been based for over 30 years in Penang (Malaysia). A new chip production facility went into operation there in late 2009. Together with its plant in Regensburg, OSRAM Opto Semiconductors now operates two of the most modern LED chip manufacturing facilities in the world.

North American headquarters are located in Sunnyvale (USA), and Asian operations are based in Hong Kong. Formerly part of Siemens's semiconductor division, the company has many years of experience in the development and manufacturing of LED light solutions. Today it is a wholly owned subsidiary of lighting manufacturer OSRAM and thus a member of the Siemens Group.

For more information, go to: www.osram-os.com