

www.osram.com



Your challenges, our solutions.

Innovative solid state lighting system solutions.

SEE THE WORLD IN A NEW LIGHT



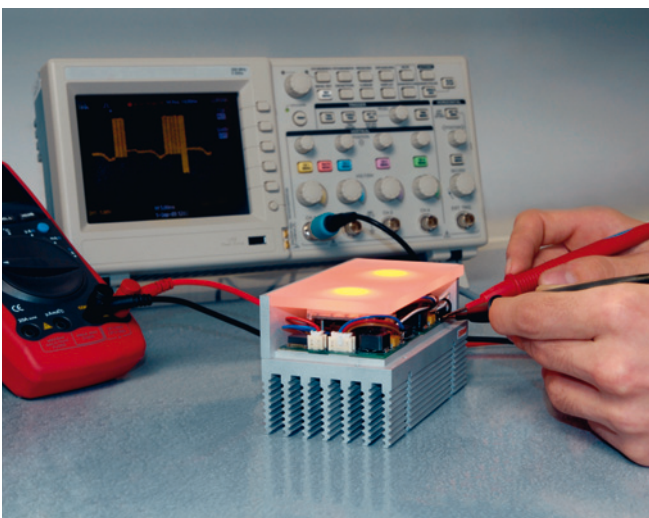
System solutions to meet your challenges.

Solid state lighting (SSL) solutions have reached new levels of innovation, energy-efficiency and eco-friendliness, LEDs are finding their way into an ever-expanding range of applications. However, as every application presents its own unique challenges, a high degree of experience and know-how is required for successful design. Solving your lighting challenges is what we do best. Our strength enables us to offer global LED resources, including R&D, manufacturing, thermal and optical engineering, electronics and controls, and quality assurance.



OSRAM Opto Semiconductors: In-house LED manufacturing.

At OSRAM, we do not have to rely on others when it comes to the latest innovations. As a technology leader in the opto semiconductor market, our subsidiary OSRAM Opto Semiconductors gives you direct access to its state-of-the-art SSL technology and more than 3,000 patents. Its product spectrum includes light-emitting diodes for visible and infrared light, organic LEDs and lasers, and ranges from mini-chips with outputs of only a few millilumens/milliwatts to high-flux chips offering almost 100 lumens per watt. In order to ensure the highest product quality possible, OSRAM Opto Semiconductors takes on quality management as a global task. All its facilities around the world are certified to ISO 9001:2000 and TS 16949.



OSRAM Display/Optic: Customization and system integration.

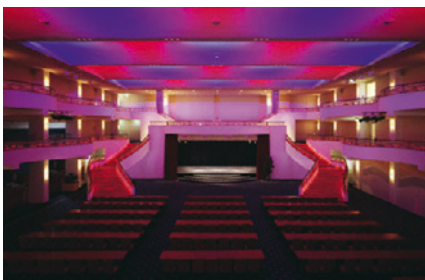
OSRAM offers both standardized and individually customized LED solutions. In the customization process, the level of technology integration varies from customer to customer and from case to case. The main objective of OSRAM Display/Optic is to understand our customer's challenges and to offer the best SSL system solution possible. Whether you need a standard catalog part or a product tailored to meet your specific requirements, our experienced SSL engineering development team is up to the challenge. Partnering with OSRAM Display/Optic is easy and convenient as you are supported by our worldwide network of highly trained sales managers and application engineers.



Customization process: From single unit to complete solution.

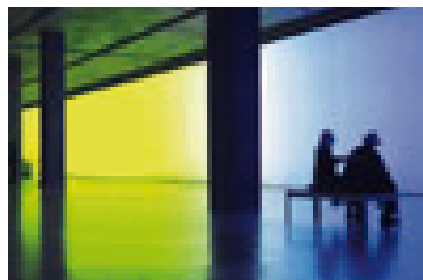
OSRAM Display/Optic combines the LED technology from OSRAM Opto Semiconductors with cutting-edge optical, electrical, mechanical and thermal components to form a perfectly coordinated system. In addition, the suitable mounting/assembly technology (e. g. chip-on-board assembly) is provided. In the highly structured development process (including product and process FMEA), all components are tailored to the customer's individual requirements and are thoroughly tested.

Fields of application



Studio, stage and TV lighting

- Studio lighting
- Stage lighting
- Film and TV production
- Theater lighting
- Video production
- Professional photography



Effect lighting

- Event lighting
- Architectural lighting
- Advertising projection
- Exhibition lighting
- Theater lighting
- Club lighting



Fiber optic illumination

- Endoscopy
- Boroscopy
- Microscopy
- Headlights
- Machine vision
- Visual inspection
- Photopolymerization



Industrial applications

- Airfield lighting
- Visual inspection
- Microscopy
- Curing
- Machine vision
- Fluoroscopy

Scope of performance

LED manufacturing

- Extensive expertise in research & development
- Innovative and trendsetting technologies
- Own chip production and packaging
- All under one roof

Optical design

- Optical simulation
- Reflector and lens design
- System integration of optics
- Optical measurements

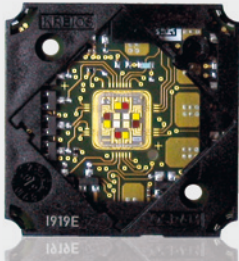
Electrical & mechanical design

- Mechanical simulation
- Layout (IPC standards)
- Mechanical testing (e. g. according to FAA standards, vibration testing)
- LED driver design, testing and manufacturing

Thermal management

- Steady-state thermal analysis
- Transient thermal analysis
- Temperature distribution on PCB

Complete solutions for various applications.

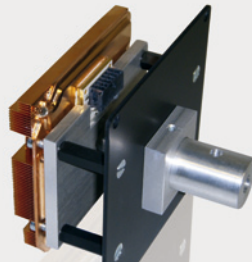


KREIOS®

Studio, stage and TV lighting

Challenge: To provide optimized and/or tunable light.

Solutions include Multi-LED light source module with on-board micro-processor, computer interface and thermal compensation. Tunable from 2,000 to 20,000 K with a CRI over 90.



ITOS-F0™

Medical and other fiber optics applications

Challenge: To provide a high-intensity LED light source for fiber-optic illumination as a substitution for current 100W xenon and halogen lamp solutions.

Solution: Comprehensive LED module utilizing high-power LED chips and an optimized collimation lens for 3 mm or 5 mm fibers (luminous flux at fiber entrance > 1,000 lm within 30° and > 1,200 lm within 40° half-angle; CRI 80).



ZELION®

Industrial application (airfield)

Challenge: To develop an easy and flexible LED replacement for 48 W halogen reflector lamps.

Solution: Flexible, energy-efficient and low-maintenance SSL solution for many applications, e. g. runway and approach airfield lighting. The LED light engine consists of 4 ultra-white, red, green or blue OSTAR Compact LEDs and an optimized reflector on a metal-core PCB.

Benefits at a glance

- One-stop supply of SSL solutions
- Access to the latest SSL technology through OSRAM Opto Semiconductors
- Customization of standard (sub-) components and system integration through OSRAM Display/Optic
- High system efficiency
- Strong knowledge in light mixing and shaping
- Development of platform technologies for various applications
- High-quality components
- Long-lasting solutions through reliability testing during development
- Global reach extending to 150 countries around the world
- Close cooperation and reliable support

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