Light is performance

Opto components for projection

Light is OSRAM

OSRAM
Opto Semiconductors


PUSH

OSRAM Opto Semiconductors' LED and laser projection light sources are designed to fit perfectly into your applications.

Content

Your first choice for all projection applications

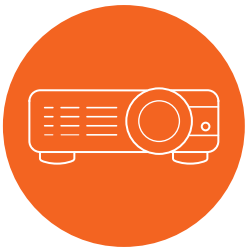
Imagine a portfolio of LED and laser components that makes the most challenging projection installations possible. That's precisely what you get from OSRAM Opto Semiconductors.

High power solutions for professional applications? Power solutions for business applications? Compact solutions for home and gaming applications? Or miniature solutions for mobile devices? OSRAM Opto Semiconductors has the right LED and laser diodes for you. In every performance class and for every application. Mixable and matchable in endless combinations. Enabling you to realize totally new and innovative solutions.

Profit from our 40 years of expertise in the semiconductor industry. Perfectly enhanced by 100 years of experience in lighting technology from OSRAM.

Embedded solutions

Thinking of mobile phones, still and video cameras? Looking for low power consumption, small footprints and high efficiency? With our LEDs and lasers for embedded projection applications we offer you the perfect products.

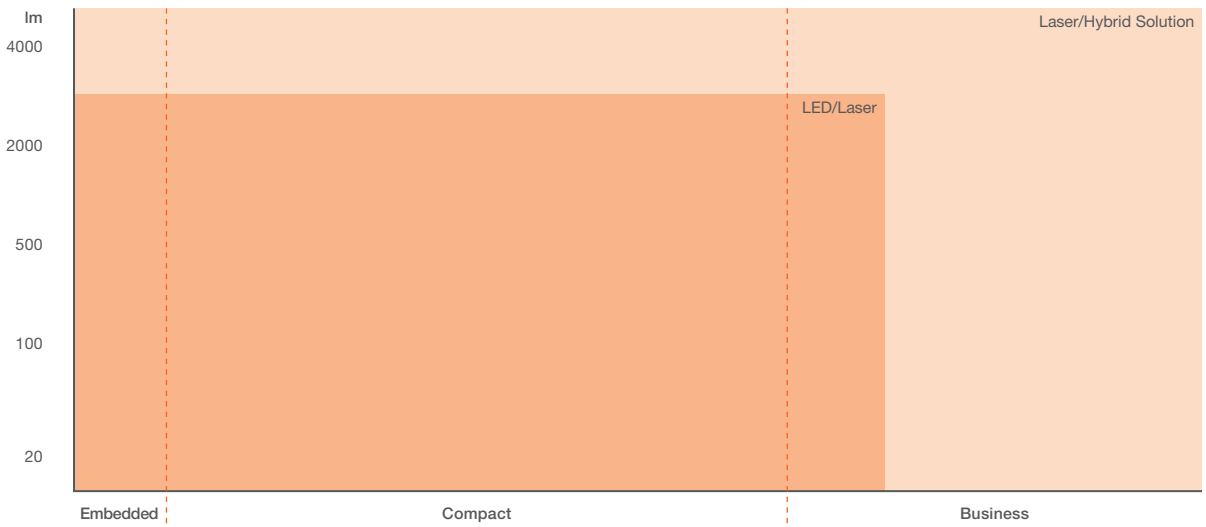


Compact solutions

Looking for high power in a small form factor? Looking to stay mobile and small, but with a big screen and good picture quality from your companion projector? Then our products, whether LEDs or lasers, are perfect for you.

Business solutions

Developing business solutions, from control room to professional cinema applications? Want to impress with high power, long lifetime, high efficiency and wide color gamut? Our laser and LED products will manage all your tasks perfectly.



The diagram shows which product types and performance classes are specifically suitable and recommended for embedded, compact or business projection solutions/applications at present.

Stay mobile: brilliant embedded solutions

OSRAM OSTAR® Projection Compact and Cube

For a pico projector embedded in a mobile device the available electrical power is limited to a fixed value. To ensure that the expected battery operation time is met, the figure of merit is the projector efficacy (lm/W). I. e. the white screen lumens per electrical LED power.

The goal for embedded pico projection is to get at least 20 screen lumens at 1 W LED power. For this the LED source is optimized in respect to the chip and package efficiency and to the etendue match for the projector optical system. These requirements are met by the OSRAM OSTAR® Projection Compact and Cube series LED.

In addition to single chip devices this package platform also allows multiple chips and colors to be combined within one package. This enables projection engine makers to design 2- and 1-channel engines with only two LEDs (G+RB) or even a single (RGB) LED component.

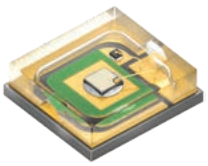
Features

- SMD package
- ThinFilm, ThinGaN® and UX:3 chip technology
- Small form factor
- High luminance
- Etendue matched to pico projection systems

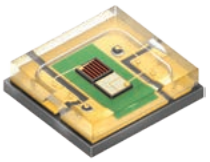
Applications

- Embedded solutions
- Camera (still/video)
- Smartphones
- Tablets

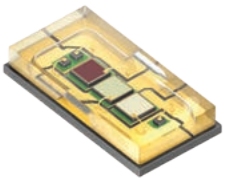
OSRAM OSTAR® Projection Compact



LE T Q8WM

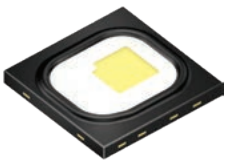


LE BR Q7WM

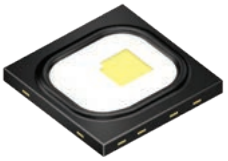


LE RTB N7WM

OSRAM OSTAR® Projection Cube



LCG H9RN



LCG H9RM

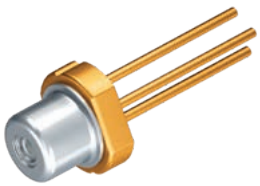
Low space, high efficiency: intelligent embedded solutions

Single-mode laser PL 450B & PLT3 520D
The blue and green single-mode laser diodes from OSRAM Opto Semiconductors are designed to meet the needs of laser projection applications and are perfectly suitable for systems which use a MEMS scanner as the imager. The laser diodes combine an unbeatable form factor with an excellent beam quality and high efficiencies while fulfilling all essential requirements to turn the vision of mobile projection into reality.

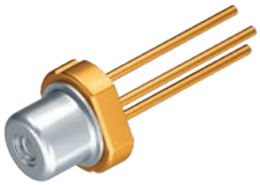
Features
- Single transverse mode laser
- Perfect beam quality
- Miniaturized TO38 ICut package
- High modulation capability

Applications
- Embedded solutions
- Camera (still/video)
- Smartphones
- Tablets
- Head-up displays

Single-mode laser



PL 450B



PLT3 520D

Economy size: powerful compact solutions

OSRAM OSTAR® Projection Compact

These LEDs use the 2 mm² chip suited for high power operation. The OSRAM OSTAR® Compact LE × Q8WP contains one chip. The LE × Q7WP solution has two chips side by side. These LEDs can be operated up to 8 A in pulsed mode and provide the basis for compact and bright projectors ranging from 100 lm up to 700 lm.

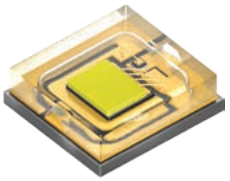
Features

- SMD package
- ThinFilm and UX:3 chip technology
- Small form factor
- High luminance due to “chip on air”

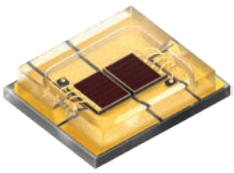
Applications

- Compact solutions
- Home cinema
- Gaming
- Notebook accessory
- Head-up display

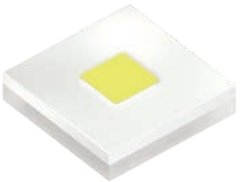
OSRAM OSTAR®
Projection Compact



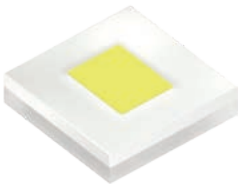
LE × Q8WP



LE × Q7WP



K× CSLNM1.××



K× CSLPM1.××

Bigger and brighter: impressive business solutions

OSRAM OSTAR® Projection Power

OSRAM OSTAR® Projection Power is among the greats in terms of its performance and its dimensions. The range starts with a 2 chip version up to a 6 chip version. All LED types are now running at max 12 A pulsed thanks to the new isolated Chips Technology and this allows now to use much simpler drivers solutions.

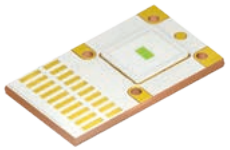
Features

- PxW: ThinFilm and UX:3 Chips
- PxMQ/AQ: Isolated ThinFilm and UX:3 Chips
- Window less
- Copper metal board
- ThinFilm, ThinGaN® and UX:3 chip technology
- Low thermal resistance
- Up to 50,000 h lifetime

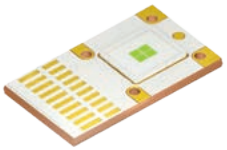
Applications

- Business solutions
- Office
- Education
- Professional (simulation, control rooms)
- High end personal projection
- Home cinema
- Rear projection applications

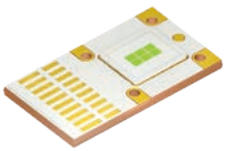
OSRAM OSTAR®
Projection Power



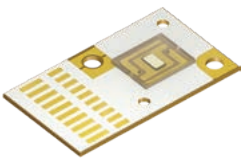
LE x P1AQ/MQ



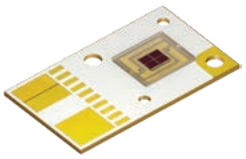
LE x P2AQ/MQ



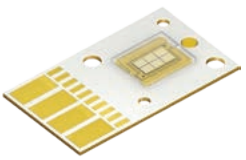
LE x P3AQ/MQ



LE × P1W/A



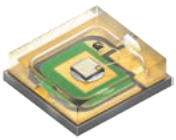
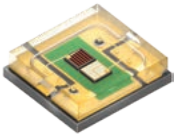
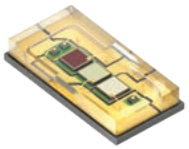
LE × P2W/A



LE × P3W/A 01

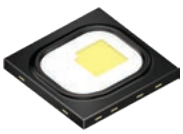
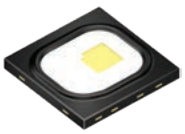
Product information

OSRAM OSTAR® Projection Compact

	LE T Q8WM	LE BR Q7WM	LE RTB N7WM
Chip size	750 µm	2 × 750 µm	3 × 750 µm
Top emitting area in mm²	0.70 × 0.70	0.65 × 0.65 per chip	R: 0.65 × 0.65 per chip T: 0.70 × 0.70 per chip B: 0.70 × 0.70 per chip
LED package size in mm³	3.9 × 3.7 × 1.1	3.9 × 3.7 × 1.1	5.3 × 2.7 × 0.9
Typ. thermal resistance $R_{th\ JS}$	16 K/W	14 K/W per chip	15 K/W per chip
Typ. dominant wavelength @25 °C, 350 mA per chip	T: 530 nm	R: 617 nm B: 465 nm	R: 617 nm T: 530 nm B: 465 nm
Typ. forward voltage @25 °C, 350 mA per chip	T: 3.55 V	R: 2.3 V B: 3.4 V	R: 2.3 V T: 2.8 V B: 3.0 V
Typ. brightness @25 °C, 350 mA per chip	T: 90 lm	R: 55 lm B: 350 mW	R: 55 lm T: 90 lm B: 350 mW

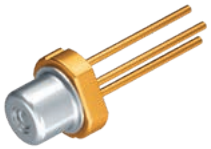
OSRAM OSTAR® Projection Cube

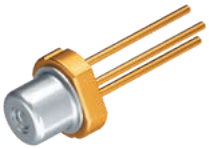



	LCG H9RN	LCG H9RM
Chip size	1 mm²	750 µm
Top emitting area in mm²	0.98 × 0.98	0.72 × 0.72
LED package size in mm³	3.8 × 3.8 × 0.5	3.8 × 3.8 × 0.5
Typ. thermal resistance $R_{th\ JS}$	6 K/W	20 K/W
Typ. color coordinate Cx/Cy within 500 … 600 nm @25 °C	0.32/0.64 @700 mA	0.32/0.64 @350 mA
Typ. forward voltage per chip @25 °C	3.0 V @700 mA	3.0 V @350 mA
Typ. brightness @25 °C	340 lm @700 mA	170 lm @350 mA

Product information

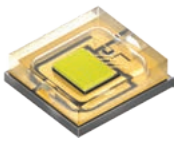
Single-mode laser

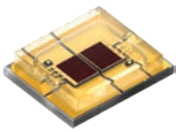


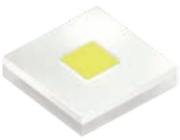


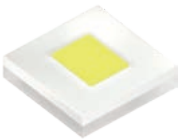
@25 °C	PL 450B	PLT3 520D
Output power	80 mW	110 mW, 140 mW (pulse)
Emission wavelength typ.	450 nm	520 nm
Threshold current typ.	17 mA	50 mA
Operating current typ	75 mA	270 mA @110 mW
Wall plug efficiency	20.5 %	7 %
Package type	TO38 icut	TO38 icut

OSRAM OSTAR® Projection Compact





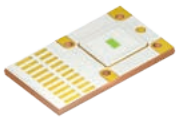
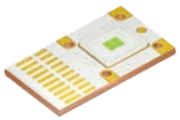
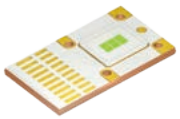




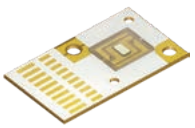
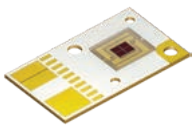
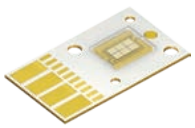
	LE × Q8WP	LE × Q7WP	K× CSLNM1.××	K× CSLPM1.××
Chip size	2 mm²	2 × 2 mm²	1 mm²	2 mm²
Top emitting area in mm²	1.5 × 1.2	2.6 × 1.5	1.03 × 1.03	1.59 × 1.25
LED package size in mm³	3.9 × 3.7 × 1.2	5.8 × 4.7 × 1.2	3.0 × 3.0 × 0.75	3.0 × 3.0 × 0.75
Thermal resistance $R_{th\ JS}$	2.6 K/W	1.0 K/W	4.1 K/W	2.6 K/W
Typ. dominant wavelenght @25 °C	A: 617 nm R: 625 nm CG: 0.32/0.64 T: 530 nm B: 459 nm @1.4 A	A: 617 nm CG: 0.32/0.64 B: 459 nm @1.4 A per chip	R: 617 nm P: 0.32/0.64 B: 455 nm W: 0.32/0.33 @1.0 A	P: 0.32/0.64 W: 0.32/0.33 @1.4 A
Typ. forward voltage @25 °C	A: 2.3 V R: 2.3 V CG: 3.0 V T: 3.6 V B: 3.0 V @1.4 A	A: 2.3 V CG: 3.0 V B: 3.0 V @1.4 A per chip	R: 2.35 V P: 3.0 V B: 3.0 V W: 3.0 V @1.0 A	P: 3.0 V W: 3.0 V @1.4 A
Typ. brightness @25 °C	A: 200 lm R: 160 lm CG: 650 lm T: 340 lm B: 1900 mW @1.4 A	A: 400 lm CG: 1300 lm B: 3,800 mW @1.4 A per chip	R: 140 lm P: 450 lm B: 1,200 mW W: 325 lm @1.0 A	P: 680 lm W: 515 lm @1.4 A

Product information

OSRAM OSTAR® Projection Power

	LE × P1AQ/MQ	LE × P2AQ/MQ	LE × P3AQ/MQ
Chip size	2 × 2 mm²	4 × 2 mm²	6 × 2 mm²
Top emitting area in mm²	2.6 × 1.5	3.2 × 2.6	4.8 × 2.6
LED package size in mm³	27 × 17.5 mm²	27 × 17.5 mm²	27 × 17.5 mm²
$I_{F\ pulse}$	A = 8 A B,D,CG = 12 A	A = 8 A B,D,CG = 12 A	A = 8 A B,D,CG = 12 A
Typ. thermal resistance $R_{th\ B}$	1.1 K/W	0.7 K/W	0.45 K/W
Typ. dominant wavelenght @25 °C (within λ = 500 … 600 nm for CG)	A: 614 nm B: 456 nm D: 440 nm CG: 0.32/0.64	A: 614 nm B: 456 nm D: 440 nm CG: 0.32/0.64	A: 614 nm B: 456 nm D: 440 nm CG: 0.32/0.64
Typ. forward voltage per chip @25 °C	A: 6.7 V B: 7.0 V D: 7.0 V CG: 7.0 V	A: 6.7 V B: 7.0 V D: 7.0 V CG: 7.0 V	A: 6.7 V B: 7.0 V D: 7.0 V CG: 7.0 V
Typ. brightness @25 °C	A: 2,100 lm B: 14.0 W D: 16.4 W CG: 4,500 lm	A: 3,900 lm B: 28 W D: 33 W CG: 9,000 lm	A: 5,600 lm B: 42 W D: 49 W CG: 13,000 lm

	LE × P1W/A	LE × P2W/A	LE × P3W/A 01
Chip size	2 × 2 mm²	4 × 2 mm²	6 × 2 mm²
Top emitting area in mm²	2.6 × 1.5	3.2 × 2.6	4.8 × 2.6
LED package size in mm³	27 × 15.5 × 2.1	27 × 15.5 × 2.1	27 × 15.5 × 2.1
Typ. thermal resistance $R_{th\ B}$	1.0 K/W	0.6 K/W	0.5 K/W
Typ. dominant wavelenght @25 °C	A: 617 nm B: 459 nm CG: 0.32/0.64 @12 A (6 A per chip)	A: 617 nm B: 459 nm CG: 0.32/0.64 @24 A (6 A per chip)	A: 617 nm B: 459 nm CG: 0.32/0.64 @36 A (6 A per chip)
Typ. forward voltage per chip @25 °C	A: 3.35 V B: 3.55 V CG: 3.55 V @12 A (6 A per chip)	A: 3.35 V B: 3.55 V CG: 3.55 V @24 A (6 A per chip)	A: 3.35 V B: 3.55 V CG: 3.55 V @36 A (6 A per chip)
Typ. brightness @25 °C	A: 1,400 lm B: 12 W CG: 4,000 lm @12 A (6 A per chip)	A: 2,800 lm B: 24 W CG: 8,000 lm @24 A (6 A per chip)	A: 4,200 lm B: 36 W CG: 12,000 lm @36 A (6 A per chip)

Choose perfection – easily

✓ **recommendation**

	OSRAM OSTAR® Projection Cube	OSRAM OSTAR® Projection Compact	OSRAM OSTAR® Projection Power	Single-mode laser
Embedded solutions				
Camera (still/video)	✓	✓		✓
Smartphones	✓	✓		✓
Tablets	✓	✓		✓

Compact solutions				
Home cinema		✓	✓	
Gaming		✓		✓
Notebook accessory		✓		✓
Control room		✓	✓	
Head-up display		✓		✓

Business solutions				
Office			✓	
Education			✓	
Professional			✓	

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Be informed – completely

Looking for more information and data on our products for LEDs in general lighting or LEDs in general? All you need to know about our state-of-the-art products, modern LED technology and the latest LED trends can be found on our website along with other related links.

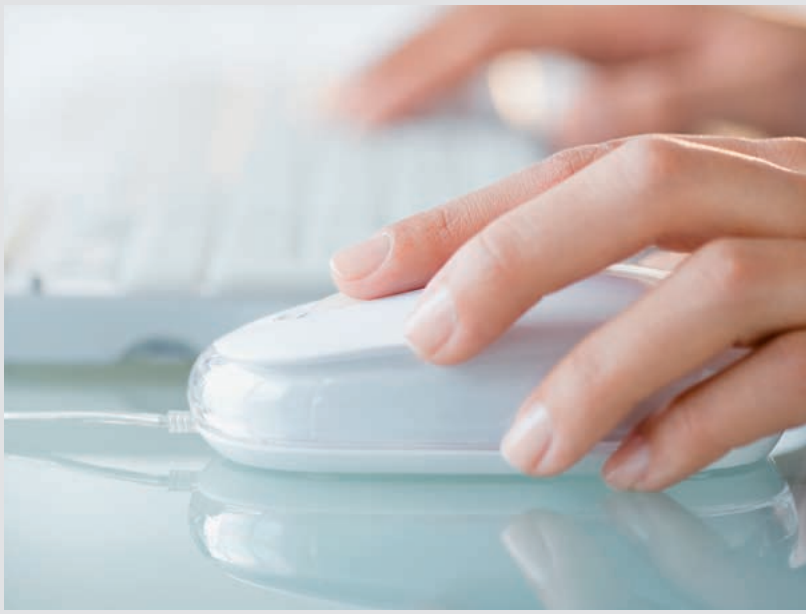
www.osram.com/os/products/
Our complete product catalog with all available products

www.osram.com/general-lighting/
Products and solutions for general lighting/solid state lighting

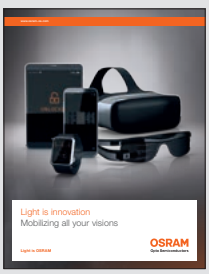
www.osram.com/os/webtools/
The leading source of LED information, resources, tools, technology & LED lighting solutions for the solid state lighting and general illumination sectors

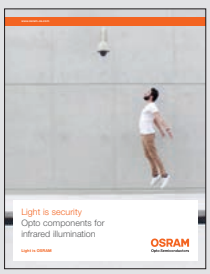
www.ledlightforyou.com
The network for LED lighting technology – powered by OSRAM

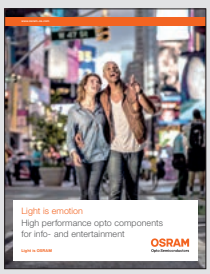
LED Light for you
powered by OSRAM



Application brochures available from OSRAM Opto Semiconductors
Our innovative products open up a wide variety of applications. Just contact us for assistance with your specific design (for contact information see last page) or order our application brochures: **www.osram-os.com/downloads.**







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