

LASER

Pulsed Laser Diodes

High-power, short-pulsed lasers for automotive and industrial applications

Designed for tasks like distance and speed measurement based on time-of-flight (ToF), OSRAM Opto Semiconductors' family of pulsed lasers diodes deliver short IR light pulses that make them ideal for a range of automotive applications, including adaptive cruise control and collision avoidance. Engineered to deliver reliable and cost-effective solutions in high-volume manufacturing, these multi-purpose lasers are available in a variety of wavelengths, power levels and RoHS-compliant packages.



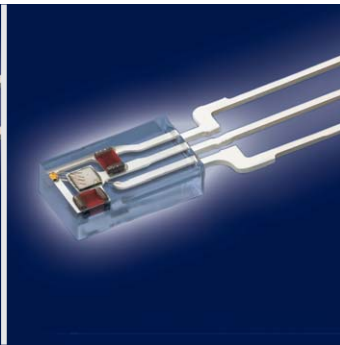
Opto Semiconductors

OSRAM

Pulsed Laser Diodes



Pulsed laser diode, SPL PL series.



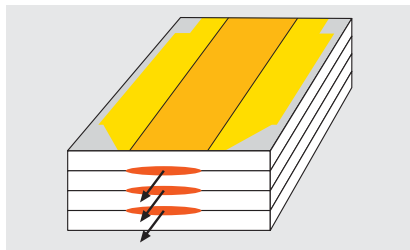
Hybrid pulsed laser diode, SPL LL series.



Application example: Handheld laser range finders.

Advantages/Features

- Designed for automotive and industrial applications
- Cost-effective solution for high-volume applications
- Unique solutions available, such as pulsed lasers with integrated driver or individually addressable multi-channel arrays
- Nanostack™ technology offers high optical output power from small laser aperture with outstanding reliability. Nanostacks are vertically stacked laser diodes in a monolithic chip. All laser emitters are connected in series and separated by a few micro meters, only.



Applications

- Automotive applications, including adaptive cruise control (ACC), pre-crash detection, collision avoidance, and adaptive rear lighting
- Handheld laser range finders (LRF) for golfers, hunters and civil engineers

Asia

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- Traffic surveillance, e.g. laser speed guns, traffic recording, vehicle classification, distance measurement and fog detection
- Professional laser sensors for distance measuring, positioning and protection applications

Products

- Standard pulsed laser diode in radial package (SPL PL series)
- Hybrid pulsed laser diode with integrated driver circuit (SPL LL series)
- Individually addressable multi-channel pulsed laser diode array (SPL AH series)

Technical Data

SPL PL series

LED-type plastic package (5 mm)
Emission wavelengths:
850 nm or 905 nm
Optical peak power versions:
4 W to 75 W (Nanostack™)
Typical beam divergence (FWHM):
11° x 25°
Short pulse width: 1 ns to 1 μs
Operating temperature: -40 to +85 °C
Storage temperature: -40 to +100 °C

SPL LL series

Cost-effective plastic package
Compact solution
Integrated driver circuit for improved EMC (electro-magnetic compatibility)

Europe

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Emission wavelengths:

850 nm or 905 nm

Optical peak power versions:

14 W to 70 W (Nanostack™)

Typical beam divergence (FWHM):

15° x 30°

Low voltage operation: < 20 V

Short pulse width: < 40 ns

Operating temperature: -40 to +100 °C

Storage temperature: -40 to +105 °C

Fully automotive qualified according

AEC-Q101

SPL AH series

12 individually addressable laser emitters

Monolithic laser array with 260 μm channel pitch

Top looker with (anti-reflection)

AR-coated glass window

Integrated heater for wavelength stabilization

Emission wavelength: 905 nm

Optical peak power: 70 W

per emitter (Nanostack™)

Typical beam divergence (FWHM):

11° x 25°

Short pulse width: 5 ns to 100 ns

Operating temperature: -40 to +105 °C

Storage temperature: -40 to +105 °C

Pulsed Lasers on Internet:

www.osram-os.com/pulsed-lasers

USA

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