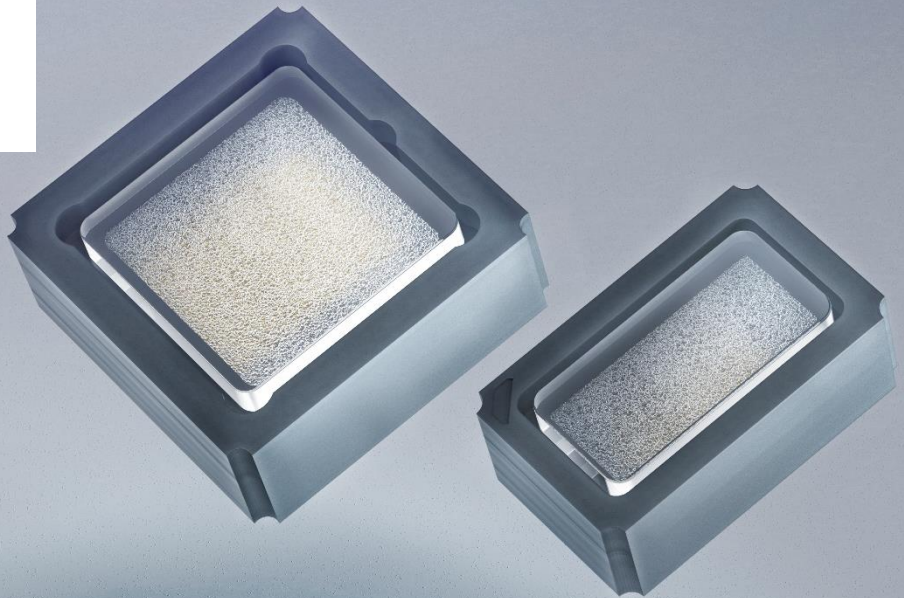


## VCSEL solutions for 3D sensing applications



### **Innovative VCSEL light sources for 3D sensing application**

Identification, security and entrance control, mobile payment, gesture recognition; 3D sensing is opening a new domain with demanding requirements for the illuminator such as ultra-short pulse operation, homogeneous illumination, configurable random light source array, narrow spectrum to reduce noise of sun light, high reliability, high volume capability, low cost.

TRUMPF Photonic Components is developing and shipping VCSEL solutions that support the growing demand of 3D sensing application (VCSEL: Vertical Cavity Surface Emitting Lasers). With over 15 years of VCSEL technology development and offering VCSEL products to the market, being the leading VCSEL supplier to smartphone customers, TRUMPF has proven to be your VCSEL partner for 3D sensing application.

TRUMPF Photonic Components, the global leader in VCSEL technology, designs, manufactures, markets and sells VCSEL-based light sources for security, surveillance and night vision applications. TRUMPF has introduced a product line of innovative VCSEL light sources for 3D sensing application, widely used in automotive and consumer area like smartphone.

# VCSEL light sources from TRUMPF Photonic Components offer excellent and reliable performance over a wide range of conditions

## Features

- TRUMPF proprietary VCSEL technology
- High conversion efficiency
- High reliability
- Narrow 2nm spectral width
- High frequency modulation up to 100 MHz
- Sub ns single pulses
- Wide range of duty cycles
- Low inductance package
- Low thermal resistance package
- Integrated optics to support customized field-of-view
- Easy application to system, SMT-mountable packages
- Wavelengths of 850nm and 940nm
- Small footprint
- Integrated monitoring Photodiode (optional)

## Main application domains are:

- Gesture recognition
- Machine vision
- 3D cameras
- Autonomous drive
- Smartphones

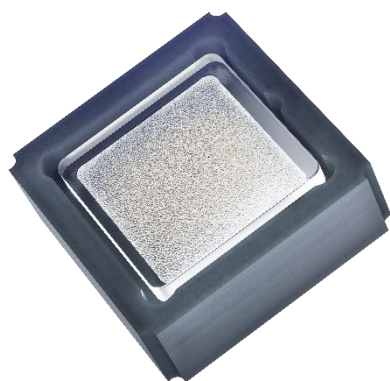
## Safety information

The products contain laser arrays that can emit high power invisible light. The application manufacturer is responsible to fulfill the laser and fire safety regulations in the end-user device. The product is capable to emit radiation of Class IV and can cause serious injury. The product is designed to meet Class I safe operation under defined operating conditions.

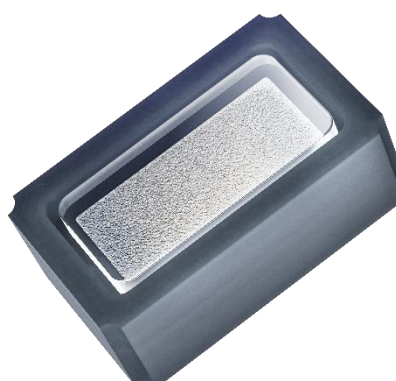
Product Portfolio for Sensing Applications				
Products*	Dimensions (LxHxW)	CW optical output power	Emission wavelength	Field of view**
PLA5506-940	3.2 x 1.95 x 1.15 mm <sup>3</sup>	300 mW	940 nm	65° x 85°
PLA5310-940	3.5 x 3.2 x 1.20 mm <sup>3</sup>	600 mW	940 nm	60° x 45°
PLA5220-940	3.7 x 3.6 x 1.25 mm <sup>3</sup>	2 W	940 nm	110° x 85°
PLA5320-940	3.7 x 3.6 x 1.25 mm <sup>3</sup>	2 W	940 nm	70° x 60°
PLA5420-940	3.7 x 3.6 x 1.25 mm <sup>3</sup>	2 W	940 nm	40° x 30°
PLA5620-940	3.7 x 3.6 x 1.25 mm <sup>3</sup>	2 W	940 nm	120° x 95°
PLA5720-940	3.7 x 3.6 x 1.25 mm <sup>3</sup>	2 W	940 nm	120° x 20°
PLA5220-850	3.7 x 3.6 x 1.25 mm <sup>3</sup>	2 W	850 nm	110° x 85°
PLA5320-850	3.7 x 3.6 x 1.25 mm <sup>3</sup>	2 W	850 nm	70° x 60°
PLA5420-850	3.7 x 3.6 x 1.25 mm <sup>3</sup>	2 W	850 nm	40° x 30°
PLA5620-850	3.7 x 3.6 x 1.25 mm <sup>3</sup>	2 W	850 nm	120° x 95°
PLA5720-850	3.7 x 3.6 x 1.25 mm <sup>3</sup>	2 W	850 nm	120° x 20°

Product specification items in this overview are typical values under defined operating conditions

\*\* Defined at full-width half maximum



PLA5x20-940 / PLA5x20-850.



PLA5506-940