

760 - 840 nm

840 - 1100 nm

1100 - 1700 nm

1700 - 2400 nm

2400 - 3000 nm

3000 - 6000 nm

FP laser diodes from 1700 nm to 2400 nm

nanoplus multi mode laser diodes

nanoplus is the only manufacturer world-wide routinely providing single and multi mode lasers at any wavelength from 760 to 6000 nm. At wavelengths up to 14 μm , QCLs complete nanoplus' laser portfolio. Our Fabry Perot laser diodes deliver multi mode emission with well defined optical properties enabling a wide range of applications including e.g. security measures and range finding. In conjunction with an external cavity they are ideally suited for all spectroscopic tasks where a wide wavelength tuning range and a narrow linewidth is required.

nanoplus lasers operate reliably in tens of thousands of installations worldwide, including chemical and metallurgical industries, gas pipelines, power plants, medical systems, airborne and satellite applications.

key features

- ✓ excellent reliability
- ✓ broad emission spectrum
- ✓ wide variety of packaging options



application areas

- ✓ range finding
- ✓ security
- ✓ spectroscopy
- ✓ illumination

nanoplus FP lasers with excellent performance are specifically designed and characterized to fit your needs. This data sheet summarizes typical properties of nanoplus FP lasers in the 1700 nm to 2400 nm range. In this wavelength range e.g. CO, CO₂, N₂O and CH₄ can be detected with particularly high sensitivity.

general ratings (T = 25 °C)	symbol	unit	typical
optical output power	P _{out}	mW	10
reverse Voltage	V _r	V	2
forward Current	I _f	mA	120

On request, lasers with specifically optimized properties, e.g. higher output power, are available.

laser packaging options
TO5.6 header with or without cap
TO9 header with or without cap
TO5 with TEC and NTC
butterfly housing with FC/APC fibre (available up to 2.33 μm)

For dimensions and accessories, please see

Further packaging options available on request.

nanoplus FP laser diodes

nanoplus FP laser diodes in the range from 1700 nm up to 2400 nm are ideally suited for all spectroscopic tasks where a broad laser emission spectrum and a short coherence length is required. The variety of applications for which these FP laser diodes are key elements include range finding systems, security measures and many more. In combination with external cavity setups the laser diodes can be operated as sources for widely tunable external cavity lasers for ultra sensitive laser based gas sensing of e.g. CO, CO₂, N₂O and CH₄. For examples of performance data of nanoplus lasers in other wavelength ranges, please see

Fig. 1
Room temperature cw spectrum of a nanoplus FP laser diode operating at 2330 nm

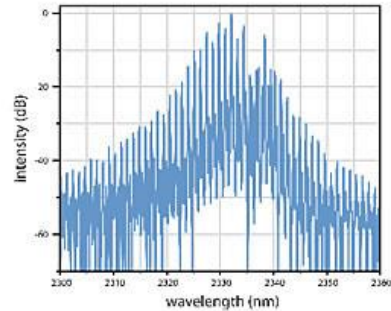
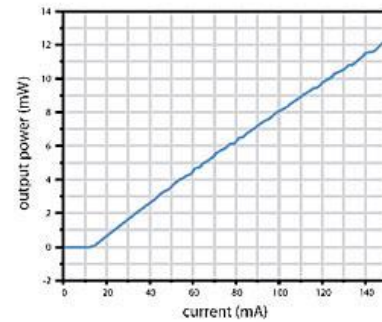


Fig. 2
Output power versus current characteristics of a 2330 nm FP laser diode at room temperature



electrooptical characteristics (T = 25 °C)	symbol	unit	min	typ	max
peak wavelength	λ	nm	2310	2330	2350
threshold current	I_{th}	mA	10	15	30
slope efficiency	e	mW / mA	0.05	0.1	0.15
slow axis (FWHM)		degrees	17	20	25
fast axis (FWHM)		degrees	35	40	45
emitting area	W x H	$\mu\text{m} \times \mu\text{m}$	3 x 1	4.5 x 1.5	5 x 2
storage temperatures	T_s	°C	- 40	+ 20	+ 80
operational temperature at case	T_c	°C	- 20	+ 25	+ 50