

750 - 840 nm

840 - 1100 nm

1100 - 1700 nm

1700 - 2400 nm

2400 - 2900 nm

## FP laser diodes from 750 nm to 840 nm

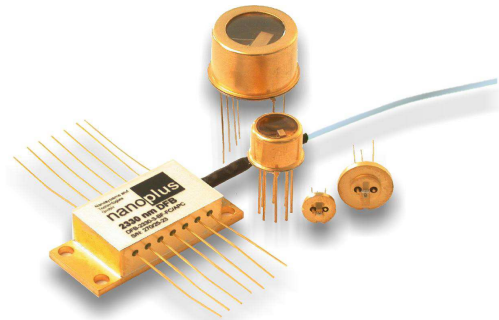
Nanosystems and Technologies GmbH

# nanoplus

nanoplus DFB and FP lasers in the wavelength range from 750 nm to 2900 nm and QCL lasers in the wavelength range from 5  $\mu$ m to 16  $\mu$ m operate reliably in a total of more than 5000 installations worldwide, including chemical and metallurgical industries, gas pipelines, power plants, medical systems, airborne and satellite applications.

### nanoplus Fabry Perot laser diodes

nanoplus provides multimode laser diodes at any wavelength from 750 nm to 2900 nm. These diodes are used in 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. At wavelengths from 7 to 12  $\mu$ m, nanoplus manufactures FP quantum cascade lasers.



### 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 wavelength range from 750 nm to 840 nm. In this wavelength range, e.g. oxygen can be detected with particularly high sensitivity.

general ratings (T = 25 °C)	symbol	unit	typical
optical output power	P <sub>out</sub>	mW	10
reverse Voltage	V <sub>r</sub>	V	2.5
forward Current	I <sub>f</sub>	mA	28

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  $\mu$ m)

For dimensions and accessories, please see [www.nanoplus.com](http://www.nanoplus.com)  
Further packaging options available on request.

device protected by  
US patent 6.671.306  
US patent 6.846.689  
EU patent EP0984535

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Rev. FP760.02

# nanoplus FP laser diodes

nanoplus FP laser diodes in the range from 750 nm to 840 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. oxygen.

For examples of performance data of nanoplus lasers in other wavelength ranges, please see [www.nanoplus.com](http://www.nanoplus.com) or contact [sales@nanoplus.com](mailto:sales@nanoplus.com).

Fig. 1  
 Room temperature cw spectrum of a nanoplus FP laser diode operating at 760 nm

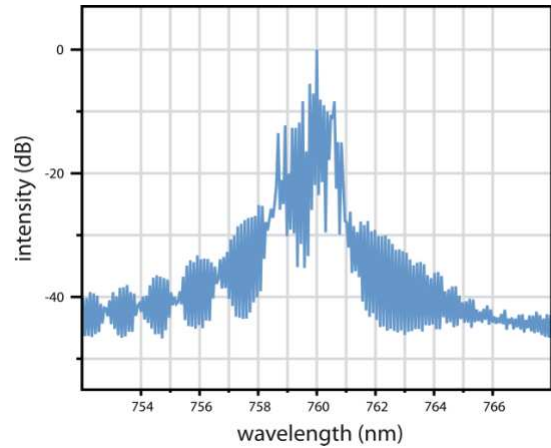
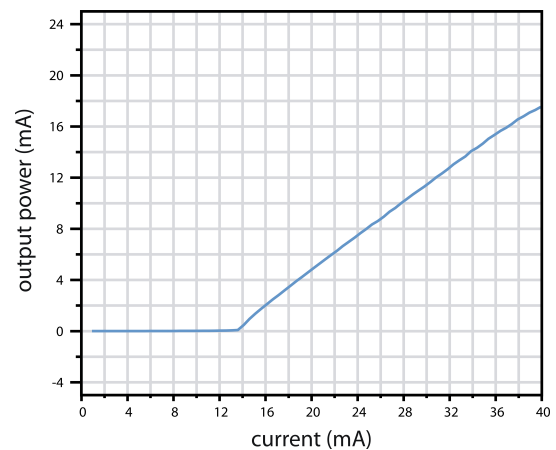


Fig. 2  
 Output power versus current characteristics of a 760 nm FP laser diode at room temperature



electrooptical characteristics (T = 25 °C)	symbol	unit	min	typ	max
peak wavelength	$\lambda$	nm	750	760	770
threshold current	$I_{th}$	mA	10	13	16
slope efficiency	e	mW / mA	0.6	0.7	0.8
slow axis (FWHM)		degrees	17	20	25
fast axis (FWHM)		degrees	35	40	45
emitting area	W x H	$\mu\text{m} \times \mu\text{m}$	1.5 x 1.3	1.8 x 1.5	2.0 x 1.6
storage temperatures	$T_s$	°C	- 40	+ 20	+ 80
operational temperature at case	$T_c$	°C	- 20	+ 25	+ 50

We will be happy to answer further questions. Please contact us at [sales@nanoplus.com](mailto:sales@nanoplus.com)

