

Distributed Feedback Lasers (DFB): Standard DFB Lasers

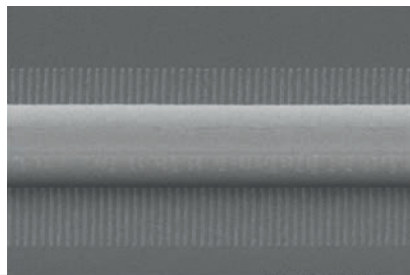
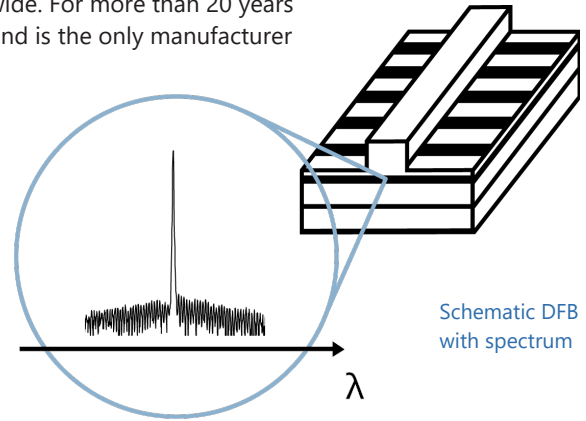
WAVELENGTH

760–830 nm
830–920 nm
920–1100 nm
1100–1300 nm
1300–1650 nm
1650–1850 nm
1850–2200 nm
2200–2600 nm
2600–2900 nm
2800–4000 nm
4000–4600 nm
4600–5300 nm
5300–5800 nm
5800–6500 nm
6000–14000 nm

nanoplus Distributed Feedback Lasers (**DFB**) are specifically designed for high-precision gas detection using tunable diode laser absorption spectroscopy (**TDLAS**). Our devices operate **reliably** in more than 50,000 installations worldwide. For more than 20 years nanoplus has set the standard for DFB laser technology and is the only manufacturer routinely providing DFB lasers at **any wavelength**.

Key features:

- MONOMODE
- CONTINUOUS WAVE
- ROOM TEMPERATURE
- MODE HOP FREE TUNING



Overgrowth-free DFB device processing

Any **custom wavelength** is possible: You tell us what you need and we deliver it. With our patented DFB technology we design any wavelength **between 760 nm and 14 μm**.

Our excellent **spectral purity** is characterized by a large side mode suppression ratio (**SMSR**) of **> 35 dB**, giving your system a low signal to noise ratio against crossinterference.

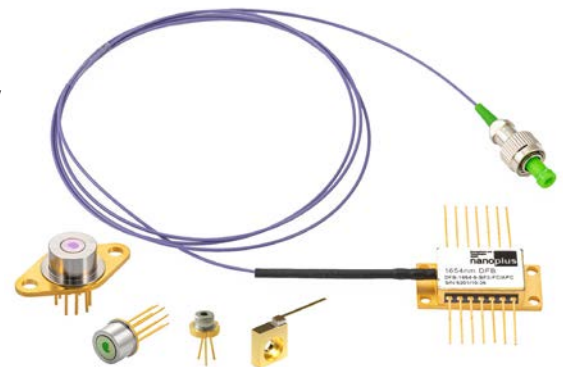
A **narrow linewidth below 3 MHz** guarantees ultra-precise scanning of the absorption line feature. The **high output power** of **several mW** yields a stronger signal and increases your measurement precision.

Fast and wide wavelength tuning is required for in situ systems. Most customers use a scan rate of 10 kHz and benefit from our very **large tuning coefficient**.

“Do not change your ideas, let us deliver the laser that fits your application.”

We offer **various packaging options**, e.g. several free space housings including TEC and NTC, fiber coupling, **collimation** and **custom designs**. What do you require?

If you require **custom specifications**, please contact us. Nearly 80 % of our devices are more or less customer-specific. As nanoplus is a **fully vertically integrated company**, we control the entire process chain from design to packaging. Both nanoplus production facilities are based in **Germany**. To guarantee consistent product quality we apply a strict and **ISO certified quality management system** at all levels.



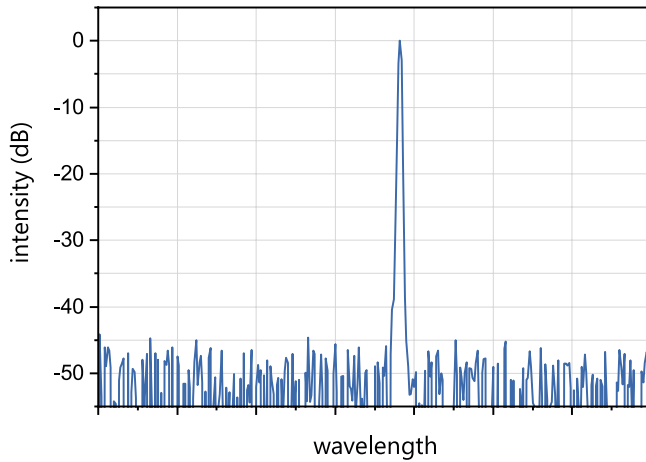
nanoplus DFB lasers on TO66, TO5, TO5.6, c-mount and SM-BT

Our sales and R&D teams have long-standing experience in developing lasers. They will advise you in your design and realization phase as well as after-sales: **We make market leaders!**

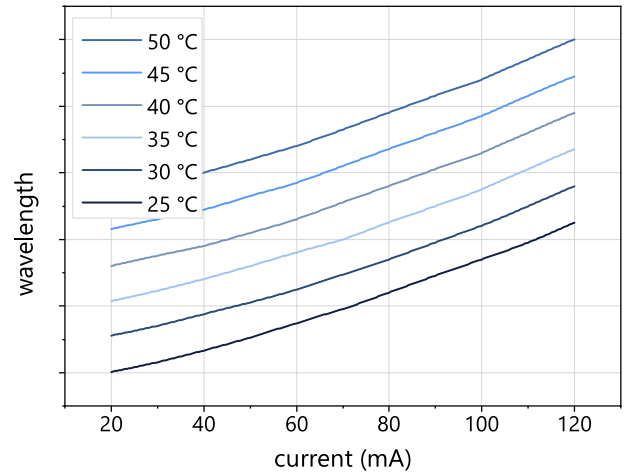


Typical Specifications: Standard DFB Lasers

This data sheet reports typical performance data of **nanoplus Distributed Feedback Lasers**.
Please select your wavelength range below for further specifications.



Typical room temperature cw spectrum of a nanoplus Distributed Feedback Laser



Typical mode-hop-free tuning of a nanoplus Distributed Feedback Laser by current and temperature

The table below outlines major specifications of our Distributed Feedback Lasers. Detailed specifications and packaging options are available on our website at <https://nanoplus.com/products/distributed-feedback-laser>.

Define your center wavelength to 0.1 nm	optical output power P_{op} (mW)*	operating current I_{op} (mA)*	threshold current I_{th} (mA)*	current tuning coefficient C_I (nm/mA)*	temperature tuning coefficient C_T (nm/K)*
760 - 830 nm	5	30	15	0.02	0.05
830 - 920 nm	10	30	20	0.007	0.07
920 - 1100 nm	20	50	20	0.02	0.08
1100 - 1300 nm	20	70	15	0.01	0.09
1300 - 1650 nm	5	70	30	0.02	0.10
1650 - 1850 nm	5	70	35	0.02	0.10
1850 - 2200 nm	3	100	25	0.02	0.20
2200 - 2600 nm	3	100	30	0.02	0.22
2600 - 2900 nm	2	100	50	0.02	0.20
2800 - 4000 nm	10	120	30	0.10	0.35
4000 - 4600 nm	5	120	40	0.12	0.45
4600 - 5300 nm	3	120	40	0.14	0.48
5300 - 5800 nm	1	120	40	0.15	0.5
5800 - 6500 nm	1	120	40	0.15	0.5
7000 - 11000 nm	40	---	450	0.07	0.7

*typical values

