

TOP Wavelengths

DFB: 1742.0 nm

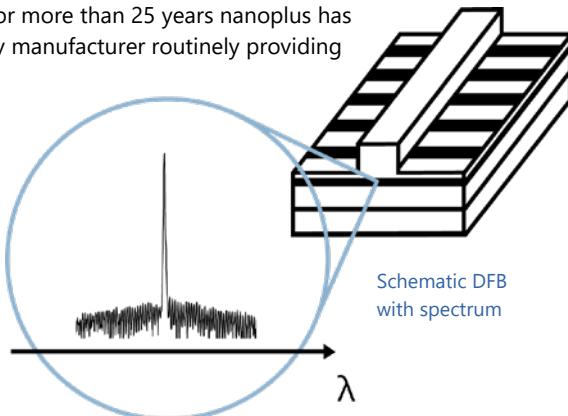
TOP WAVELENGTH

760.8 nm
1278.8 nm
1392.0 nm
1512.2 nm
1560 - 1590 nm
1651 & 1654 nm
1742.0 nm

1854 & 1877 nm
2004.0 nm
2330 & 2334 nm
3240 & 3270 nm
3345 nm HP
3345 & 3375 nm
4524 & 4534 nm
4565 nm HP
5184 & 5263 nm

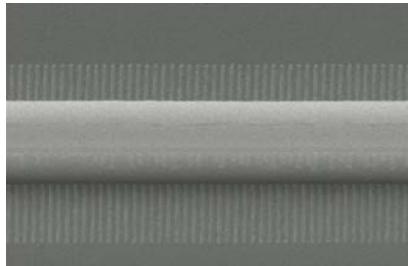


nanoplus Distributed Feedback Lasers (**DFB**) are specifically designed for high-precision gas detection using tunable diode laser absorption spectroscopy (**TDLAS**). Our devices operate **reliably** in more than 100,000 installations worldwide. For more than 25 years nanoplus has set the standard 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

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.

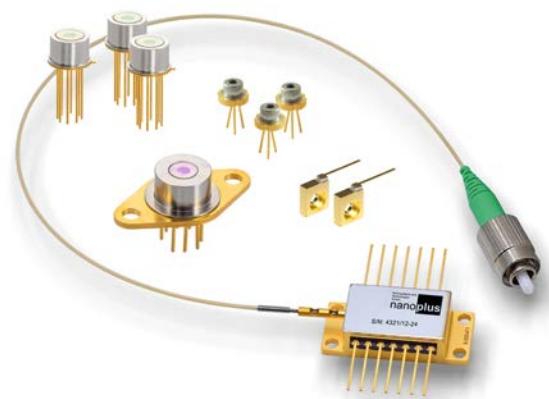
Fast and wide wavelength tuning is required for in situ systems. Most customers use a scan rate of 10 kHz and benefit from our very **large tuning coefficient**.

"Do not change your ideas, let us deliver a 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.

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!



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

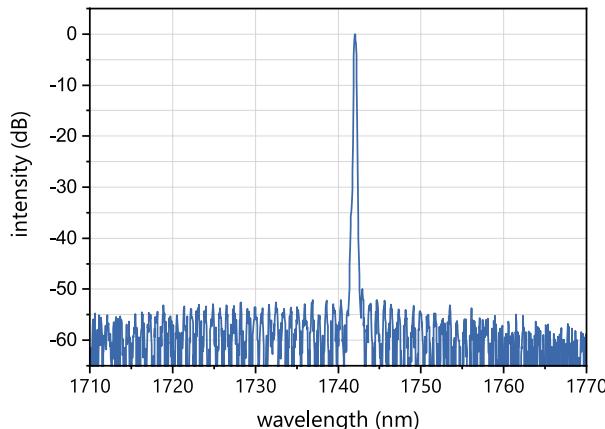
Superior Specifications: 1742.0 nm



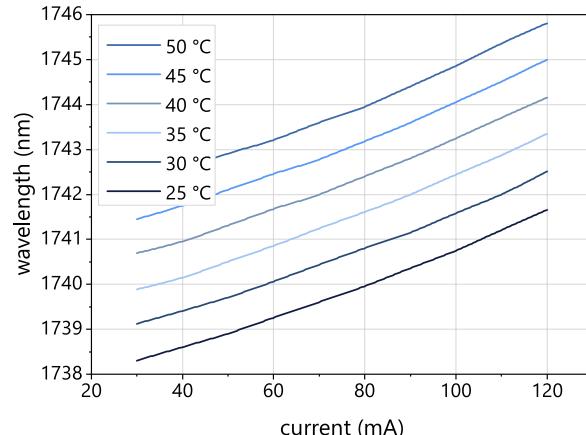
This data sheet reports performance data of a **sample nanoplus DFB laser at 1742.0 nm with enhanced specifications**.

Standard specifications are available at: <http://nanoplus-usa.com/products/dfb-laser>.

These lasers are particularly suitable for hydrogen chloride (HCl) detection.



Typical room temperature cw spectrum of a nanoplus DFB laser at 1742.0 nm



Typical mode hop free tuning of a nanoplus DFB laser at 1742.0 nm by current and temperature

electro-optical characteristics	symbol	unit	min.	typ	max.
operating wavelength (at T_{op} , I_{op})	λ_{op}	nm		1742.0	
optical output power (at λ_{op})	P_{op}	mW		5	
operating current	I_{op}	mA		70	
operating voltage	V_{op}	V		2	
threshold current	I_{th}	mA	10	25	30
side mode suppression ratio	SMSR	dB		> 35	
current tuning coefficient	C_i	nm / mA	0.008	0.02	0.03
temperature tuning coefficient	C_T	nm / K	0.07	0.10	0.14
operating chip temperature	T_{op}	°C	+20	+25	+50
operating case temperature*	T_c	°C	-20	+25	+50
storage temperature*	T_s	°C	-40	+20	+80

* non-condensing

laser packaging options

TO5 with TEC and NTC, black cap, AR coated window

TO56 without TEC or NTC, sealed, window

c-mount without TEC or NTC

butterfly package with TEC and NTC, SM or PM fiber, FC/APC connector

chip on carrier without TEC, with NTC

Technical drawings & accessories are available at: <https://www.nanoplus-usa.com/products/packaging>

Please contact victor.perez@nanoplus.com for customized specifications, quotes and further questions.

Visit the [nanoplus website](http://nanoplus-usa.com) for technical notes, application samples or literature referrals.