Nanosystems and Technologies GmbH
nanoplus

Mid-Infrared LED
(MIR LED)

WAVELENGTH

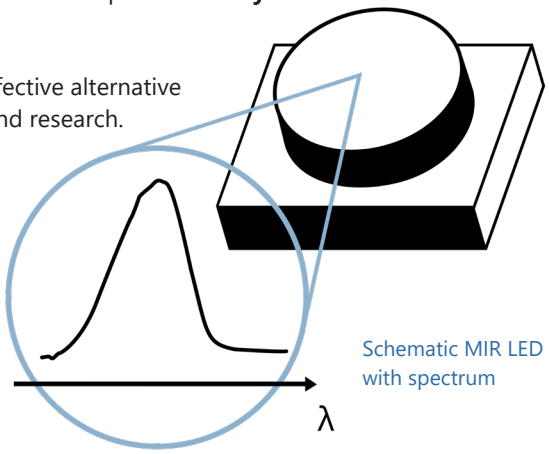
- 2000–2500 nm
- 2800–4000 nm
- 4000–5300 nm
- 5300–6500 nm

TOP WAVELENGTH

- 3400 nm
- 4300 nm
- 5200 nm

nanoplus Mid-Infrared LEDs **(MIR LED)** are specially designed and characterized to fit your requirements. For 25 years, nanoplus has been manufacturing Distributed Feedback and Fabry-Pérot Lasers with excellent performance. Our devices operate **reliably** in more than 50,000 installations worldwide.

nanoplus **MIR LED** are a broadband, incoherent and cost-effective alternative to lasers for e.g. many gas sensing applications in industry and research.



Schematic MIR LED with spectrum

Key features:

- LOW POWER CONSUMPTION
- CW OPERATION
- BROADBAND
- INCOHERENT

Any **custom wavelength** is possible: You tell us what you need and we deliver it. With our outstanding technology we design any wavelength **between 2000 nm and 6500 nm** within a spectral window where your desired emission wavelength reaches at least 95% of the maximum spectral intensity.

nanoplus MIR LED are the perfect light source **for mobile analyzers**, as they **consume little power**.

You can use our MIR LED in **true continuous wave operation** at **room temperature**.

The MIR LED's **output power** of **> 1 mW** leads to a strong signal and increases your measurement precision. Higher output power is available upon request.

We offer **various packaging options,** with or without TEC. You tell us what you need!

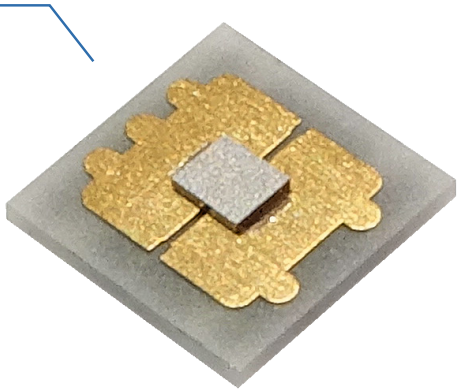
Long-term stability is what our customers really want! Even in **harsh environments** nanoplus devices perform excellently – low maintenance warranted.

"Do not change your ideas, let us deliver the MIR LED that fits your application."

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 whole 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 MIR LED on ceramic submount

REGISTERED COMPANY ISO 9001 14001

ATTENTION OBSERVE PRECAUTION FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES

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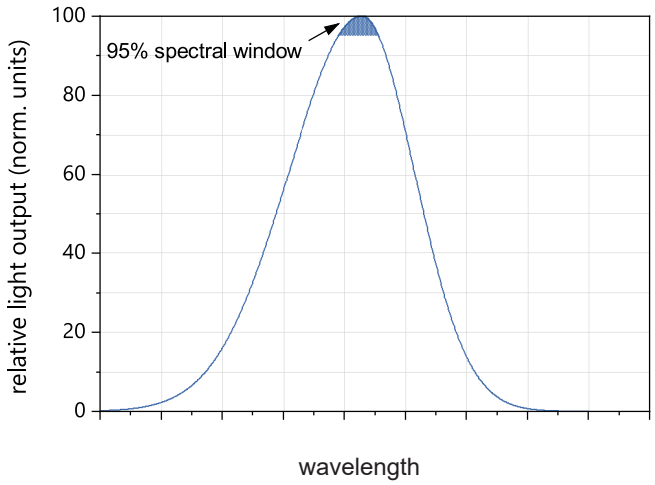
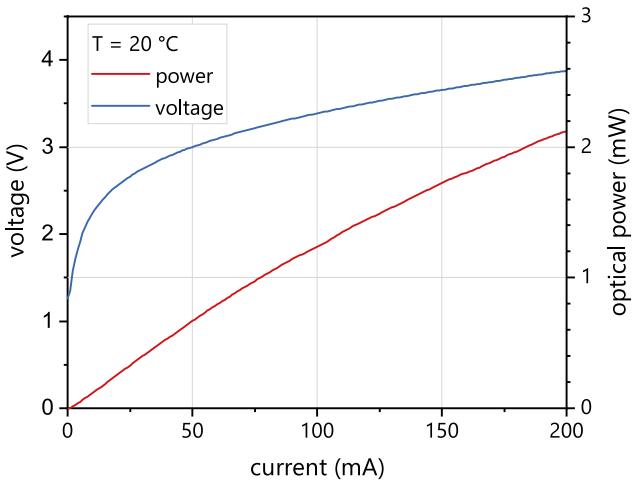
Typical Specifications: Mid-Infrared LED

This data sheet reports performance data of a **nanoplus Mid-Infrared LED.**



Typical room temperature cw spectrum of a nanoplus MIR LED



Typical PI and VI curve of a nanoplus MIR LED

The table below outlines typical major specifications of our Mid-Infrared LED. Detailed specifications and packaging options are available on our website at nanoplus.com/MIRLED.

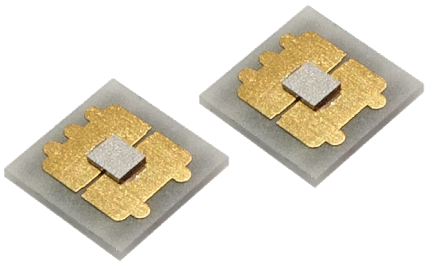
Define your wavelength in the spectral window[1,2]	**typ. spectral band-width (FWHM)** Δ λ (µm)	**optical cw output power P_{op} (mW)**[3]	**operating current I_{op} (mA)**
2000 - 2500 nm	0.17	3	200
2800 - 4000 nm	0.8	3	200
4000 - 5300 nm	1.0	1.5	200
5300 - 6500 nm	1.5	1.5	200

Visit nanoplus.com/MIRLED or scan below QR code to download your datasheet.

SCAN ME

[1] ~ 20 nm peak-change per 10°C temperature-change
[2] spectral window defined as the range where the emission intensity reaches min. 95 % of max. spectral intensity
[3] power dissipation 1W [heatsink required]

Pulsed operation for low power consumption is possible.
Other operating temperatures are available on request.



Please contact sales@nanoplus.com for customized specifications, quotes and further questions.
Visit our website for technical notes, application samples or literature referrals.

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