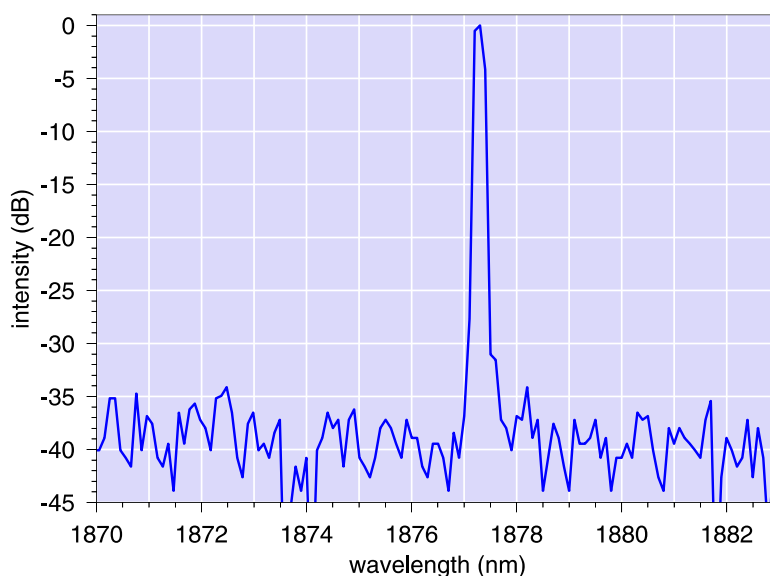


# DFB laser diodes for 1900nm applications

Device protected by US patent no. 6,671,306

## description

nanoplus 1.9  $\mu\text{m}$  DFB laser diodes (in the following a 1877nm device is exemplary presented) show unique device performance to meet the requirements of our customers. Their high side mode suppression ratio (SMSR) and high spectral purity make them perfectly suited for applications like e.g.  $\text{H}_2\text{O}$  spectroscopy. Mode-hop free DFB emission with a high side mode suppression ratio (SMSR) around 35dB is guaranteed for the device in the entire specified temperature and current range of operation.



## specifications

Parameter	Symbol	Unit	min	typical	max
Wavelength		nm	1876	1877	1878
Side mode suppression		db		35	
Optical output power	$P_{\text{opt}}$	mW		3	
Forward current	$I_f$	mA	50	80	100
Threshold current	$I_{\text{th}}$	mA	40	45	55
Beam divergence parallel		deg.	25	30	35
Beam divergence perpendicular		deg.	45	50	60
Slope efficiency	$e$	mW/mA	0.04	0.07	0.13
Current tuning rate	$C_I$	nm/mA	0.01	0.015	0.03
Temperature tuning rate	$C_T$	nm/K	0.1	0.12	0.16

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## ■ absolute maximum ratings

Parameter	Symbol	Unit	Rating
LD forward current	$I_f$	mA	100
Operating temperature	$T_{op}$	deg C	-20-50
Storage temperature	$T_{store}$	deg C	-20-85

## ■ applications

- moisture sensing

## ■ packaging

nanoplus offers a wide variety of different packaging options for their FP and DFB laser diodes in the entire wavelength range, including all standardized TO headers (e.g. TO 5.6 mm, TO 9 mm, TO 8) with or without Peltier cooler. Please refer to our *packaging datasheet* for more information.

Other customized packages (e.g. mounting on customer specific submounts) are available upon request. Please do not hesitate to contact us for further details.

