Nanosystems and Technologies GmbH
nanoplus

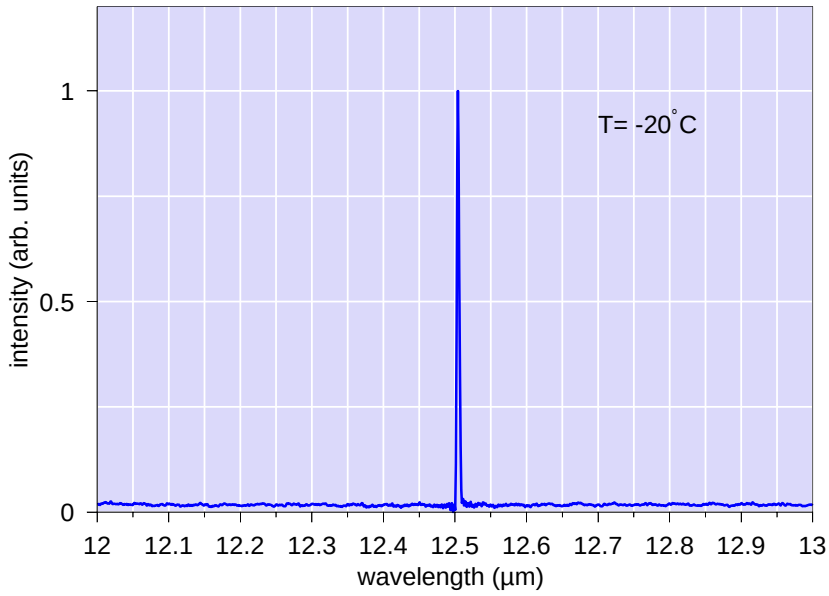
Rev. 040705.V1

DFB Quantum Cascade Lasers in the 12.5 µm region

datasheet

description

nanoplus 12.5 µm DFB quantum cascade lasers show unique device performance to meet the requirements of our customers. Their high side mode supression ratio (SMSR) and high spectral purity make them perfectly suited for aplplications like e.g. gas sensing. The devices work in pulsed mode at operation temperatures up to 250 K.



specifications *

Parameter	Symbol	Unit	min	typical	max
Wavelength	λ	µm		12.5	
Optical output power	P_{opt}	mW	1	2	3
Forward current	I_f	A	4.5	5	5.5
Threshold current	I_{th}	A	4	4.5	5
Beam divergence parallel		deg.	35	40	45
Beam divergence perpendicular		deg.	55	60	65
Emitting area	WxH	µm		8x20	
Slope efficiency	e	mW/A	0.7	1	1.5
Temperature tuning rate	C_T	nm/K	0.4	0.5	0.6
Pulswidth	Dt	ns		100	150
Rep. Rate	f	kHz		3	10

*) preliminary data

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datasheet

absolute maximum ratings

Parameter	Symbol	Unit	Rating
LD forward current	I_f	A	7
Operating temperature	T_{op}	K	<260
Storage temperature	T_{store}	K	0 to 370

applications

- trace gas sensing

packaging

nanoplus offers a wide variety of different packaging options for their FP and DFB laser diodes in the entire wavelength range, including C-mount or TO 8 header 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.

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