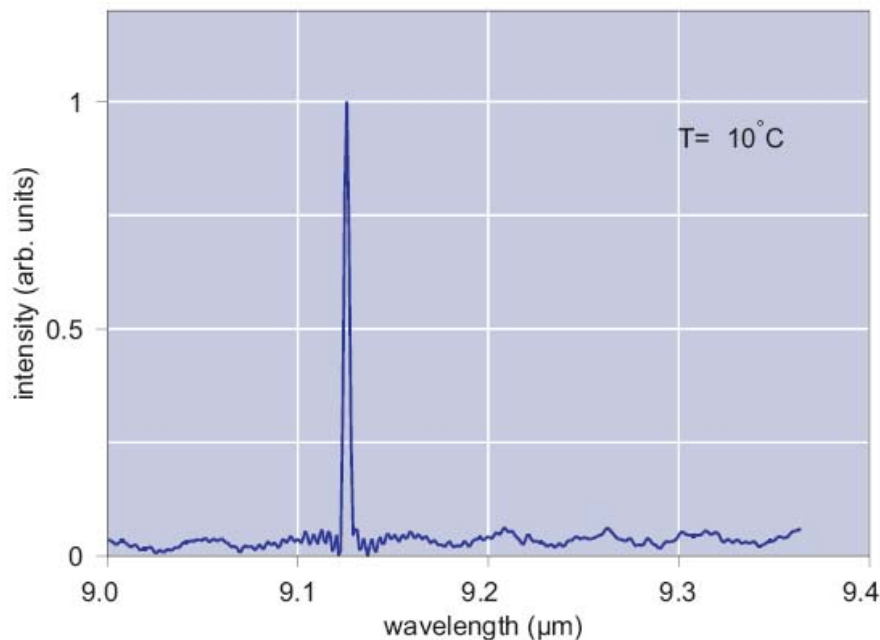




## DFB Quantum Cascade Lasers in the 9.12 $\mu\text{m}$ region

### description

Our 9.1  $\mu\text{m}$  DFB quantum cascade lasers 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. CO sensing. The devices work in pulsed mode at operation temperatures up to 280 K.



### specifications \*

Parameter	Symbol	Unit	min	typical	max
Wavelength	$\lambda$	$\mu\text{m}$		9.12	
Optical output power	$P_{\text{opt}}$	mW	10		100
Forward current	$I_f$	A	6	6.7	8
Threshold current	$I_{\text{th}}$	A	5.5	6	6.5
Beam divergence parallel		deg.	35	40	45
Beam divergence perpendicular		deg.	55	60	65
Emitting area	$W \times H$	$\mu\text{m}$		8x20	
Slope efficiency	$e$	mW/A	0.04	0.06	0.08
Temperature tuning rate	$C_T$	nm/K	0.4	0.5	0.6
Pulswidth	$Dt$	ns		100	150
Rep. Rate	$f$	kHz		3	10



## ■ absolute maximum ratings

Parameter	Symbol	Unit	Rating
LD forward current	$I_f$	A	8
Operating temperature	$T_{op}$	K	<280
Storage temperature	$T_{store}$	K	0 to 370

## ■ applications

! trace gas sensing of CO<sub>2</sub>

## ■ packaging

We offer a wide variety of different packaging options for our 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.

