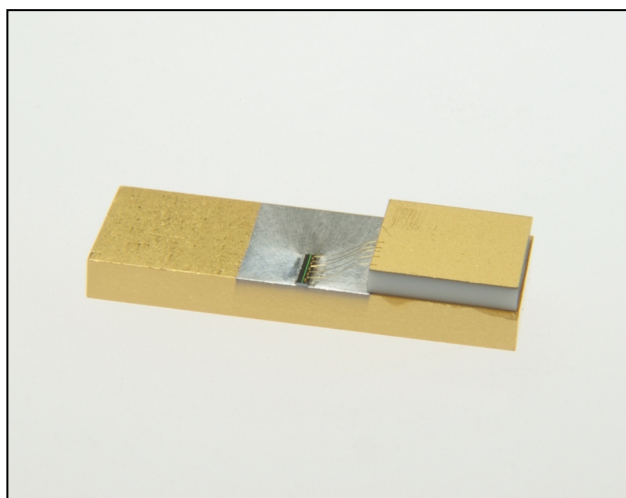


FEATURES

- Pulsed mode operation at room temperature
- DFB single mode (Narrow line width)
- CW operation at 77K

APPLICATIONS

- Precise Analysis of tonic gas
- Environmental monitoring
- Breath analysis



L10195-01 (7.7 μm DFB)

ELECTRICAL AND OPTICAL CHARACTERISTICS

Parameter	Symbol	Operating Temperature	Condition	Min.	Typ.	Max.	Unit
Pulsed Radiant Power	Φ_{ep}	-20 to +20 °C	$I_{fp}=2.5 \text{ A}$	10	15	25	mW
Peak Emission Wavelength	λ_p	-20 to +20 °C	$I_{fp}=I_{th}$	7710	7760	7780	nm
Spectral Radiation Bandwidth	$\Delta\lambda$	-20 to +20 °C	$I_{fp}=I_{th}$	-	-	0.02	nm
Forward Voltage	V_f	-20 to +20 °C	$I_{fp}=2.5 \text{ A}$	8.0	10.5	14.5	V
Lasing Threshold Current	I_{th}	-20 to +20 °C		1.7	2.1	2.8	A
Beam Spread Angle (Full angle)	: Parallel	$\theta_{//}$	-	-	30	-	degree
	: Vertical	θ_{\perp}	-	-	60	-	degree
Emitting Area Size	-	-	-	-	7 X 1.2	-	μm

Note: General operating condition

Pulse Width < 50 ns, Repetition Rate < 10 kHz

L10195-02 (5.2 μm DFB)

ELECTRICAL AND OPTICAL CHARACTERISTICS

Parameter	Symbol	Operating Temperature	Condition	Min.	Typ.	Max.	Unit
Pulsed Radiant Power	Φ_{ep}	-20 to +20 °C	$I_{fp}=2.0 \text{ A}$	10	15	25	mW
Peak Emission Wavelength	λ_p	-20 to +20 °C	$I_{fp}=I_{th}$	5255	5263	5271	nm
Spectral Radiation Bandwidth	$\Delta\lambda$	-20 to +20 °C	$I_{fp}=I_{th}$	-	-	0.02	nm
Forward Voltage	V_f	-20 to +20 °C	$I_{fp}=2.0 \text{ A}$	6.5	7.2	10.0	V
Lasing Threshold Current	I_{th}	-20 to +20 °C		0.8	1.5	2.5	A
Beam Spread Angle (Full angle)	: Parallel	$\theta_{//}$	-	-	30	-	degree
	: Vertical	θ_{\perp}	-	-	60	-	degree
Emitting Area Size	-	-	-	-	7 X 1.2	-	μm

Note: General operating condition

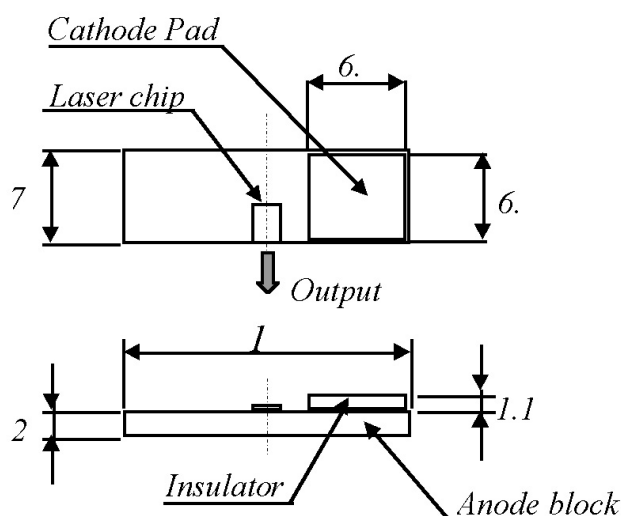
Pulse Width < 50 ns, Repetition Rate < 10 kHz

DFB QUANTUM CASCADE LASER L10195 SERIES

■ ABSOLUTE MAXIMUM RATINGS (Both of L10195-01 and -02)

Parameter	Symbol	Value	Unit
Pulsed Forward Current	I_{fp}	3.0	A
Pulsed Radiant Output Power	Φ_{ep}	80	mW
Pulse Duration (FWHM)	t_w	250	ns
Duty Ratio	DR	20	%
Operating Temperature	T_{op}	-30 to +30	°C
Storage Temperature	T_{stg}	-40 to +60	°C

Figure 1: Dimensional Outline (Unit: mm)



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HAMAMATSU PHOTONICS K.K., Laser Group, Sales Dept.

5000, Hirakuchi, Hamamatsu City, Shizuoka, 434-8601, Japan, Telephone: (81)53-584-0227, Fax: (81)53-584-0228, E-mail: laser-g@lsr.hpj.co.jp

U.S.A.: Hamamatsu Corporation, 360 Foothill Road, P.O. BOX 6910, Bridgewater, N.J. 08807-0910, U.S.A. Telephone: (1)908-231-0960, Fax: (1)908-231-1218 E-mail: usa@hamamatsu.com

Germany: Hamamatsu Photonics Deutschland GmbH, Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49)8152-375-0, Fax: (49)8152-2658, E-mail: info@hamamatsu.de

France: Hamamatsu Photonics France S.A.R.L.: 8, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: 33(1) 69 53 71 00, Fax: 33(1) 69 53 71 10, E-mail: infos@hamamatsu.fr

United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire AL7 1BW, United Kingdom, Telephone: (44)1707-294888, Fax: (44)1707-325777, E-mail: info@hamamatsu.co.uk

North Europe: Hamamatsu Photonics Norden AB: Smidesv gen 12, SE-171-41 Solna, Sweden, Telephone: (46)8-509-031-00, Fax: (46)8-509-031-01, E-mail: info@hamamatsu.se

Italy: Hamamatsu Photonics Italia S.R.L.: Strada della Moia, 1/E, 20020 Arese, (Milano), Italy, Telephone: (39)02-935 81 733, Fax: (39)02-935 81 741, E-mail: info@hamamatsu.it

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