

Datasheet for #sbcw20687 DN

Recommendations:

Please read the User Manual and have a look at the FAQ at <http://www.alpeslasers.ch/?a=142>

WARNING: Operating the laser with higher current or voltage than specified in this document may cause damage and will result in loss of warranty, unless Alpes Lasers has permitted to do so!

WARNING: Beware of the polarity of the laser. This laser has to be powered with negative bias and positive bias on the specific zones drawn below. To be used with a high compliance CW laser driver capable of reaching the operating current and voltage indicated in this datasheet, or up to 2.5A/20V.



Figure 1: Mechanical and electrical interface for #sbcw20687 DN (please note that AlN submount numbering is A0NC7)

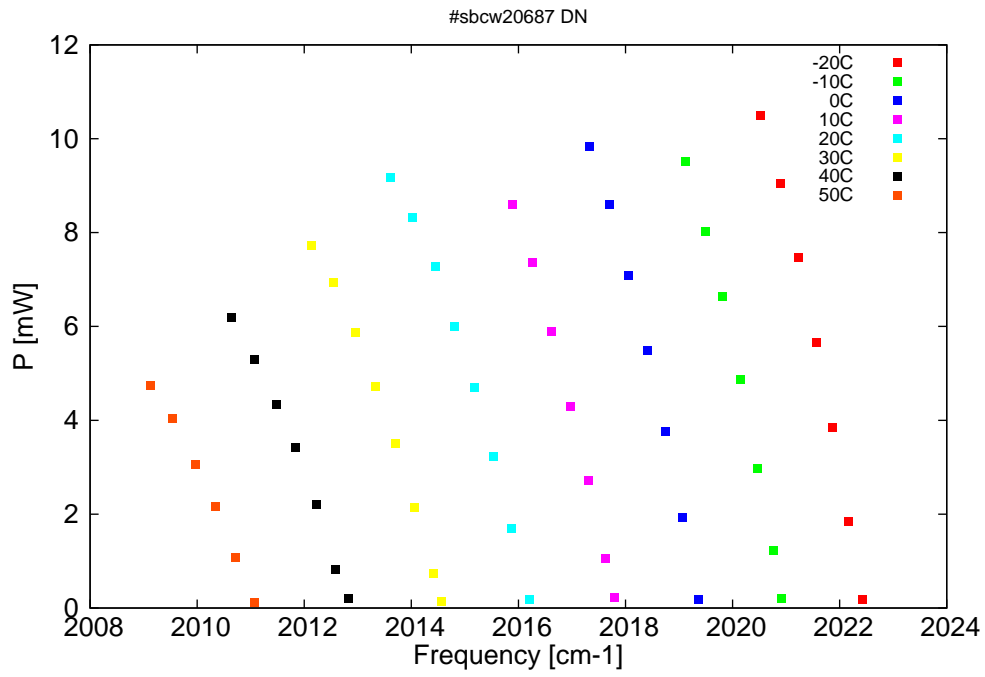


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

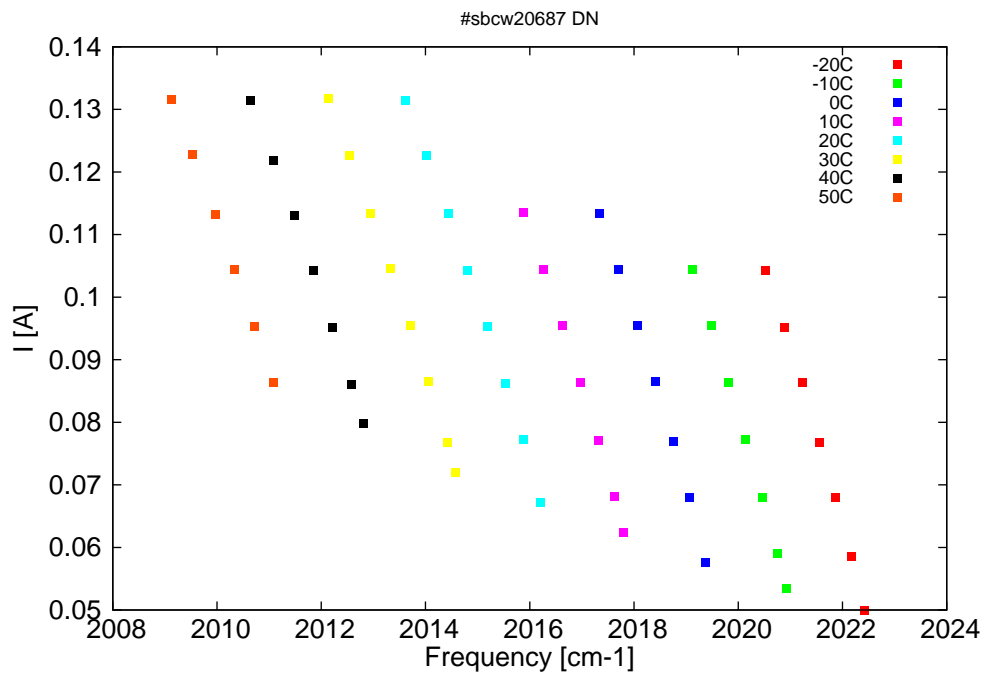


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4944.6	2022.4	0.2	-20	11.84	0.05
4945.2	2022.2	1.8	-20	12.15	0.059
4945.9	2021.9	3.9	-20	12.49	0.068
4946.7	2021.6	5.7	-20	12.8	0.077
4947.5	2021.2	7.5	-20	13.14	0.086
4948.3	2020.9	9.1	-20	13.45	0.095
4949.2	2020.5	10.5	-20	13.8	0.104
4948.2	2020.9	0.2	-10	11.77	0.053
4948.6	2020.8	1.2	-10	11.96	0.059
4949.4	2020.5	3	-10	12.27	0.068
4950.1	2020.1	4.9	-10	12.58	0.077
4950.9	2019.8	6.6	-10	12.89	0.086
4951.7	2019.5	8	-10	13.18	0.095
4952.7	2019.1	9.5	-10	13.49	0.104
4952	2019.4	0.2	0	11.74	0.058
4952.8	2019.1	1.9	0	12.08	0.068
4953.6	2018.8	3.8	0	12.36	0.077
4954.4	2018.4	5.5	0	12.66	0.086
4955.2	2018.1	7.1	0	12.94	0.095
4956.1	2017.7	8.6	0	13.23	0.104
4957	2017.3	9.8	0	13.52	0.113
4955.9	2017.8	0.2	10	11.74	0.062
4956.3	2017.6	1.1	10	11.91	0.068
4957.1	2017.3	2.7	10	12.19	0.077
4957.9	2017	4.3	10	12.47	0.086
4958.8	2016.6	5.9	10	12.74	0.095
4959.7	2016.3	7.4	10	13.01	0.104
4960.6	2015.9	8.6	10	13.28	0.113
4959.8	2016.2	0.2	20	11.75	0.067
4960.6	2015.9	1.7	20	12.04	0.077
4961.5	2015.5	3.2	20	12.31	0.086
4962.3	2015.2	4.7	20	12.56	0.095
4963.2	2014.8	6	20	12.83	0.104
4964.2	2014.4	7.3	20	13.09	0.113
4965.2	2014	8.3	20	13.35	0.123
4966.2	2013.6	9.2	20	13.62	0.131
4963.8	2014.6	0.1	30	11.78	0.072
4964.2	2014.4	0.7	30	11.91	0.077
4965.1	2014.1	2.1	30	12.17	0.087
4966	2013.7	3.5	30	12.42	0.095
4966.9	2013.3	4.7	30	12.66	0.105
4967.8	2012.9	5.9	30	12.91	0.113
4968.8	2012.5	6.9	30	13.17	0.123
4969.8	2012.1	7.7	30	13.41	0.132
4968.2	2012.8	0.2	40	11.88	0.08
4968.7	2012.6	0.8	40	12.03	0.086
4969.6	2012.2	2.2	40	12.27	0.095
4970.6	2011.8	3.4	40	12.51	0.104
4971.5	2011.5	4.3	40	12.74	0.113

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λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4972.5	2011.1	5.3	40	12.97	0.122
4973.5	2010.6	6.2	40	13.22	0.131
4972.5	2011.1	0.1	50	11.94	0.086
4973.4	2010.7	1.1	50	12.16	0.095
4974.3	2010.3	2.2	50	12.39	0.104
4975.2	2010	3.1	50	12.6	0.113
4976.3	2009.5	4	50	12.85	0.123
4977.3	2009.1	4.7	50	13.06	0.132

Table 1: Singlemode optical output power as function of operating parameters.

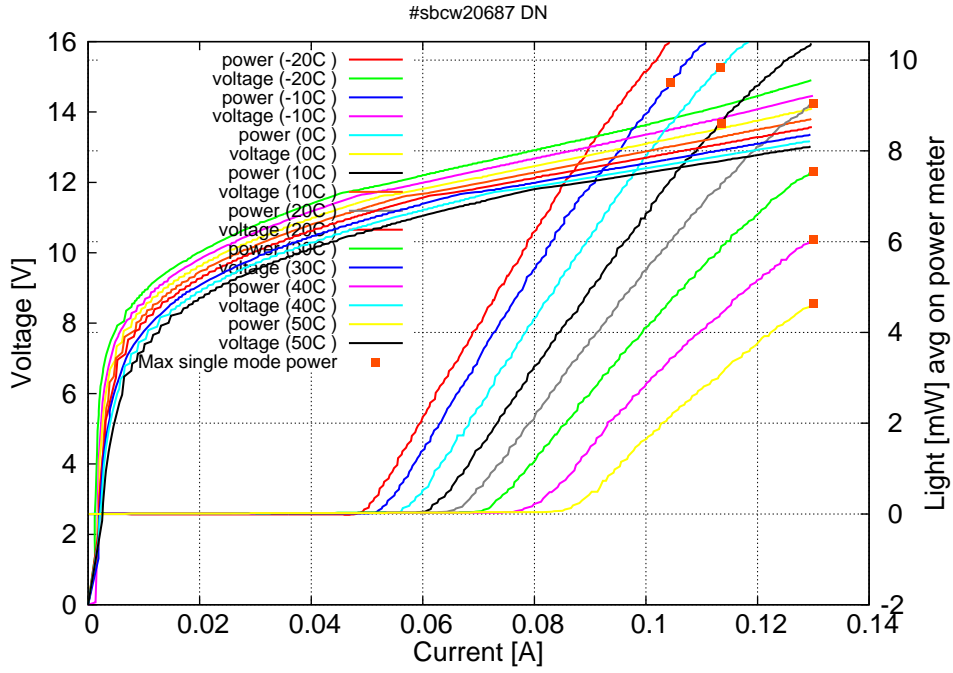


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.05A$ / $V_{th}=11.8V$ (2-wires measurements). Maximum operation current: 0.105A between -20C and -10C, 0.115A between 0C and 10C, 0.13A between 20C and 50C.

Figure 3: spectra at different temperatures for various DC currents

