

Datasheet for #sbcw20686 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 #sbcw20686 DN (please note that AlN submount numbering is A0P3M)

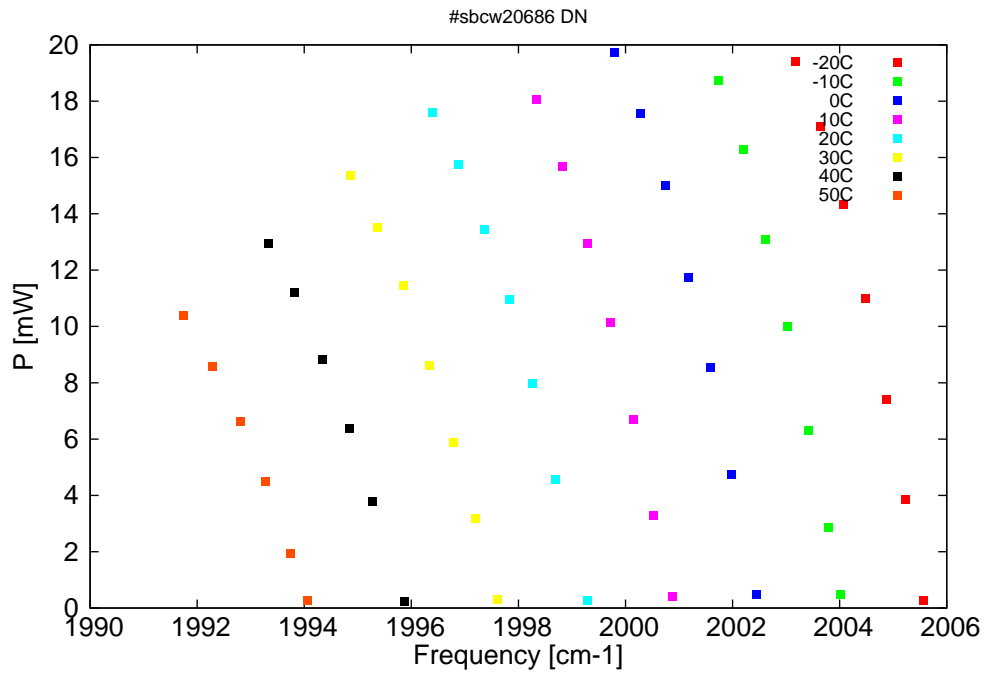


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

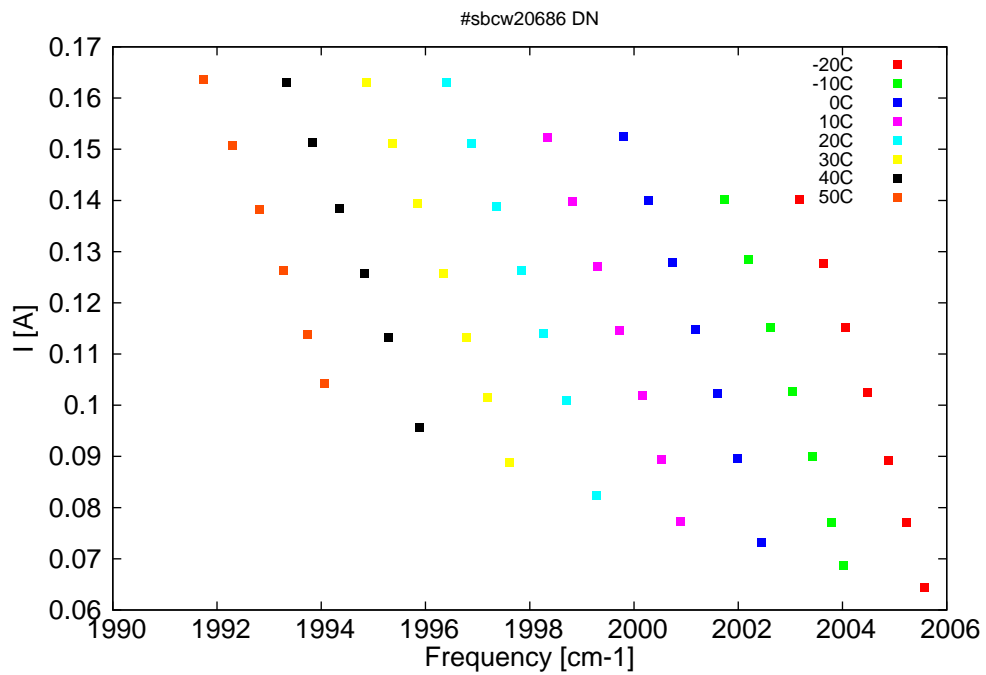


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4986.1	2005.6	0.3	-20	11.33	0.064
4987	2005.2	3.9	-20	11.66	0.077
4987.8	2004.9	7.4	-20	11.97	0.089
4988.8	2004.5	11	-20	12.28	0.102
4989.9	2004.1	14.3	-20	12.59	0.115
4990.9	2003.6	17.1	-20	12.89	0.128
4992.1	2003.2	19.4	-20	13.2	0.14
4990	2004	0.5	-10	11.27	0.069
4990.5	2003.8	2.9	-10	11.47	0.077
4991.5	2003.4	6.3	-10	11.78	0.09
4992.4	2003	10	-10	12.08	0.103
4993.5	2002.6	13.1	-10	12.37	0.115
4994.5	2002.2	16.3	-10	12.65	0.128
4995.7	2001.7	18.7	-10	12.94	0.14
4993.9	2002.5	0.5	0	11.22	0.073
4995	2002	4.8	0	11.59	0.09
4996	2001.6	8.6	0	11.88	0.102
4997.1	2001.2	11.7	0	12.15	0.115
4998.1	2000.7	15	0	12.43	0.128
4999.3	2000.3	17.5	0	12.7	0.14
5000.5	1999.8	19.7	0	12.98	0.152
4997.8	2000.9	0.4	10	11.18	0.077
4998.7	2000.5	3.3	10	11.45	0.089
4999.6	2000.2	6.7	10	11.72	0.102
5000.7	1999.7	10.1	10	11.99	0.115
5001.8	1999.3	13	10	12.24	0.127
5002.9	1998.8	15.7	10	12.51	0.14
5004.2	1998.3	18.1	10	12.77	0.152
5001.8	1999.3	0.3	20	11.15	0.082
5003.3	1998.7	4.6	20	11.54	0.101
5004.3	1998.3	8	20	11.81	0.114
5005.4	1997.8	11	20	12.06	0.126
5006.6	1997.4	13.5	20	12.3	0.139
5007.8	1996.9	15.7	20	12.55	0.151
5009	1996.4	17.6	20	12.8	0.163
5006	1997.6	0.3	30	11.17	0.089
5007	1997.2	3.2	30	11.43	0.101
5008	1996.8	5.9	30	11.67	0.113
5009.2	1996.3	8.6	30	11.91	0.126
5010.4	1995.8	11.4	30	12.17	0.139
5011.6	1995.4	13.5	30	12.4	0.151
5012.9	1994.9	15.4	30	12.64	0.163
5010.3	1995.9	0.2	40	11.21	0.096
5011.8	1995.3	3.8	40	11.55	0.113
5012.9	1994.8	6.4	40	11.79	0.126
5014.2	1994.3	8.8	40	12.03	0.138
5015.5	1993.8	11.2	40	12.28	0.151
5016.7	1993.3	12.9	40	12.5	0.163
5014.9	1994.1	0.3	50	11.29	0.104

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λ [nm]	ν [cm^{-1}]	P[mW]	Temp[$^{\circ}\text{C}$]	U_{LASER} [V]	I[A]
5015.7	1993.7	1.9	50	11.47	0.114
5016.8	1993.3	4.5	50	11.7	0.126
5018	1992.8	6.6	50	11.92	0.138
5019.3	1992.3	8.6	50	12.15	0.151
5020.7	1991.7	10.4	50	12.39	0.164

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

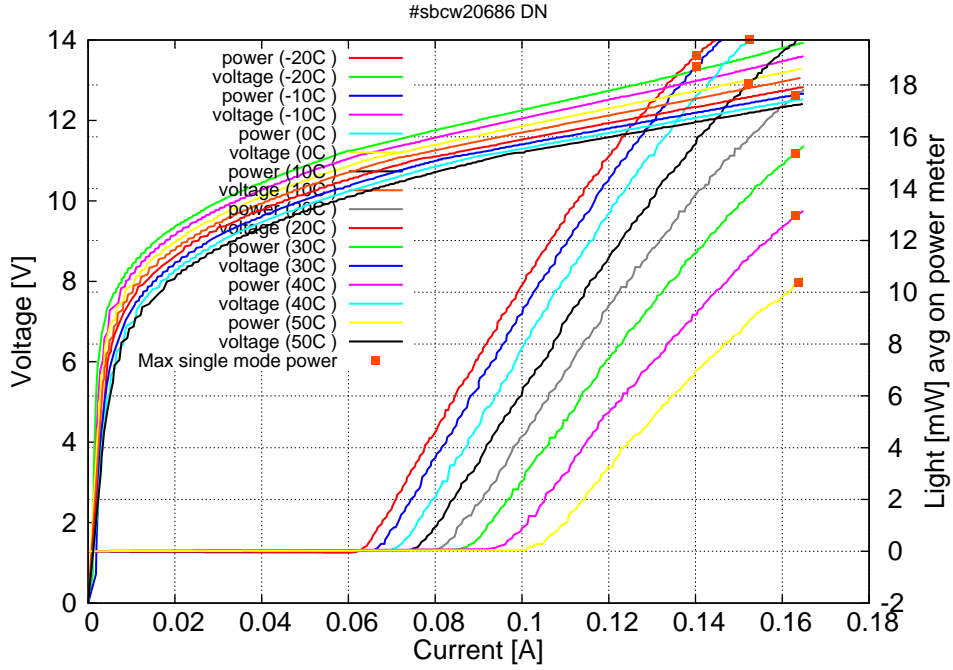


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.06\text{A}$ / $V_{th}=11.3\text{V}$ (2-wires measurements). Maximum operation current: 0.145A between -20C and -10C, 0.155A between 0C and 10C, 0.165A between 20C and 50C.

Figure 3: spectra at different temperatures for various DC currents

