

Datasheet for #sbcw20685 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 #sbcw20685 DN (please note that AlN submount numbering is A0NCR)

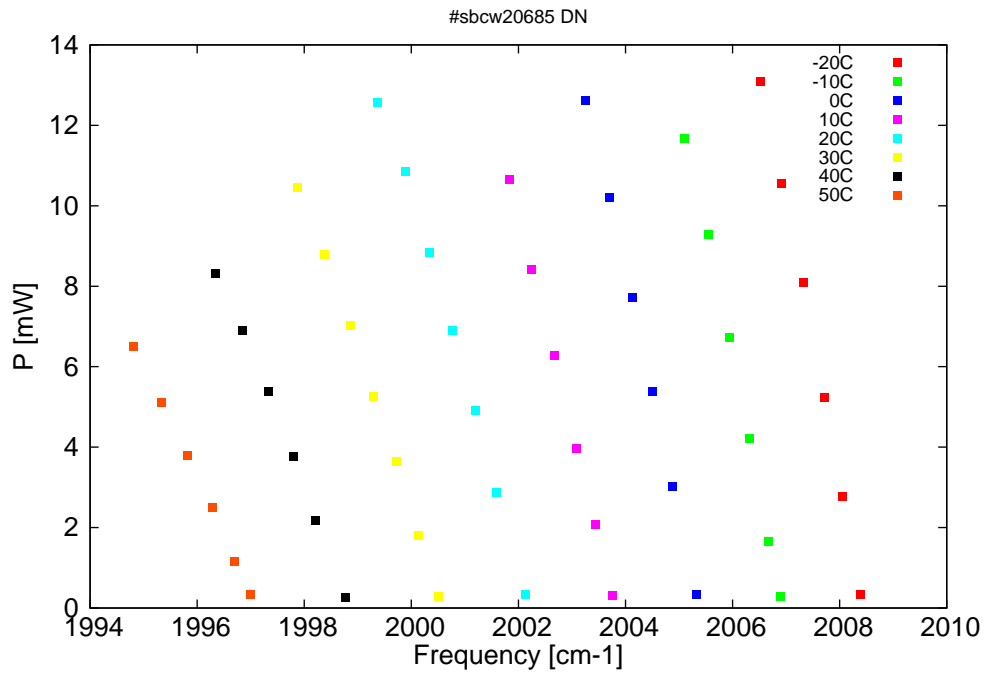


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

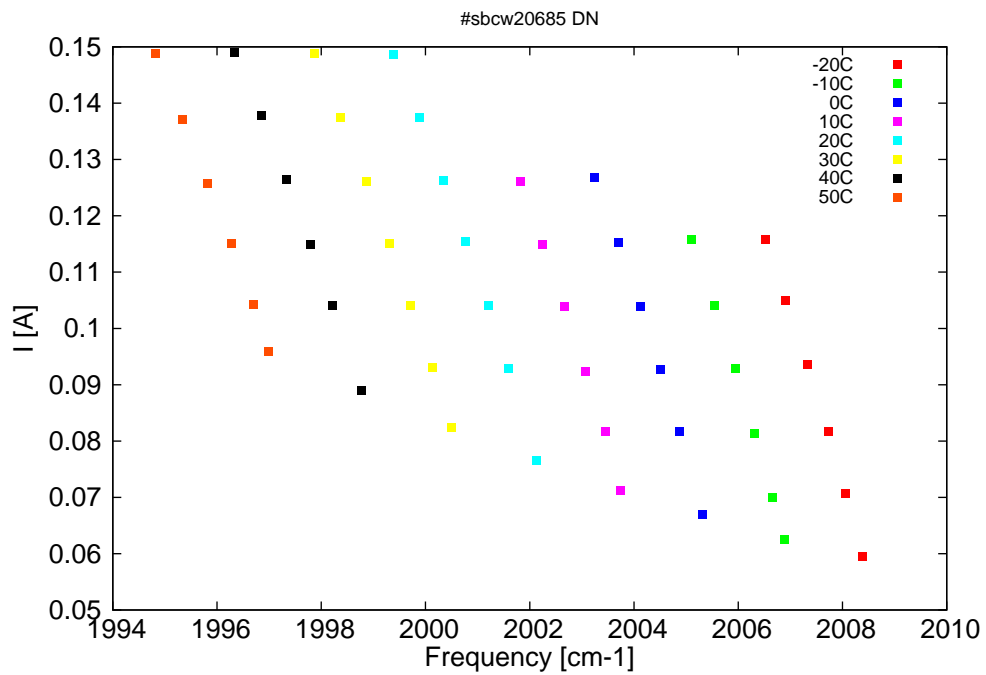


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4979.1	2008.4	0.3	-20	11.53	0.059
4979.9	2008.1	2.8	-20	11.87	0.071
4980.8	2007.7	5.2	-20	12.2	0.082
4981.8	2007.3	8.1	-20	12.55	0.094
4982.8	2006.9	10.5	-20	12.88	0.105
4983.8	2006.5	13.1	-20	13.19	0.116
4982.8	2006.9	0.3	-10	11.39	0.063
4983.4	2006.7	1.7	-10	11.61	0.07
4984.3	2006.3	4.2	-10	11.94	0.081
4985.2	2005.9	6.7	-10	12.25	0.093
4986.2	2005.6	9.3	-10	12.55	0.104
4987.3	2005.1	11.7	-10	12.87	0.116
4986.7	2005.3	0.3	0	11.36	0.067
4987.8	2004.9	3	0	11.75	0.082
4988.8	2004.5	5.4	0	12.04	0.093
4989.7	2004.1	7.7	0	12.33	0.104
4990.8	2003.7	10.2	0	12.61	0.115
4991.9	2003.2	12.6	0	12.91	0.127
4990.6	2003.8	0.3	10	11.32	0.071
4991.4	2003.4	2.1	10	11.59	0.082
4992.3	2003.1	4	10	11.86	0.092
4993.3	2002.7	6.3	10	12.15	0.104
4994.4	2002.3	8.4	10	12.41	0.115
4995.4	2001.8	10.6	10	12.68	0.126
4994.7	2002.1	0.3	20	11.33	0.077
4996	2001.6	2.9	20	11.72	0.093
4997	2001.2	4.9	20	11.99	0.104
4998.1	2000.8	6.9	20	12.25	0.115
4999.1	2000.3	8.8	20	12.51	0.126
5000.3	1999.9	10.9	20	12.76	0.138
5001.6	1999.4	12.6	20	13.04	0.149
4998.8	2000.5	0.3	30	11.35	0.082
4999.7	2000.1	1.8	30	11.6	0.093
5000.7	1999.7	3.6	30	11.85	0.104
5001.8	1999.3	5.3	30	12.09	0.115
5002.9	1998.9	7	30	12.34	0.126
5004.1	1998.4	8.8	30	12.6	0.138
5005.3	1997.9	10.4	30	12.86	0.149
5003.1	1998.8	0.3	40	11.39	0.089
5004.5	1998.2	2.2	40	11.73	0.104
5005.5	1997.8	3.8	40	11.96	0.115
5006.7	1997.3	5.4	40	12.21	0.127
5007.9	1996.8	6.9	40	12.45	0.138
5009.2	1996.3	8.3	40	12.7	0.149
5007.5	1997	0.3	50	11.44	0.096
5008.3	1996.7	1.2	50	11.62	0.104
5009.3	1996.3	2.5	50	11.85	0.115
5010.5	1995.8	3.8	50	12.07	0.126
5011.7	1995.3	5.1	50	12.31	0.137

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λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
5013	1994.8	6.5	50	12.55	0.149

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

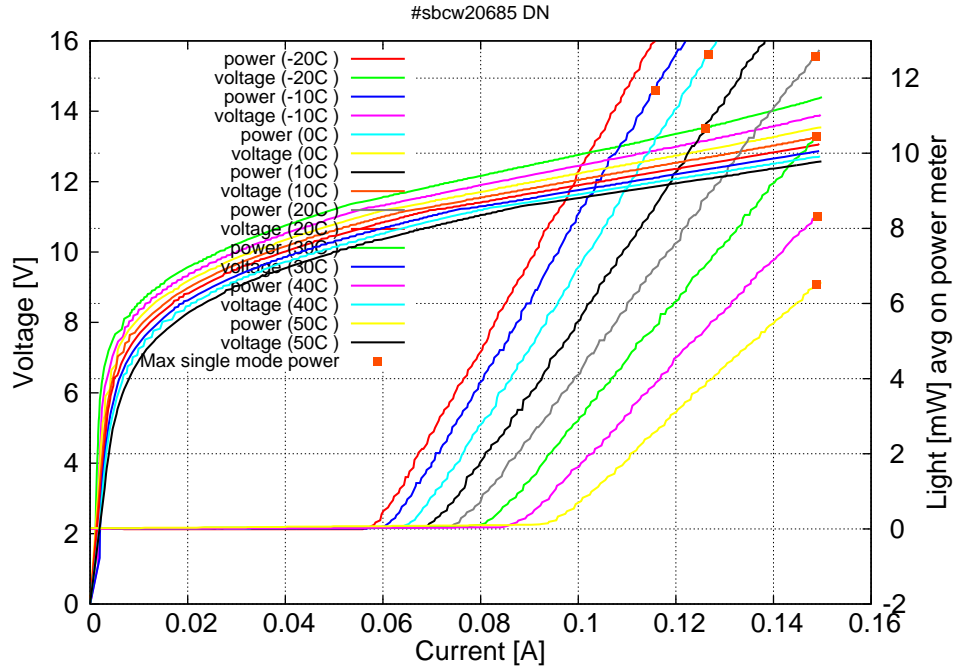


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.059A$ / $V_{th}=11.5V$ (2-wires measurements). Maximum operation current: 0.12A between -20C and -10C, 0.13A between 0C and 10C, 0.15A between 20C and 50C.

Figure 3: spectra at different temperatures for various DC currents

