

Datasheet for #sbcw20399 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 #sbcw20399 DN (please note that AlN submount numbering is A0P65)

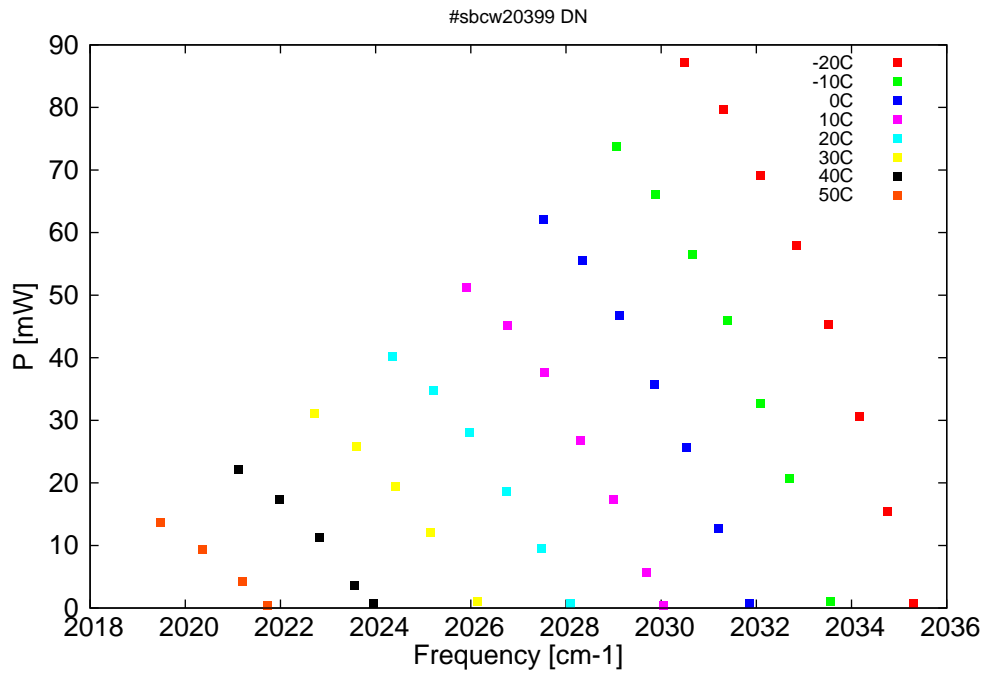


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

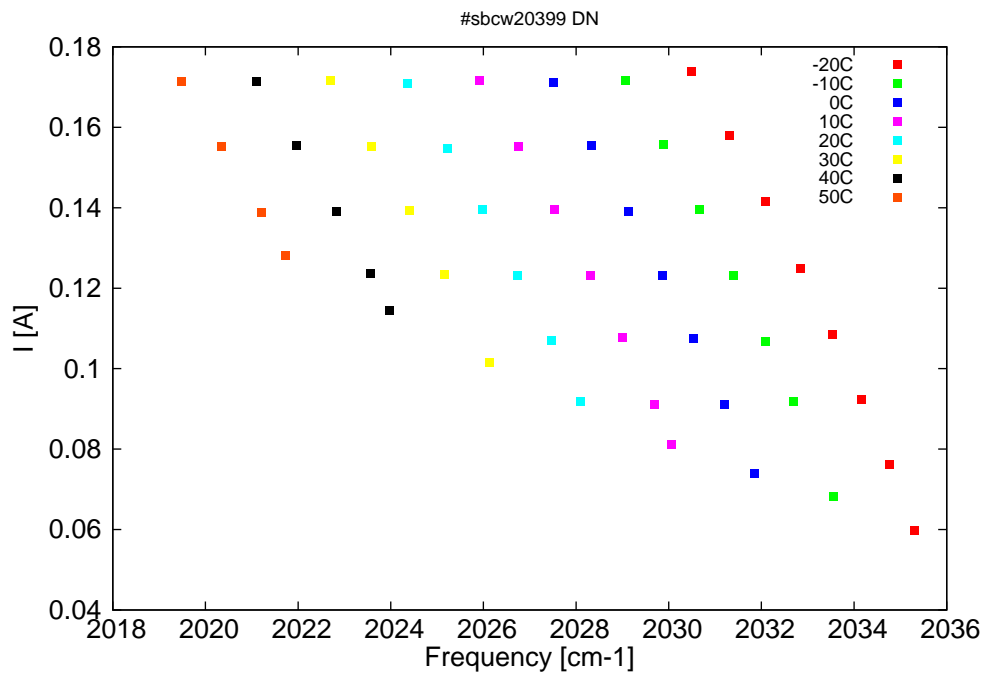


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4913.3	2035.3	0.7	-20	12.77	0.06
4914.6	2034.8	15.4	-20	13.2	0.076
4916	2034.2	30.6	-20	13.61	0.092
4917.6	2033.5	45.3	-20	13.99	0.109
4919.2	2032.8	58	-20	14.36	0.125
4921	2032.1	69.2	-20	14.7	0.142
4922.9	2031.3	79.7	-20	15.01	0.158
4924.9	2030.5	87.3	-20	15.31	0.174
4917.5	2033.6	1	-10	12.76	0.068
4919.6	2032.7	20.6	-10	13.37	0.092
4921	2032.1	32.7	-10	13.73	0.107
4922.7	2031.4	45.9	-10	14.08	0.123
4924.5	2030.7	56.6	-10	14.42	0.139
4926.4	2029.9	66.1	-10	14.73	0.156
4928.4	2029.1	73.7	-10	15.01	0.172
4921.6	2031.8	0.7	0	12.76	0.074
4923.2	2031.2	12.8	0	13.17	0.091
4924.8	2030.5	25.6	0	13.53	0.108
4926.4	2029.9	35.7	0	13.86	0.123
4928.2	2029.1	46.7	0	14.17	0.139
4930.1	2028.3	55.5	0	14.47	0.156
4932.1	2027.5	62.1	0	14.75	0.171
4926	2030.1	0.4	10	12.76	0.081
4926.9	2029.7	5.6	10	12.98	0.091
4928.5	2029	17.3	10	13.33	0.108
4930.2	2028.3	26.7	10	13.65	0.123
4932.1	2027.5	37.6	10	13.96	0.14
4934	2026.8	45.1	10	14.24	0.155
4936.1	2025.9	51.3	10	14.51	0.172
4930.7	2028.1	0.8	20	12.83	0.092
4932.2	2027.5	9.5	20	13.14	0.107
4934	2026.7	18.7	20	13.46	0.123
4935.9	2026	28.1	20	13.75	0.139
4937.7	2025.2	34.8	20	14.02	0.155
4939.8	2024.4	40.2	20	14.28	0.171
4935.5	2026.1	1	30	12.87	0.102
4937.9	2025.2	12.2	30	13.28	0.124
4939.7	2024.4	19.4	30	13.56	0.139
4941.7	2023.6	25.9	30	13.83	0.155
4943.9	2022.7	31.1	30	14.09	0.172
4940.8	2024	0.8	40	12.94	0.114
4941.8	2023.6	3.5	40	13.1	0.124
4943.6	2022.8	11.3	40	13.35	0.139
4945.7	2022	17.4	40	13.62	0.155
4947.8	2021.1	22.1	40	13.86	0.172
4946.3	2021.7	0.4	50	13	0.128
4947.5	2021.2	4.2	50	13.16	0.139
4949.6	2020.4	9.3	50	13.42	0.155
4951.8	2019.5	13.6	50	13.65	0.171

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

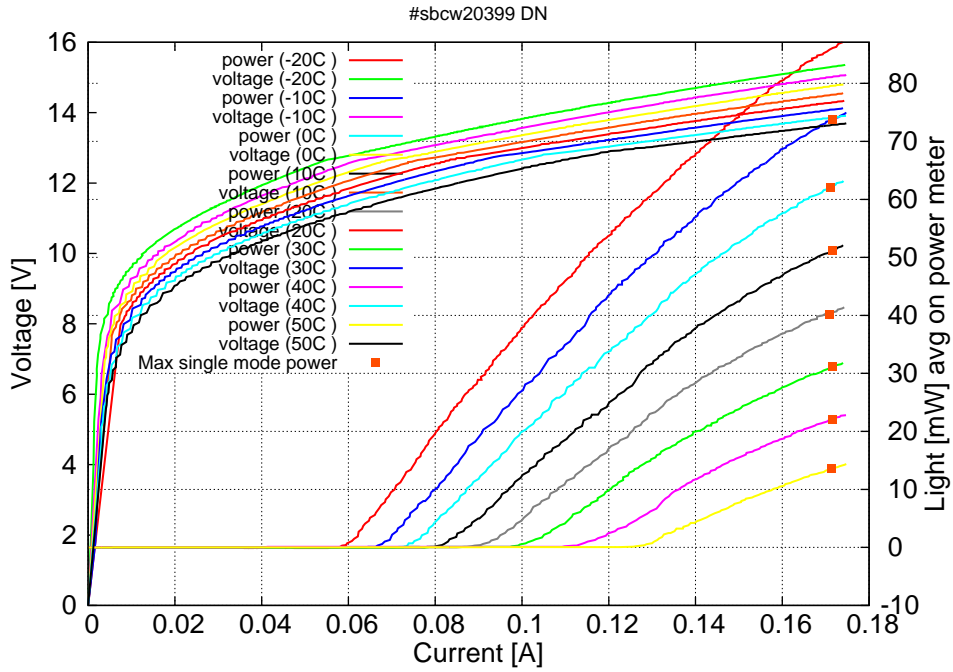


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.06\text{A}$ / $V_{th}=12.75\text{V}$ (2-wires measurements). Maximum operation current: 0.175A for all temperatures.

