

Datasheet for #sbcw24314 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 #sbcw24314 DN (please note that AlN submount numbering is A110F)

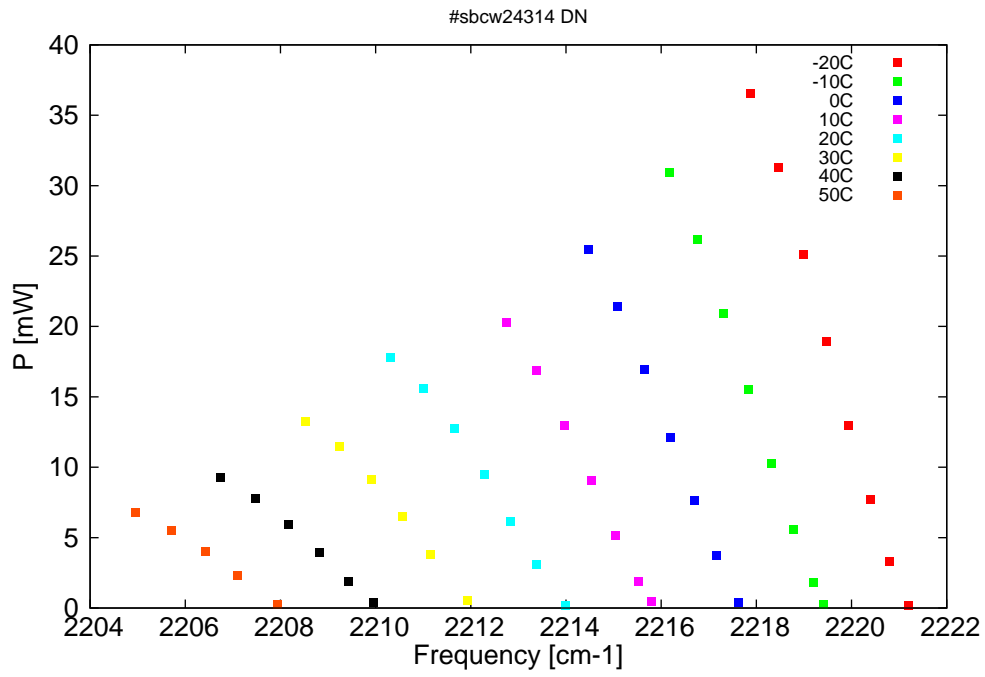


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

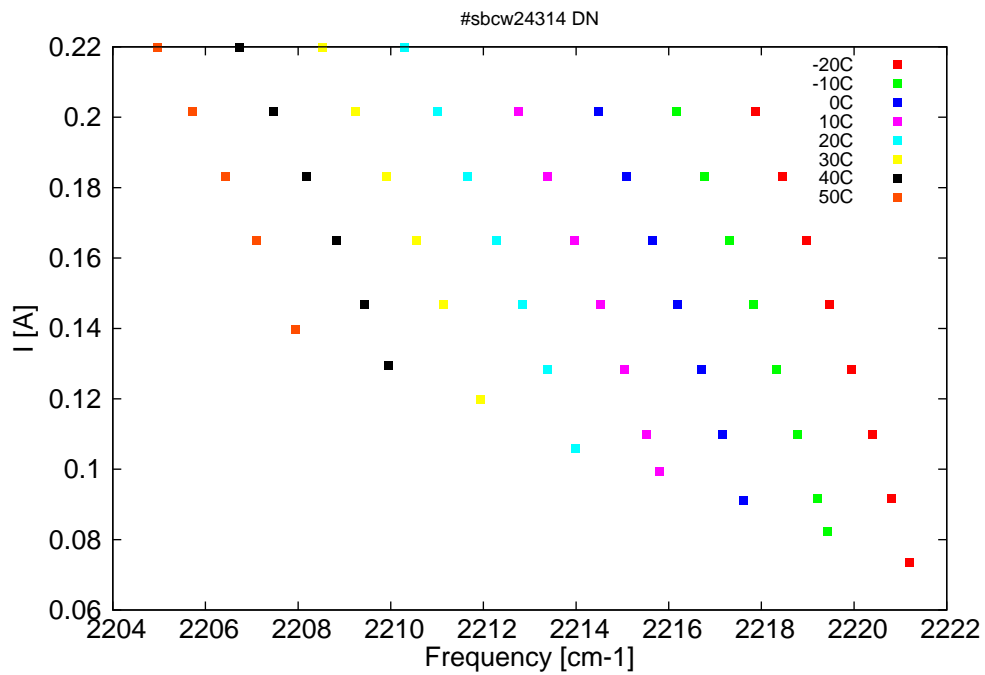


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4502.1	2221.2	0.2	-20	8.42	0.073
4502.9	2220.8	3.3	-20	8.66	0.092
4503.7	2220.4	7.7	-20	8.88	0.11
4504.6	2219.9	12.9	-20	9.09	0.128
4505.6	2219.5	18.9	-20	9.31	0.147
4506.6	2219	25.1	-20	9.52	0.165
4507.6	2218.5	31.3	-20	9.74	0.183
4508.8	2217.9	36.6	-20	9.98	0.202
4505.7	2219.4	0.2	-10	8.48	0.082
4506.1	2219.2	1.8	-10	8.61	0.092
4507	2218.8	5.6	-10	8.83	0.11
4507.9	2218.3	10.3	-10	9.05	0.128
4508.9	2217.8	15.5	-10	9.27	0.147
4510	2217.3	20.9	-10	9.48	0.165
4511.1	2216.8	26.2	-10	9.7	0.183
4512.3	2216.2	31	-10	9.94	0.202
4509.3	2217.6	0.4	0	8.54	0.091
4510.3	2217.2	3.7	0	8.78	0.11
4511.2	2216.7	7.7	0	8.99	0.128
4512.2	2216.2	12.1	0	9.21	0.147
4513.4	2215.6	16.9	0	9.43	0.165
4514.5	2215.1	21.5	0	9.65	0.183
4515.7	2214.5	25.5	0	9.89	0.202
4513.1	2215.8	0.4	10	8.6	0.099
4513.6	2215.5	1.9	10	8.73	0.11
4514.6	2215	5.2	10	8.95	0.128
4515.6	2214.5	9	10	9.17	0.147
4516.8	2214	12.9	10	9.39	0.165
4518	2213.4	16.8	10	9.62	0.183
4519.3	2212.8	20.3	10	9.85	0.202
4516.7	2214	0.2	20	8.65	0.106
4518	2213.4	3.1	20	8.91	0.128
4519.1	2212.8	6.1	20	9.13	0.147
4520.2	2212.3	9.5	20	9.36	0.165
4521.5	2211.7	12.7	20	9.58	0.183
4522.8	2211	15.6	20	9.81	0.202
4524.3	2210.3	17.8	20	10.06	0.22
4520.9	2211.9	0.5	30	8.78	0.12
4522.5	2211.1	3.8	30	9.09	0.147
4523.7	2210.6	6.5	30	9.32	0.165
4525.1	2209.9	9.1	30	9.55	0.183
4526.4	2209.2	11.5	30	9.78	0.202
4527.9	2208.5	13.2	30	10.02	0.22
4525	2209.9	0.4	40	8.87	0.129
4526.1	2209.4	1.9	40	9.06	0.147
4527.3	2208.8	3.9	40	9.29	0.165
4528.6	2208.2	6	40	9.52	0.183
4530.1	2207.5	7.8	40	9.75	0.202
4531.6	2206.7	9.3	40	9.99	0.22

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λ [nm]	ν [cm^{-1}]	P[mW]	Temp[$^{\circ}\text{C}$]	U_{LASER} [V]	I[A]
4529.1	2207.9	0.3	50	8.97	0.14
4530.8	2207.1	2.3	50	9.27	0.165
4532.2	2206.4	4	50	9.49	0.183
4533.7	2205.7	5.5	50	9.72	0.202
4535.2	2205	6.8	50	9.97	0.22

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

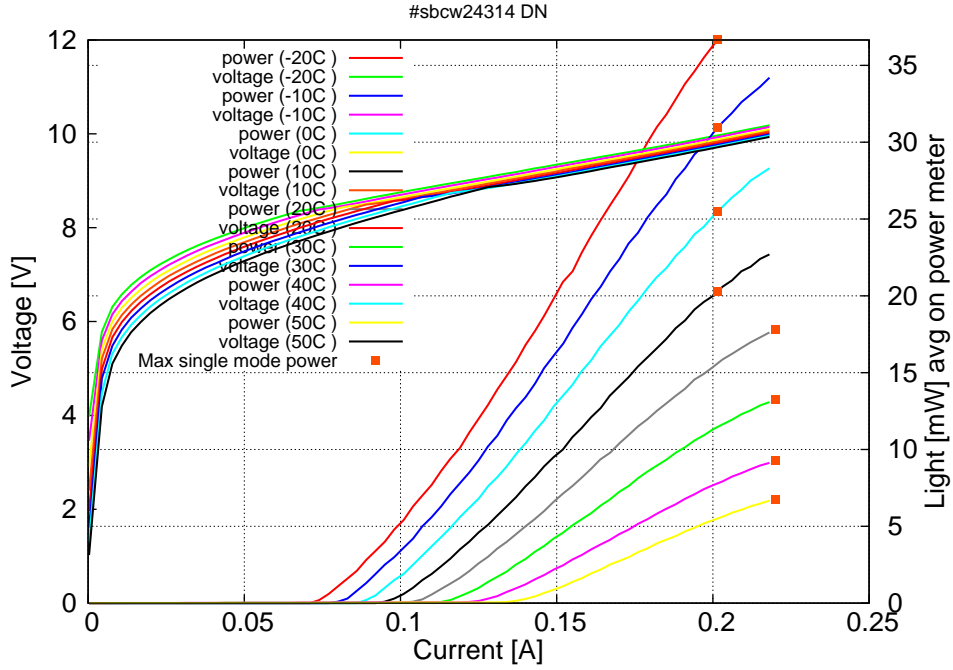


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.07\text{A}$ / $V_{th}=8.4\text{V}$ (2-wires measurements). Maximum operation current: 0.205A between -20C and 10C, 0.22A between 20C and 50C.

Figure 3: spectra at different temperatures for various DC currents

