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Datasheet for #sbcw24311 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.

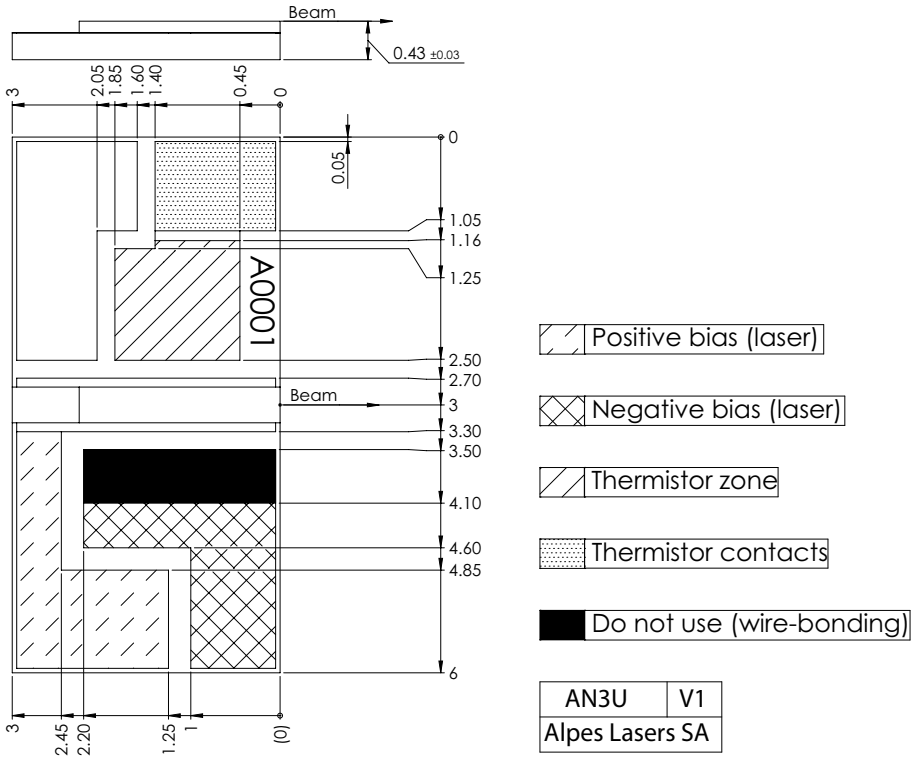

Figure 1: Mechanical and electrical interface for #sbcw24311 DN (please note that AlN submount numbering is A0VA4)

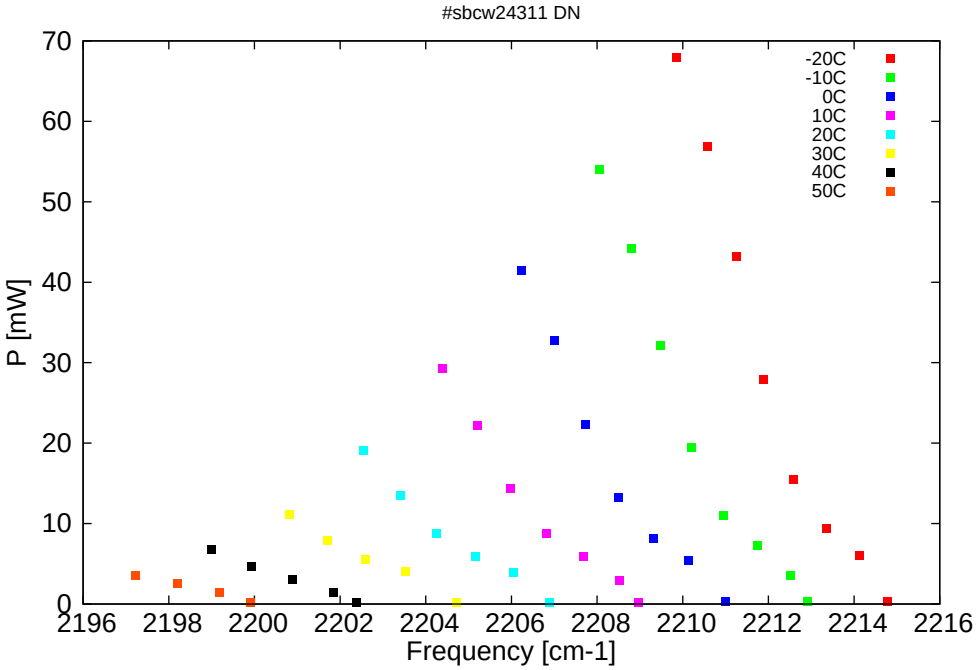

Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

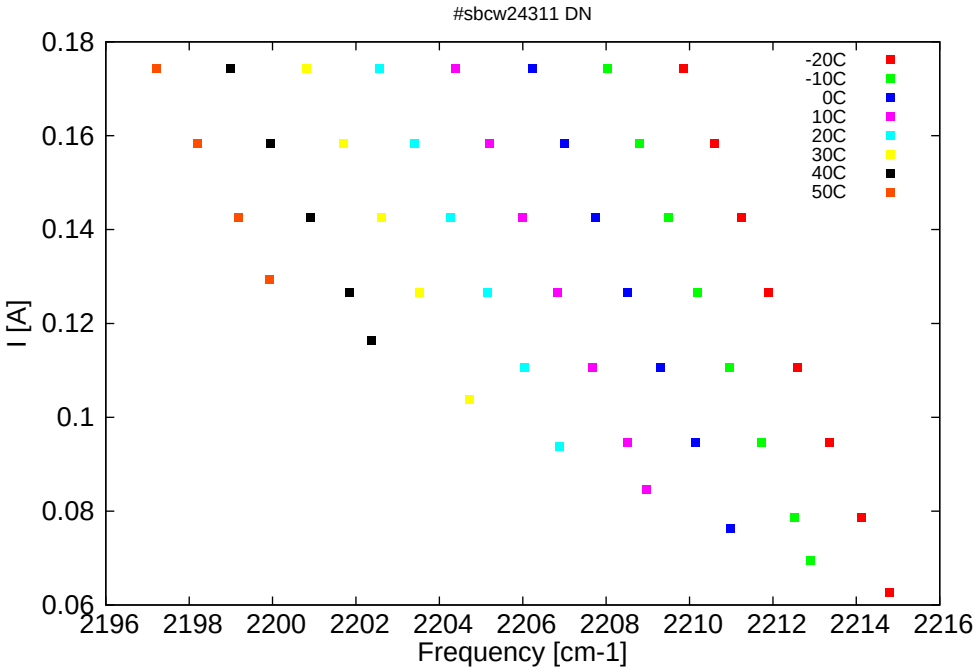

Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
4515.1	2214.8	0.3	-20	11.34	0.063
4516.4	2214.1	6	-20	11.63	0.079
4518	2213.3	9.4	-20	11.93	0.095
4519.6	2212.6	15.5	-20	12.19	0.111
4521	2211.9	27.9	-20	12.42	0.127
4522.3	2211.3	43.2	-20	12.65	0.143
4523.7	2210.6	56.9	-20	12.9	0.158
4525.2	2209.9	67.9	-20	13.15	0.174
4518.9	2212.9	0.3	-10	11.39	0.069
4519.7	2212.5	3.6	-10	11.55	0.079
4521.3	2211.7	7.2	-10	11.84	0.095
4522.9	2210.9	11	-10	12.11	0.111
4524.5	2210.2	19.5	-10	12.35	0.127
4525.9	2209.5	32.2	-10	12.59	0.143
4527.3	2208.8	44.2	-10	12.83	0.158
4528.9	2208	54	-10	13.09	0.174
4522.9	2211	0.3	0	11.44	0.076
4524.6	2210.1	5.4	0	11.75	0.095
4526.3	2209.3	8.1	0	12.02	0.111
4528	2208.5	13.3	0	12.27	0.127
4529.5	2207.7	22.4	0	12.5	0.143
4531	2207	32.8	0	12.74	0.158
4532.6	2206.2	41.4	0	12.99	0.174
4527	2209	0.2	10	11.52	0.085
4527.9	2208.5	2.9	10	11.67	0.095
4529.6	2207.7	5.9	10	11.94	0.111
4531.4	2206.8	8.7	10	12.2	0.127
4533.1	2206	14.3	10	12.45	0.143
4534.7	2205.2	22.1	10	12.68	0.158
4536.4	2204.4	29.3	10	12.93	0.174
4531.3	2206.9	0.2	20	11.61	0.094
4533	2206	3.9	20	11.88	0.111
4534.8	2205.2	5.9	20	12.14	0.127
4536.7	2204.3	8.8	20	12.4	0.143
4538.4	2203.4	13.5	20	12.64	0.158
4540.2	2202.6	19	20	12.88	0.174
4535.7	2204.7	0.2	30	11.76	0.104
4538.2	2203.5	4	30	12.06	0.127
4540.1	2202.6	5.6	30	12.33	0.143
4542	2201.7	7.9	30	12.58	0.158
4543.8	2200.8	11.2	30	12.83	0.174
4540.5	2202.4	0.2	40	11.89	0.116
4541.7	2201.8	1.4	40	12.04	0.127
4543.6	2200.9	3.1	40	12.3	0.143
4545.6	2199.9	4.7	40	12.56	0.158
4547.5	2199	6.8	40	12.82	0.174
4545.6	2199.9	0.2	50	12.06	0.129
4547.1	2199.2	1.4	50	12.25	0.143
4549.2	2198.2	2.6	50	12.51	0.158

continued on next page

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
4551.2	2197.2	3.6	50	12.77	0.174

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

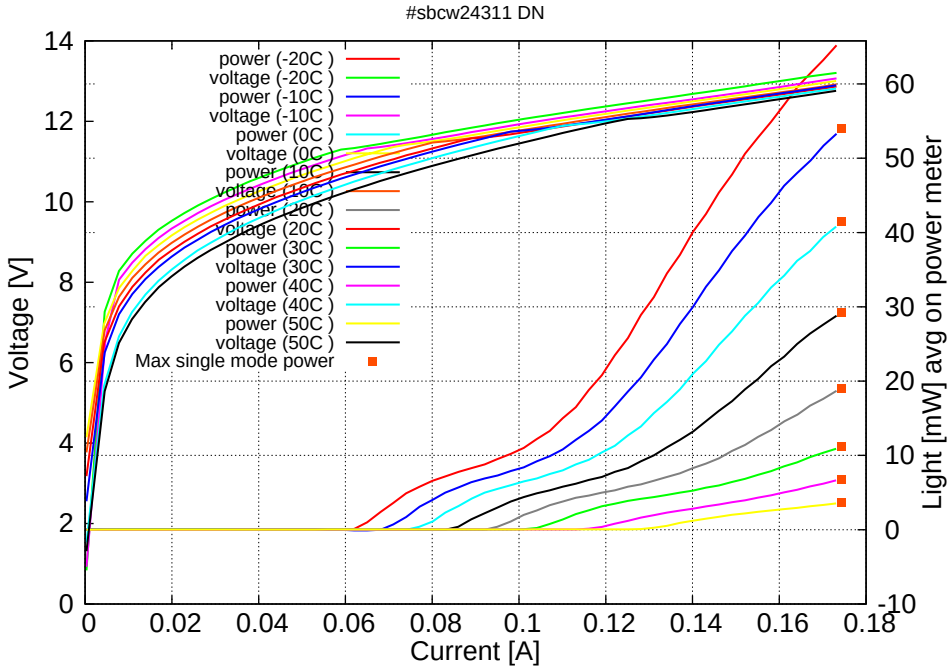

Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: Ith=0.06A / Vth=11.3V (2-wires measurements). Maximum operation current: 0.175A for all temperatures.

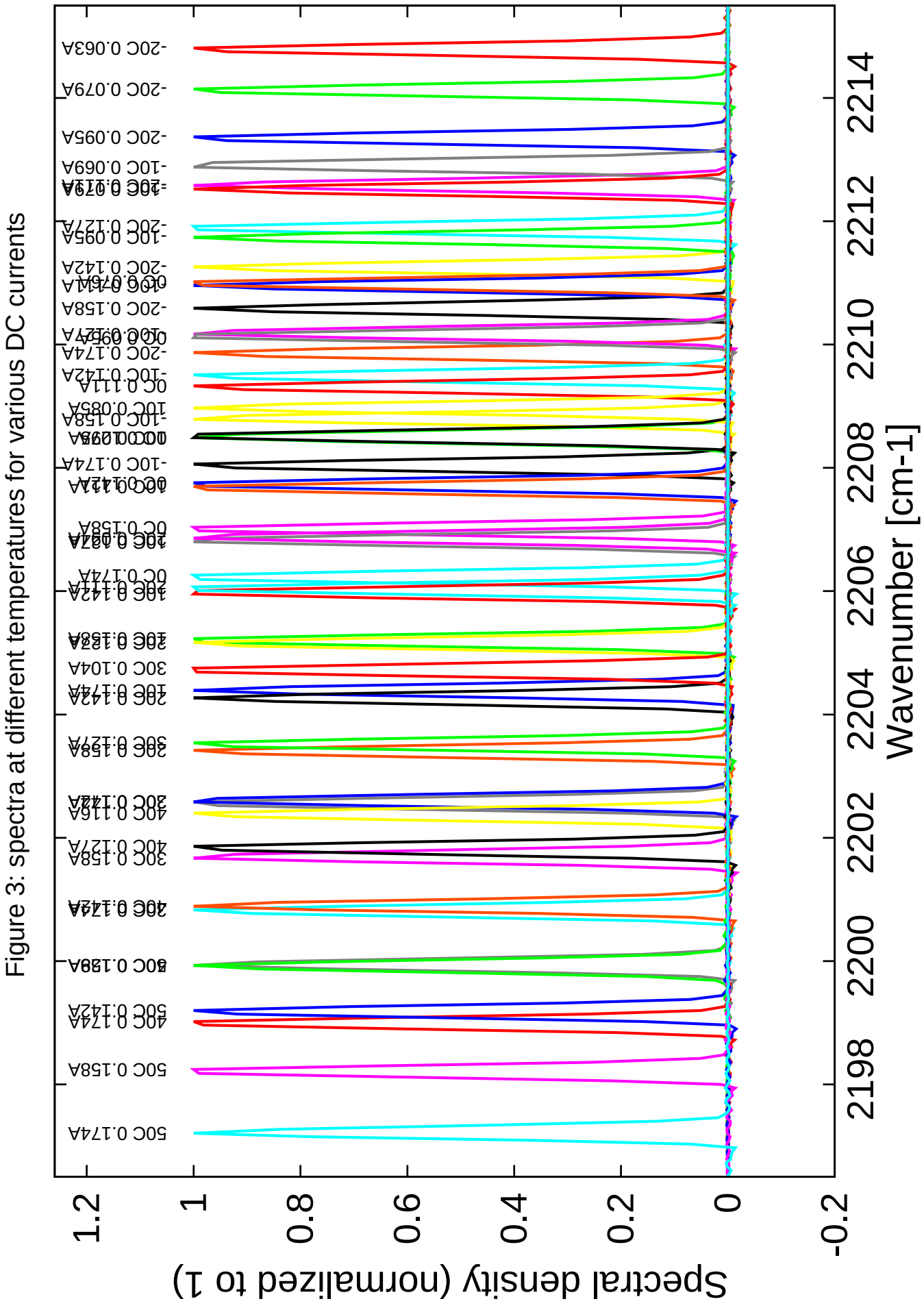

Figure 3: spectra at different temperatures for various DC currents