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Datasheet for #sbcw24804 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.

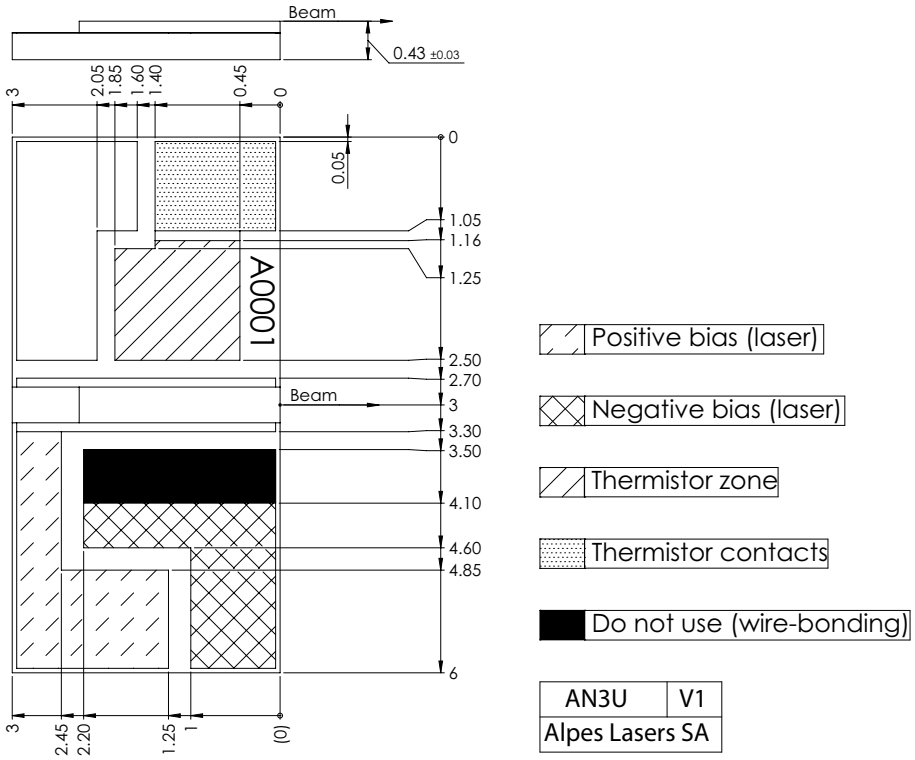

Figure 1: Mechanical and electrical interface for #sbcw24804 DN (please note that AlN submount numbering is A10JV)

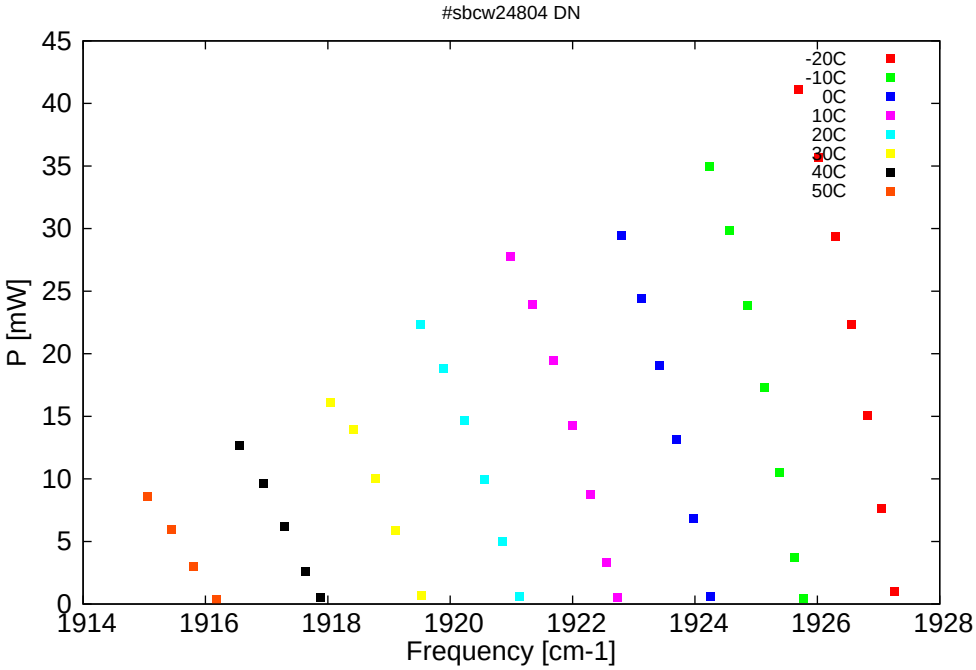

Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

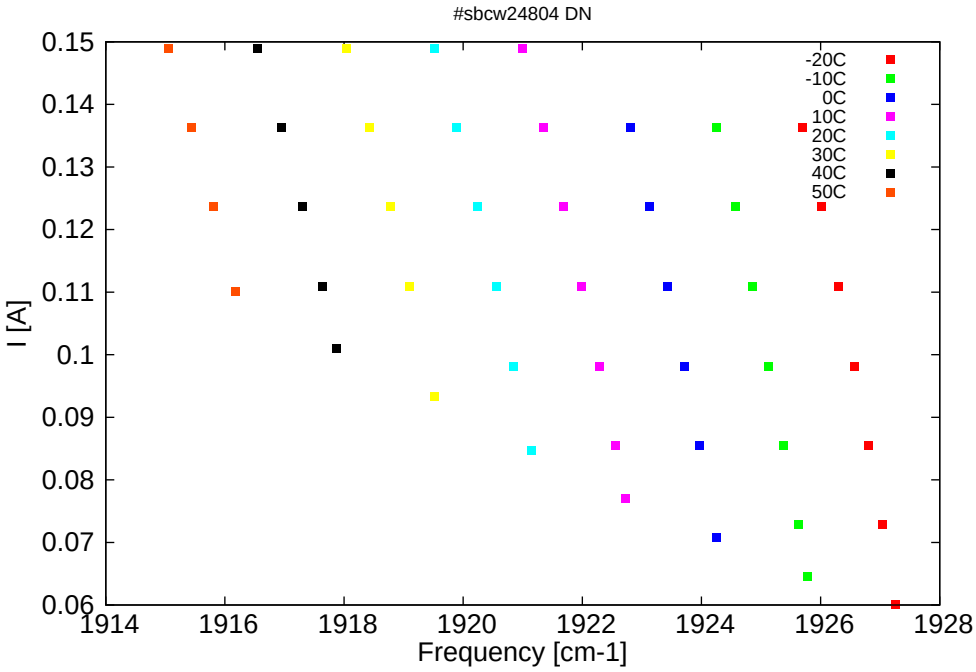

Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
5188.7	1927.3	1	-20	7.68	0.06
5189.3	1927	7.6	-20	7.87	0.073
5189.9	1926.8	15.1	-20	8.06	0.086
5190.6	1926.6	22.3	-20	8.25	0.098
5191.3	1926.3	29.4	-20	8.44	0.111
5192.1	1926	35.7	-20	8.65	0.124
5192.9	1925.7	41.1	-20	8.87	0.136
5192.7	1925.8	0.4	-10	7.69	0.065
5193.1	1925.6	3.7	-10	7.8	0.073
5193.8	1925.4	10.5	-10	7.99	0.086
5194.4	1925.1	17.3	-10	8.18	0.098
5195.2	1924.9	23.9	-10	8.37	0.111
5196	1924.6	29.9	-10	8.57	0.124
5196.8	1924.2	35	-10	8.79	0.136
5196.8	1924.3	0.6	0	7.72	0.071
5197.6	1924	6.8	0	7.93	0.086
5198.3	1923.7	13.2	0	8.12	0.098
5199.1	1923.4	19	0	8.31	0.111
5199.9	1923.1	24.5	0	8.51	0.124
5200.7	1922.8	29.5	0	8.72	0.136
5200.9	1922.7	0.5	10	7.75	0.077
5201.4	1922.6	3.3	10	7.86	0.086
5202.1	1922.3	8.8	10	8.05	0.098
5202.9	1922	14.3	10	8.24	0.111
5203.8	1921.7	19.5	10	8.43	0.124
5204.7	1921.3	24	10	8.63	0.136
5205.6	1921	27.8	10	8.85	0.149
5205.2	1921.1	0.6	20	7.8	0.085
5206	1920.8	5	20	7.98	0.098
5206.8	1920.6	9.9	20	8.17	0.111
5207.7	1920.2	14.7	20	8.35	0.124
5208.6	1919.9	18.8	20	8.55	0.136
5209.6	1919.5	22.4	20	8.76	0.149
5209.6	1919.5	0.7	30	7.86	0.093
5210.8	1919.1	5.9	30	8.1	0.111
5211.7	1918.8	10	30	8.28	0.124
5212.6	1918.4	13.9	30	8.47	0.136
5213.6	1918	16.1	30	8.67	0.149
5214.1	1917.9	0.5	40	7.91	0.101
5214.8	1917.6	2.6	40	8.04	0.111
5215.7	1917.3	6.2	40	8.21	0.124
5216.6	1916.9	9.6	40	8.39	0.136
5217.7	1916.6	12.7	40	8.59	0.149
5218.7	1916.2	0.3	50	7.98	0.11
5219.7	1915.8	3	50	8.15	0.124
5220.7	1915.4	6	50	8.32	0.136
5221.8	1915.1	8.6	50	8.51	0.149

continued on next page

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]

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

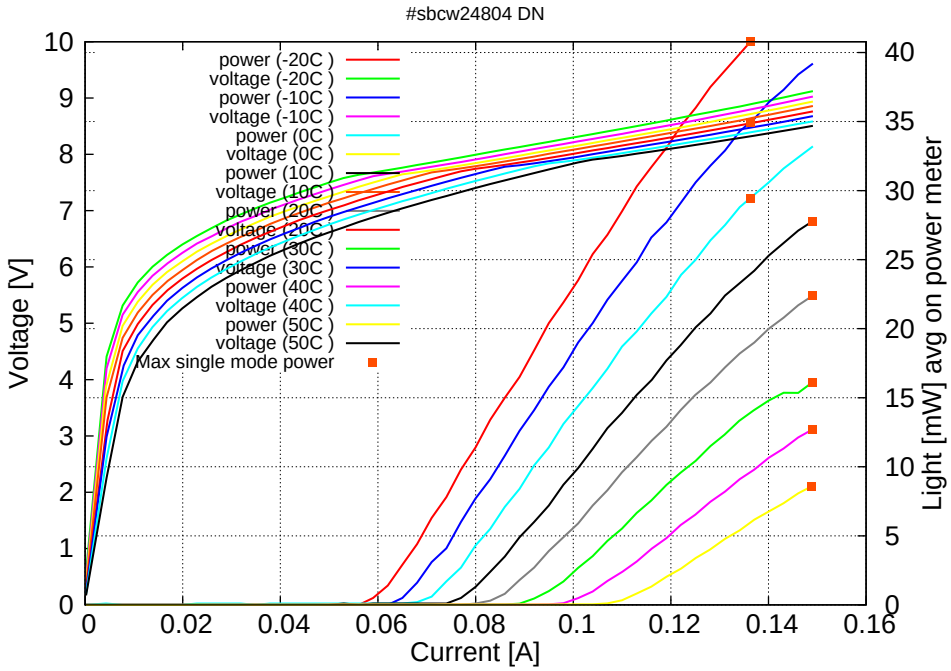

Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: Ith=0.05A / Vth=7.5V (2-wires measurements). Maximum operation current: 0.14A between -20C and 0C, 0.150A between 10C and 50C.

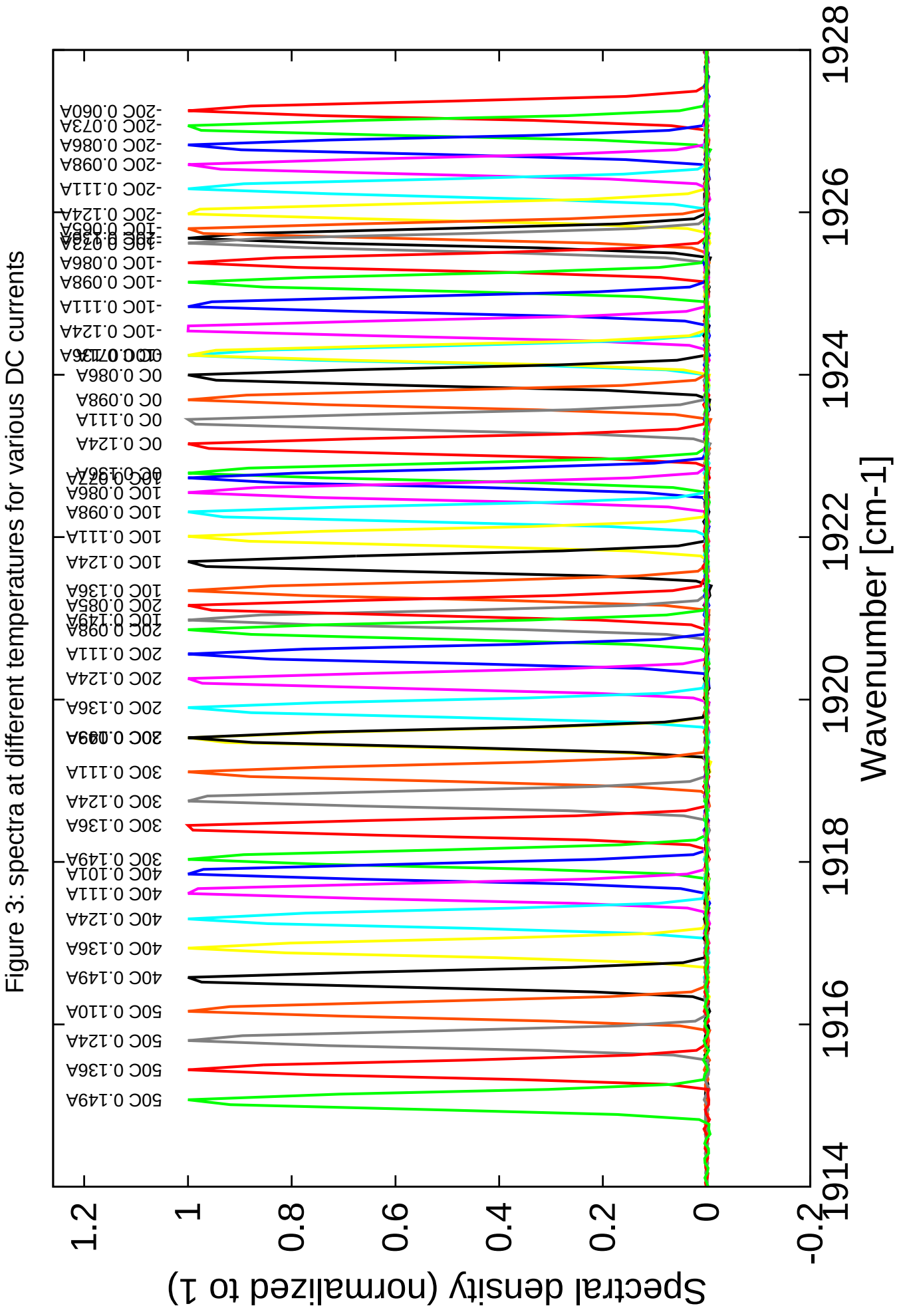

Figure 3: spectra at different temperatures for various DC currents