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Datasheet for #sbcw24788 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 current on the laser contact (= bonding pad, corresponding to the label "laser" on the LLH) and the positive current on the base contact (= submount, corresponding to the label "base" on the LLH). 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.

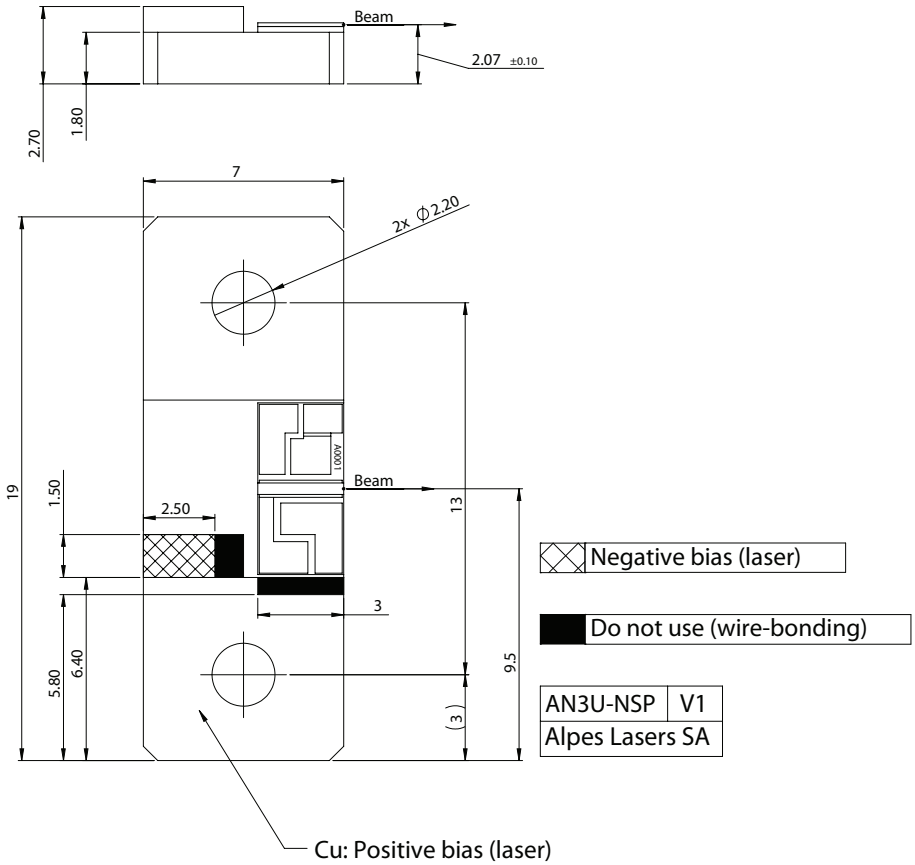

Figure 1: Mechanical and electrical interface for #sbcw24788 DN

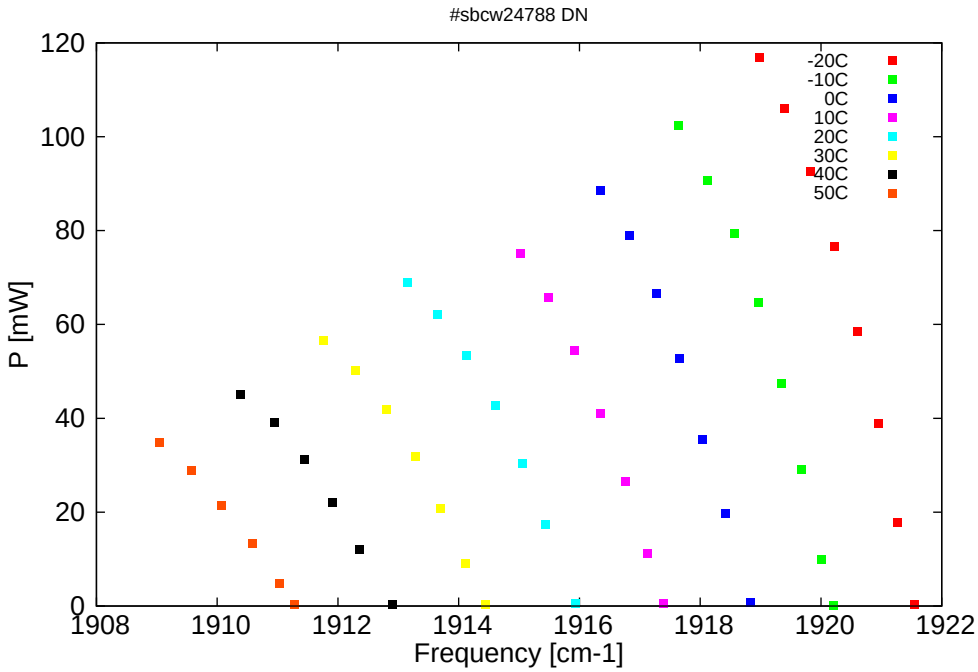

Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

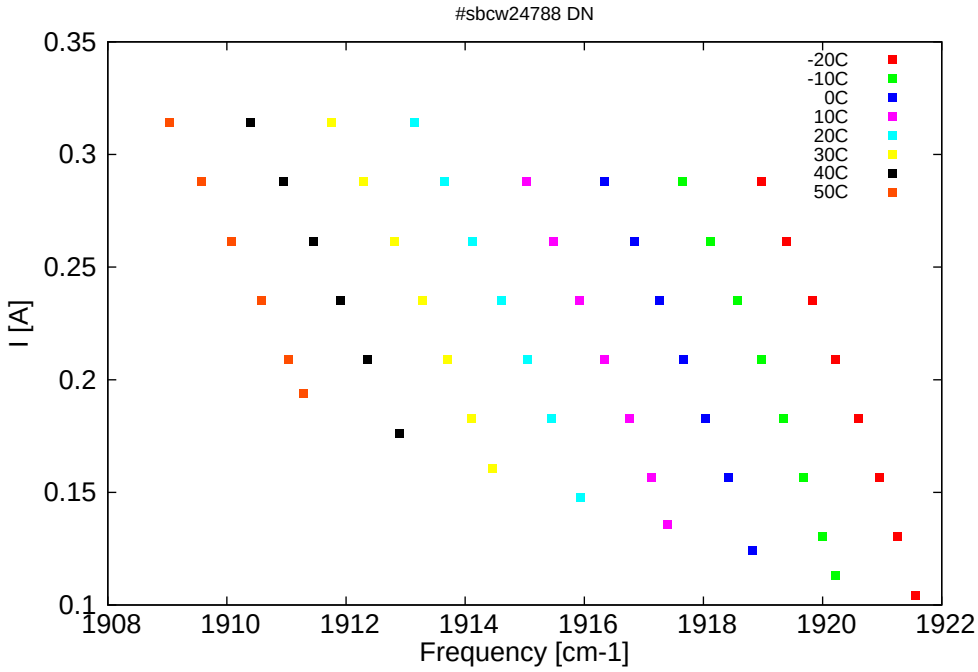

Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
5204.1	1921.6	0.2	-20	7.27	0.104
5204.9	1921.3	17.8	-20	7.43	0.13
5205.8	1920.9	38.9	-20	7.59	0.157
5206.7	1920.6	58.5	-20	7.74	0.183
5207.7	1920.2	76.6	-20	7.89	0.209
5208.8	1919.8	92.6	-20	8.06	0.235
5210	1919.4	106	-20	8.22	0.262
5211.1	1919	116.8	-20	8.39	0.288
5207.7	1920.2	0.1	-10	7.27	0.113
5208.3	1920	9.9	-10	7.38	0.13
5209.2	1919.7	29.1	-10	7.54	0.157
5210.1	1919.3	47.5	-10	7.69	0.183
5211.1	1919	64.6	-10	7.85	0.209
5212.2	1918.6	79.3	-10	8.01	0.235
5213.4	1918.1	90.7	-10	8.17	0.262
5214.7	1917.6	102.5	-10	8.34	0.288
5211.5	1918.8	0.7	0	7.29	0.124
5212.6	1918.4	19.8	0	7.48	0.157
5213.7	1918	35.6	0	7.64	0.183
5214.7	1917.7	52.7	0	7.8	0.209
5215.8	1917.3	66.6	0	7.96	0.235
5216.9	1916.8	78.9	0	8.12	0.262
5218.3	1916.3	88.6	0	8.29	0.288
5215.4	1917.4	0.6	10	7.31	0.136
5216.1	1917.1	11.3	10	7.43	0.157
5217.1	1916.8	26.5	10	7.59	0.183
5218.3	1916.3	41.1	10	7.75	0.209
5219.4	1915.9	54.4	10	7.9	0.235
5220.6	1915.5	65.7	10	8.07	0.262
5221.9	1915	75.1	10	8.23	0.288
5219.4	1915.9	0.6	20	7.33	0.148
5220.7	1915.4	17.3	20	7.54	0.183
5221.8	1915.1	30.4	20	7.69	0.209
5223	1914.6	42.7	20	7.85	0.235
5224.3	1914.1	53.5	20	8.02	0.262
5225.6	1913.7	62.2	20	8.18	0.288
5227	1913.1	68.8	20	8.35	0.314
5223.4	1914.5	0.4	30	7.36	0.161
5224.4	1914.1	9	30	7.48	0.183
5225.5	1913.7	20.7	30	7.64	0.209
5226.6	1913.3	31.8	30	7.79	0.235
5227.9	1912.8	41.9	30	7.96	0.262
5229.3	1912.3	50.2	30	8.12	0.288
5230.8	1911.8	56.7	30	8.28	0.314
5227.7	1912.9	0.4	40	7.4	0.176
5229.1	1912.4	12.1	40	7.58	0.209
5230.4	1911.9	22	40	7.74	0.235
5231.6	1911.5	31.3	40	7.9	0.262
5233	1911	39.2	40	8.06	0.288

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λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
5234.5	1910.4	45.2	40	8.22	0.314
5232.1	1911.3	0.3	50	7.45	0.194
5232.8	1911	4.8	50	7.53	0.209
5234	1910.6	13.3	50	7.68	0.235
5235.4	1910.1	21.5	50	7.83	0.262
5236.8	1909.6	28.9	50	8	0.288
5238.2	1909	34.8	50	8.16	0.314

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

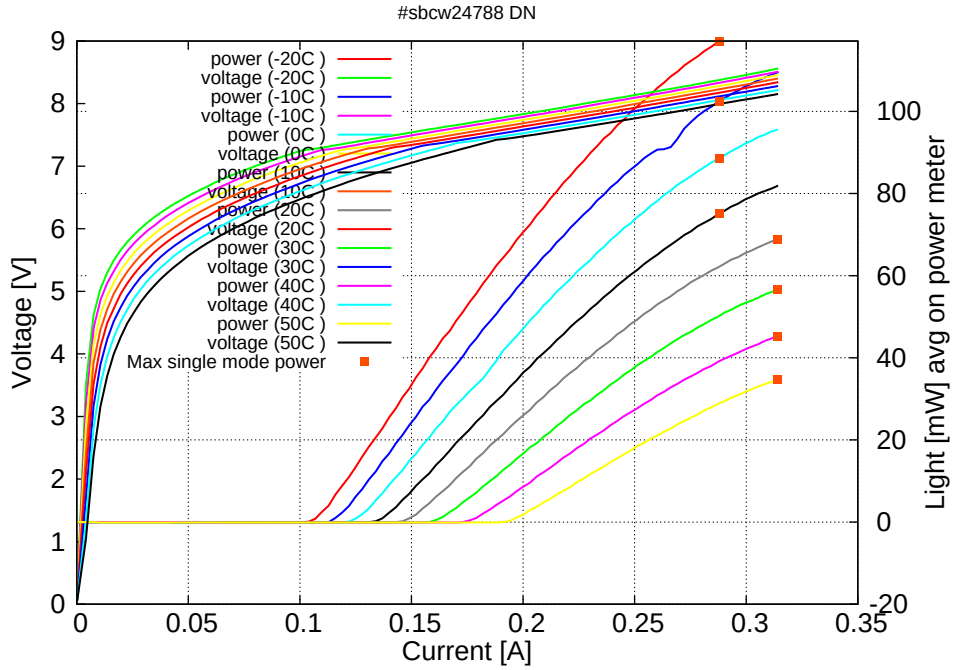

Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: Ith=0.11A / Vth=7.3V (2-wires measurements). Maximum operation current: 0.29A between -20C and 10C, 0.315A between 20C and 50C.

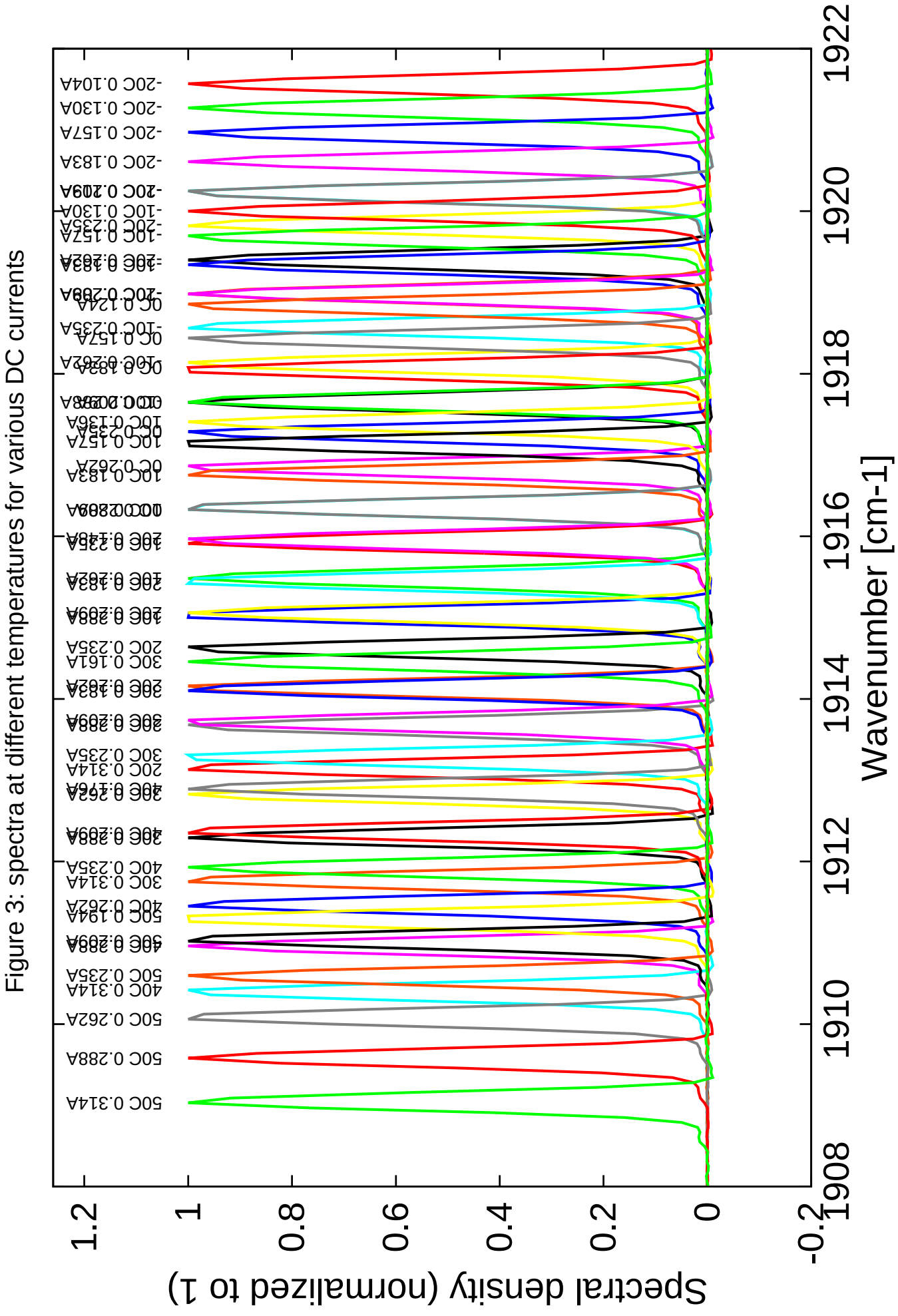

Figure 3: spectra at different temperatures for various DC currents