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Datasheet for #sbcw20492 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.

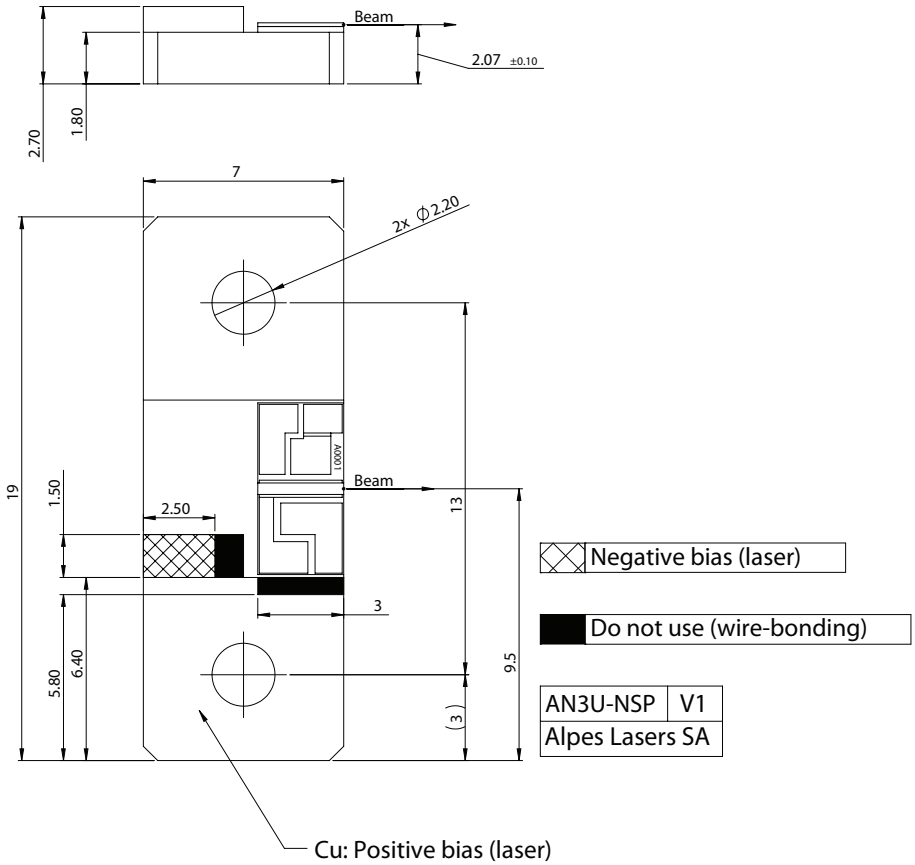

Figure 1: Mechanical and electrical interface for #sbcw20492 DN

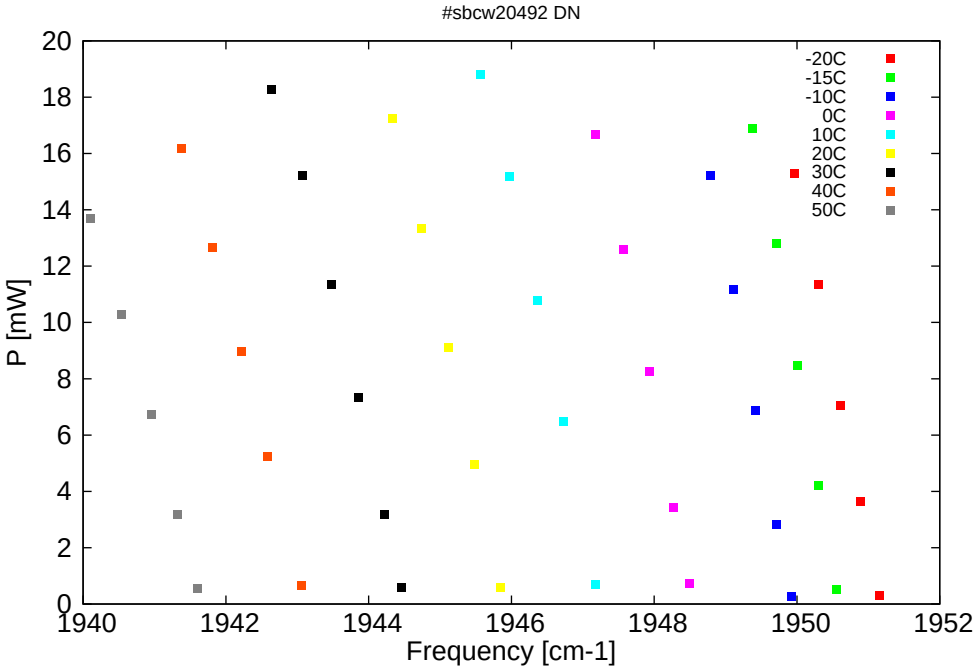

Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

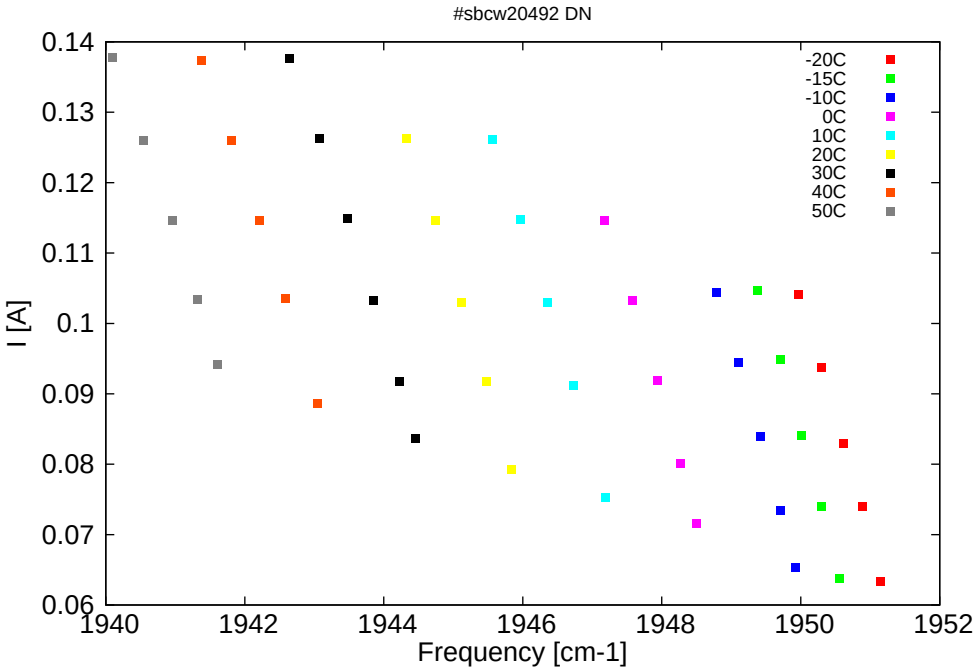

Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
5125.2	1951.2	0.3	-20	11.8	0.063
5125.9	1950.9	3.6	-20	12.12	0.074
5126.6	1950.6	7	-20	12.45	0.083
5127.4	1950.3	11.3	-20	12.81	0.094
5128.3	1950	15.3	-20	13.2	0.104
5126.7	1950.6	0.5	-15	11.75	0.064
5127.4	1950.3	4.2	-15	12.05	0.074
5128.2	1950	8.5	-15	12.38	0.084
5129	1949.7	12.8	-15	12.72	0.095
5129.8	1949.4	16.9	-15	13.09	0.105
5128.4	1949.9	0.3	-10	11.72	0.065
5129	1949.7	2.8	-10	11.96	0.073
5129.7	1949.4	6.9	-10	12.29	0.084
5130.5	1949.1	11.2	-10	12.62	0.094
5131.4	1948.8	15.2	-10	12.97	0.104
5132.2	1948.5	0.7	0	11.68	0.072
5132.8	1948.3	3.4	0	11.91	0.08
5133.6	1947.9	8.3	0	12.25	0.092
5134.6	1947.6	12.6	0	12.59	0.103
5135.6	1947.2	16.7	0	12.95	0.115
5135.6	1947.2	0.7	10	11.64	0.075
5136.8	1946.7	6.5	10	12.08	0.091
5137.8	1946.4	10.8	10	12.42	0.103
5138.8	1946	15.2	10	12.77	0.115
5139.9	1945.6	18.8	10	13.13	0.126
5139.2	1945.8	0.6	20	11.62	0.079
5140.1	1945.5	4.9	20	11.96	0.092
5141.1	1945.1	9.1	20	12.27	0.103
5142.1	1944.7	13.3	20	12.59	0.115
5143.2	1944.3	17.2	20	12.93	0.126
5142.8	1944.5	0.6	30	11.62	0.084
5143.5	1944.2	3.2	30	11.83	0.092
5144.4	1943.9	7.3	30	12.13	0.103
5145.4	1943.5	11.3	30	12.44	0.115
5146.5	1943.1	15.2	30	12.76	0.126
5147.6	1942.6	18.3	30	13.1	0.138
5146.5	1943.1	0.7	40	11.64	0.089
5147.8	1942.6	5.2	40	12	0.104
5148.8	1942.2	9	40	12.29	0.115
5149.8	1941.8	12.7	40	12.59	0.126
5151	1941.4	16.2	40	12.91	0.137
5150.4	1941.6	0.5	50	11.67	0.094
5151.1	1941.3	3.2	50	11.87	0.103
5152.1	1941	6.7	50	12.14	0.115
5153.2	1940.5	10.3	50	12.43	0.126
5154.4	1940.1	13.7	50	12.74	0.138

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

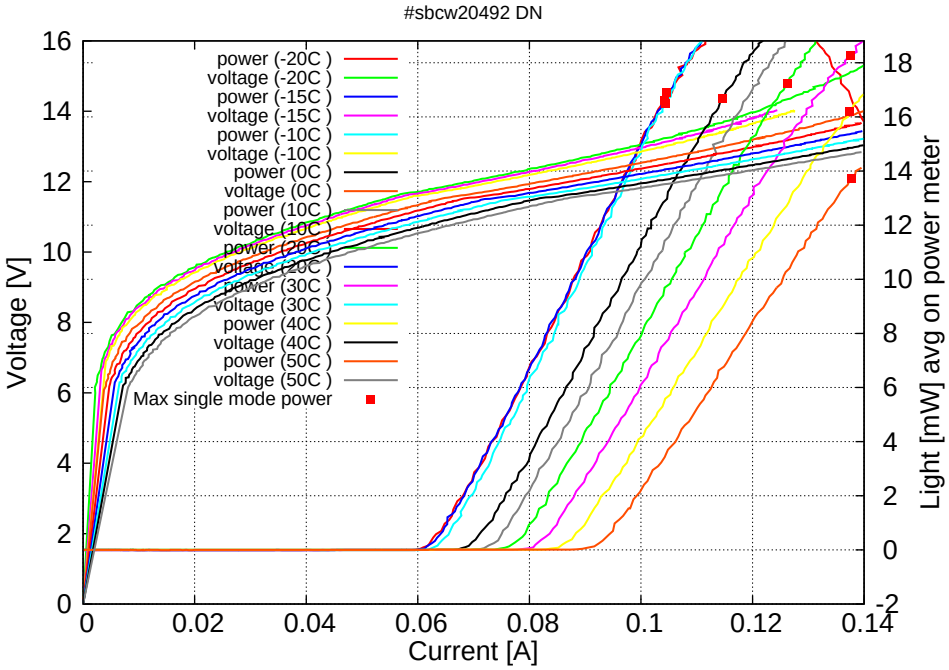

Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: Ith=0.06A / Vth=11.7V (2-wires measurements). Maximum operation current: 0.105A between -20C and -10C, 0.115A at 0C, 0.125A between 10C and 20C, 0.14A between 30C and 50C.

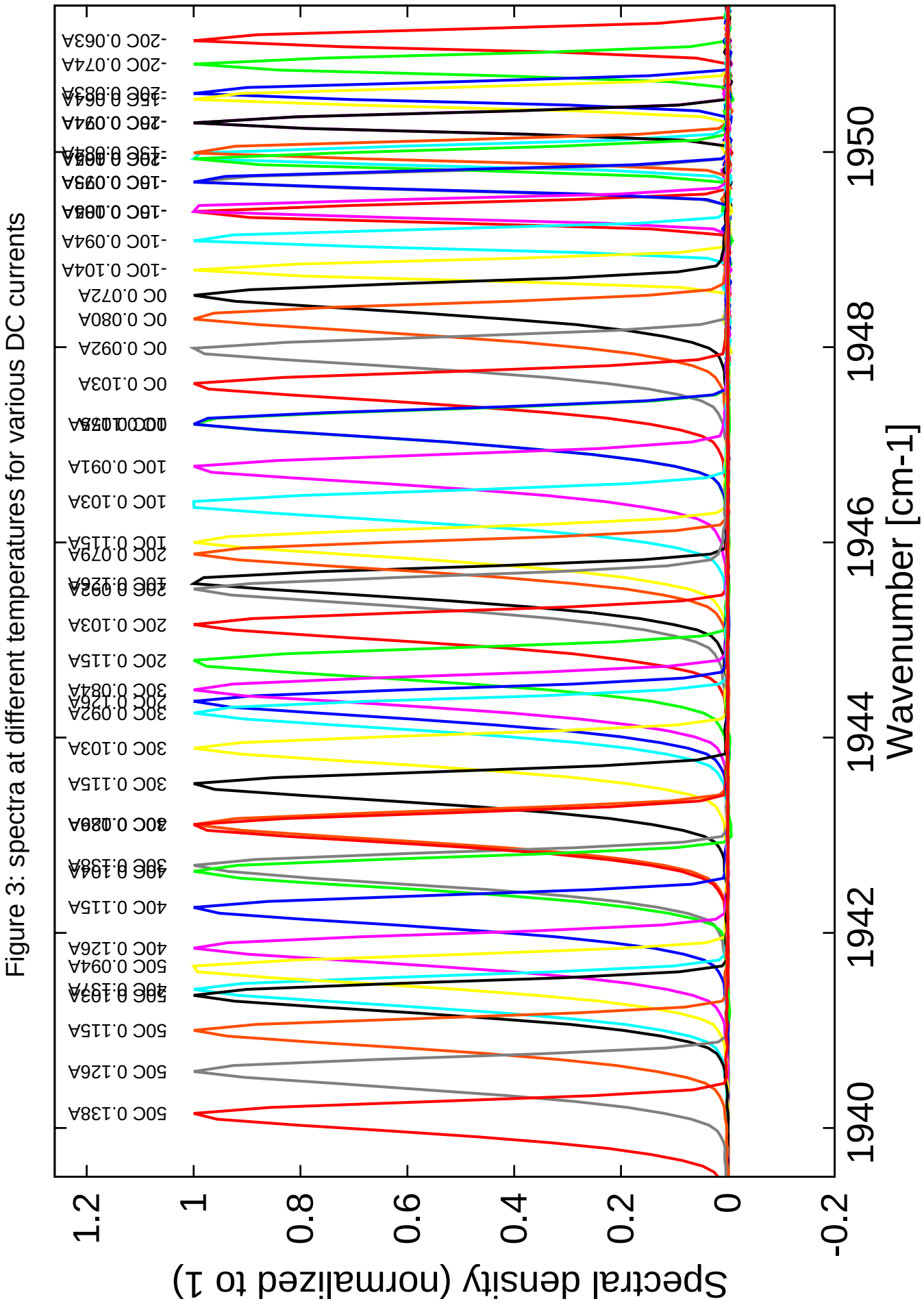

Figure 3: spectra at different temperatures for various DC currents