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Datasheet for #sbcw27073 DN

Recommendations:

Please read the User Manual and have a look at the FAQ at
`https://www.alpeslasers.ch/resources/#faq`

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.

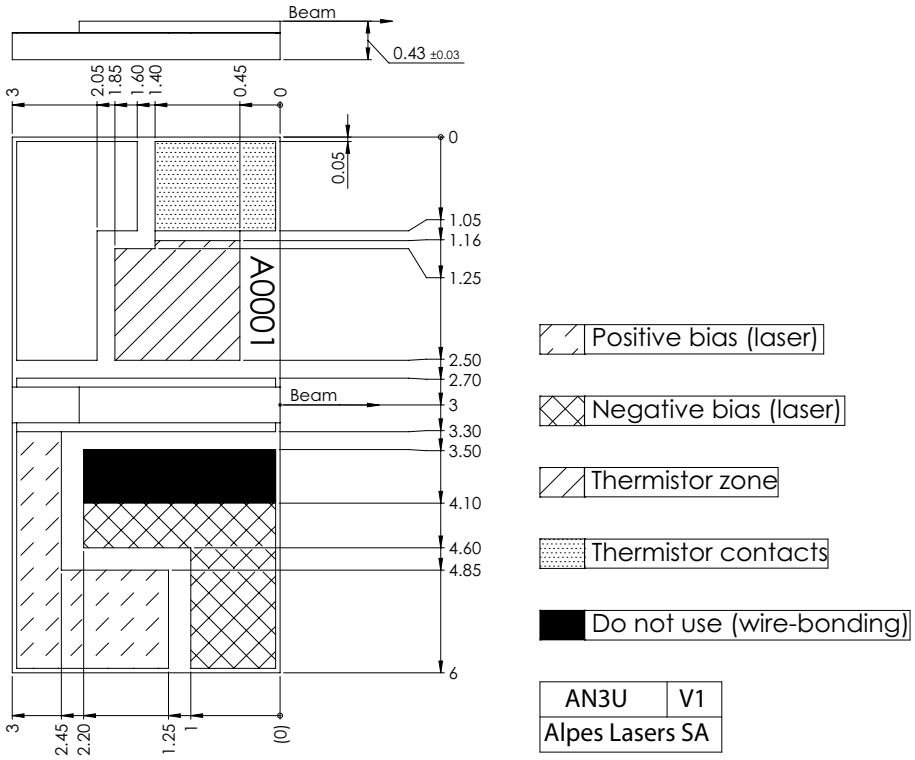

Figure 1: Mechanical and electrical interface for #sbcw27073 DN (please note that AlN submount numbering is A0XW5)

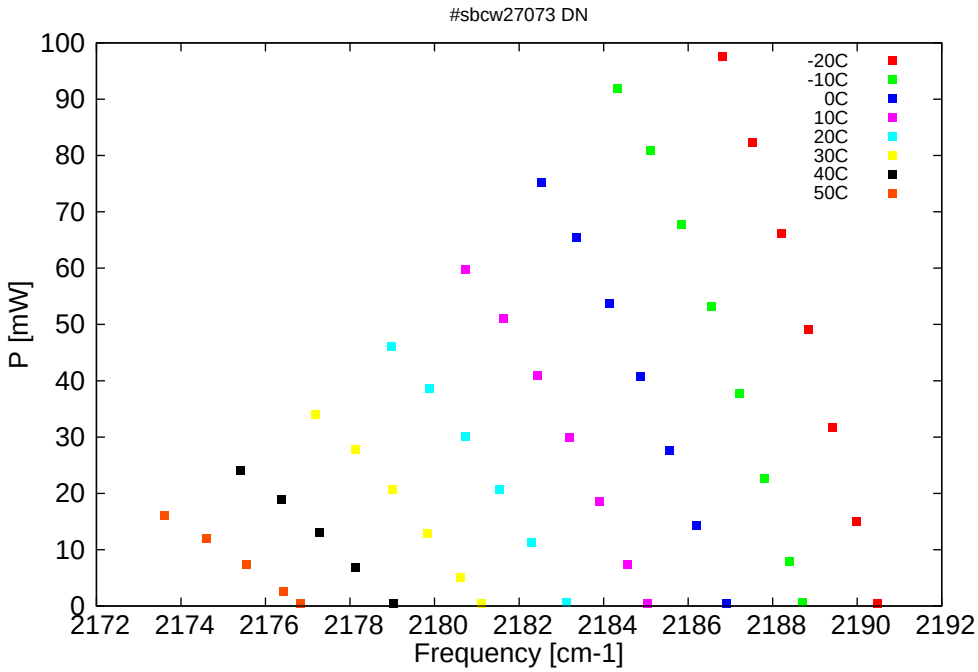

Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

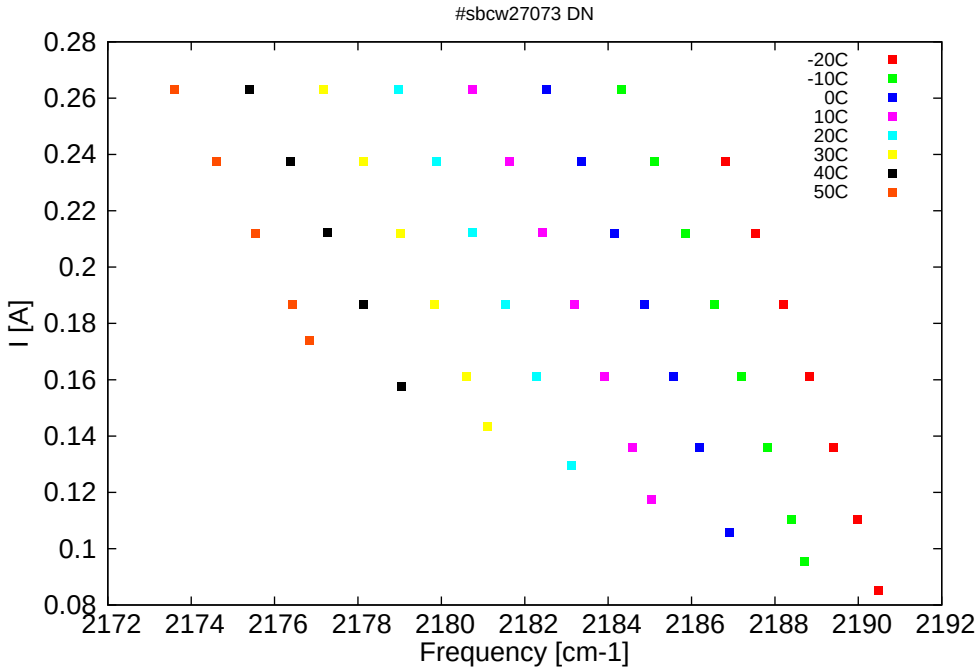

Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
4565.2	2190.5	0.4	-20	7.95	0.085
4566.3	2190	15	-20	8.18	0.111
4567.4	2189.4	31.7	-20	8.38	0.136
4568.6	2188.8	49.2	-20	8.57	0.161
4570	2188.2	66.2	-20	8.77	0.187
4571.4	2187.5	82.4	-20	8.95	0.212
4572.8	2186.8	97.6	-20	9.15	0.238
4568.9	2188.7	0.7	-10	8	0.096
4569.6	2188.4	7.9	-10	8.13	0.111
4570.8	2187.8	22.6	-10	8.33	0.136
4572	2187.2	37.7	-10	8.53	0.161
4573.4	2186.6	53.1	-10	8.73	0.187
4574.9	2185.9	67.8	-10	8.92	0.212
4576.4	2185.1	81	-10	9.11	0.238
4578.1	2184.3	91.9	-10	9.31	0.263
4572.7	2186.9	0.4	0	8.04	0.106
4574.2	2186.2	14.3	0	8.29	0.136
4575.5	2185.6	27.6	0	8.49	0.161
4576.9	2184.9	40.8	0	8.69	0.187
4578.4	2184.1	53.7	0	8.89	0.212
4580.1	2183.4	65.4	0	9.08	0.238
4581.8	2182.5	75.3	0	9.28	0.263
4576.6	2185	0.5	10	8.11	0.118
4577.5	2184.6	7.4	10	8.25	0.136
4578.9	2183.9	18.6	10	8.46	0.161
4580.4	2183.2	29.9	10	8.66	0.187
4582	2182.4	41	10	8.85	0.212
4583.7	2181.6	51.1	10	9.05	0.238
4585.6	2180.7	59.7	10	9.25	0.263
4580.6	2183.1	0.6	20	8.17	0.13
4582.4	2182.3	11.2	20	8.42	0.161
4583.9	2181.5	20.7	20	8.62	0.187
4585.6	2180.7	30.1	20	8.82	0.212
4587.4	2179.9	38.7	20	9.02	0.238
4589.3	2179	46.1	20	9.23	0.263
4584.8	2181.1	0.5	30	8.25	0.143
4585.9	2180.6	5.1	30	8.39	0.161
4587.5	2179.8	12.9	30	8.59	0.187
4589.2	2179	20.6	30	8.8	0.212
4591.1	2178.1	27.9	30	9	0.238
4593.1	2177.2	34	30	9.2	0.263
4589.2	2179	0.5	40	8.34	0.158
4591.1	2178.1	6.9	40	8.56	0.187
4592.9	2177.3	13.1	40	8.77	0.212
4594.8	2176.4	19	40	8.97	0.238
4596.9	2175.4	24.1	40	9.18	0.263
4593.8	2176.8	0.5	50	8.44	0.174
4594.7	2176.4	2.5	50	8.54	0.187
4596.5	2175.6	7.3	50	8.74	0.212

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λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
4598.5	2174.6	12	50	8.95	0.238
4600.7	2173.6	16.1	50	9.15	0.263

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

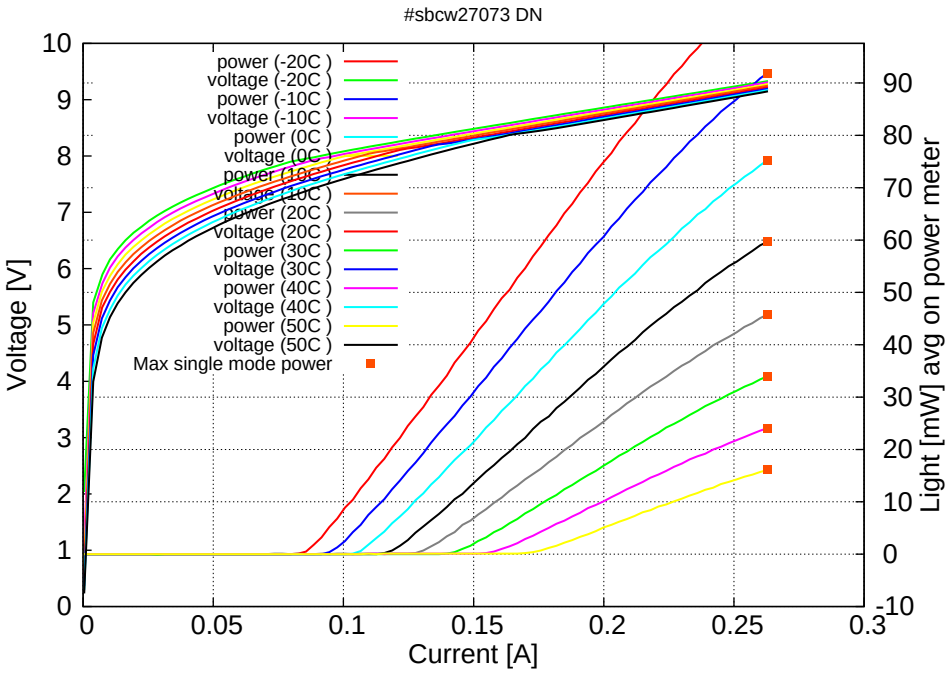

Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

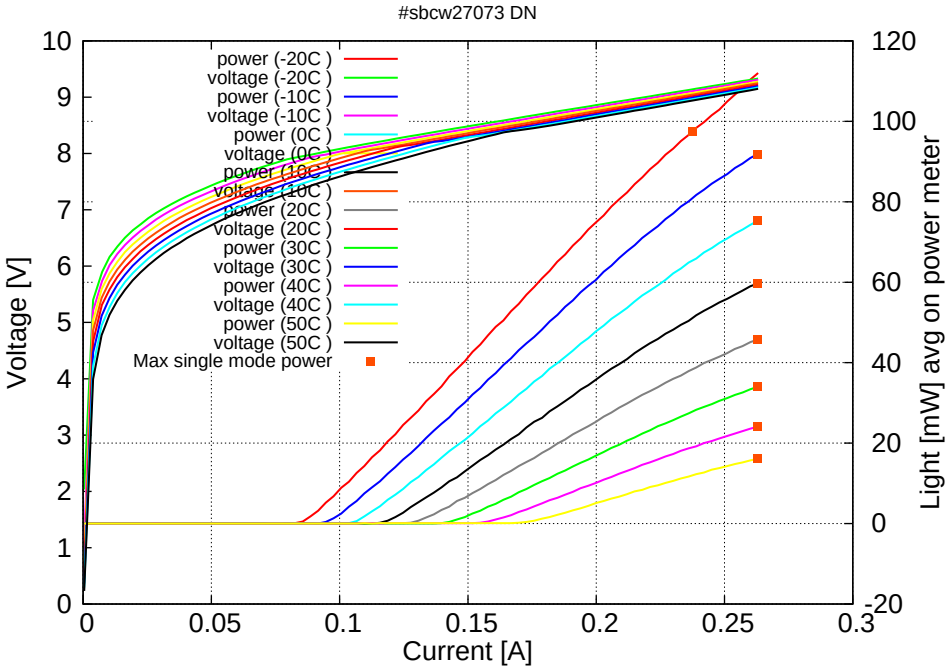

Figure 5: voltage and avg power vs current in continuous-wave operation (including the multimode region)

Note: at -20C: Ith=0.09A / Vth=7.9V (2-wires measurements). Maximum operation current: 0.265A for all temperatures.

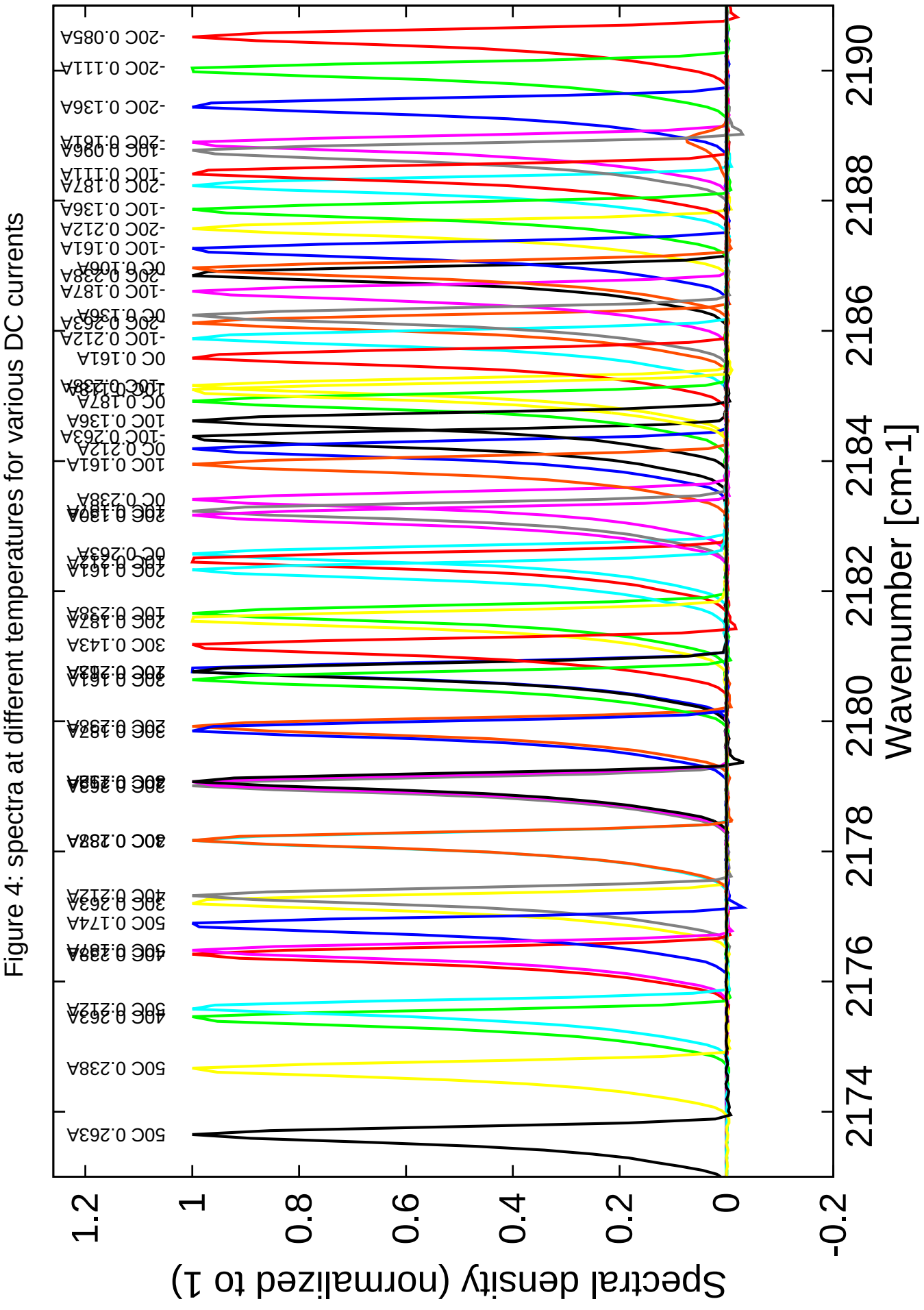

Figure 4: spectra at different temperatures for various DC currents