Quantum Cascade Solutions
Avenue des Pâquiers 1
CH-2072 St-Blaise
T: +41 32 729 95 10
F: +41 32 729 95 19

Datasheet for #sbcw19766 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.

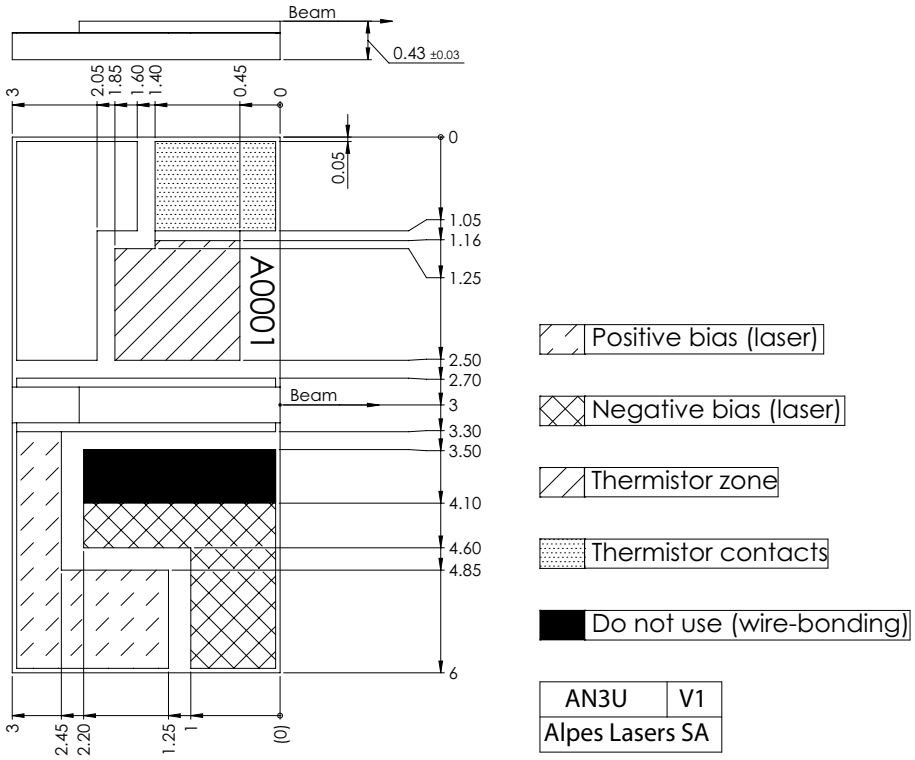

Figure 1: Mechanical and electrical interface for #sbcw19766 DN (please note that AlN submount numbering is A0TLE)

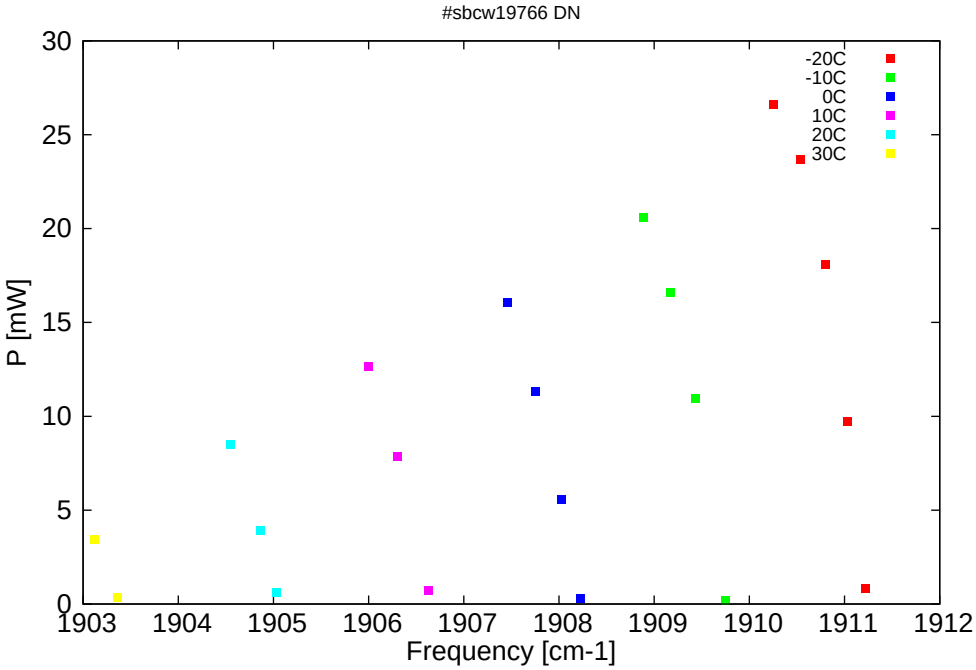

Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

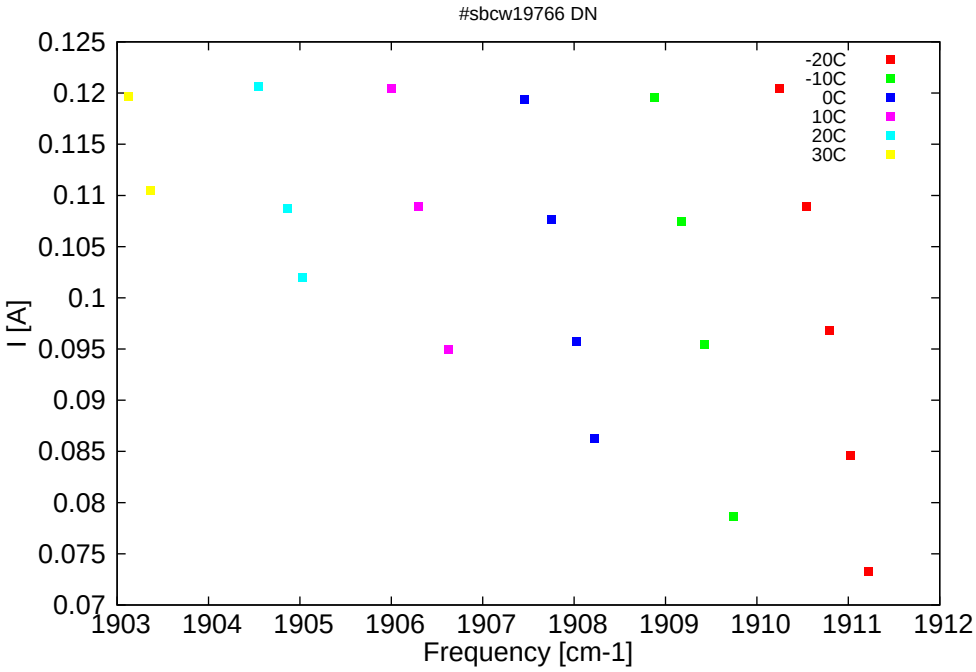

Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
5232.2	1911.2	0.8	-20	8.26	0.073
5232.8	1911	9.7	-20	8.53	0.085
5233.4	1910.8	18.1	-20	8.83	0.097
5234.1	1910.5	23.7	-20	9.15	0.109
5234.9	1910.3	26.6	-20	9.48	0.12
5236.3	1909.7	0.2	-10	8.36	0.079
5237.2	1909.4	11	-10	8.77	0.095
5237.9	1909.2	16.6	-10	9.08	0.107
5238.7	1908.9	20.6	-10	9.41	0.12
5240.5	1908.2	0.3	0	8.5	0.086
5241	1908	5.6	0	8.75	0.096
5241.8	1907.8	11.3	0	9.06	0.108
5242.6	1907.5	16	0	9.37	0.119
5244.9	1906.6	0.7	10	8.69	0.095
5245.8	1906.3	7.9	10	9.05	0.109
5246.6	1906	12.7	10	9.36	0.12
5249.3	1905	0.6	20	8.85	0.102
5249.7	1904.9	3.9	20	9.02	0.109
5250.6	1904.6	8.5	20	9.33	0.121
5253.9	1903.4	0.4	30	9.03	0.11
5254.5	1903.1	3.4	30	9.27	0.12

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

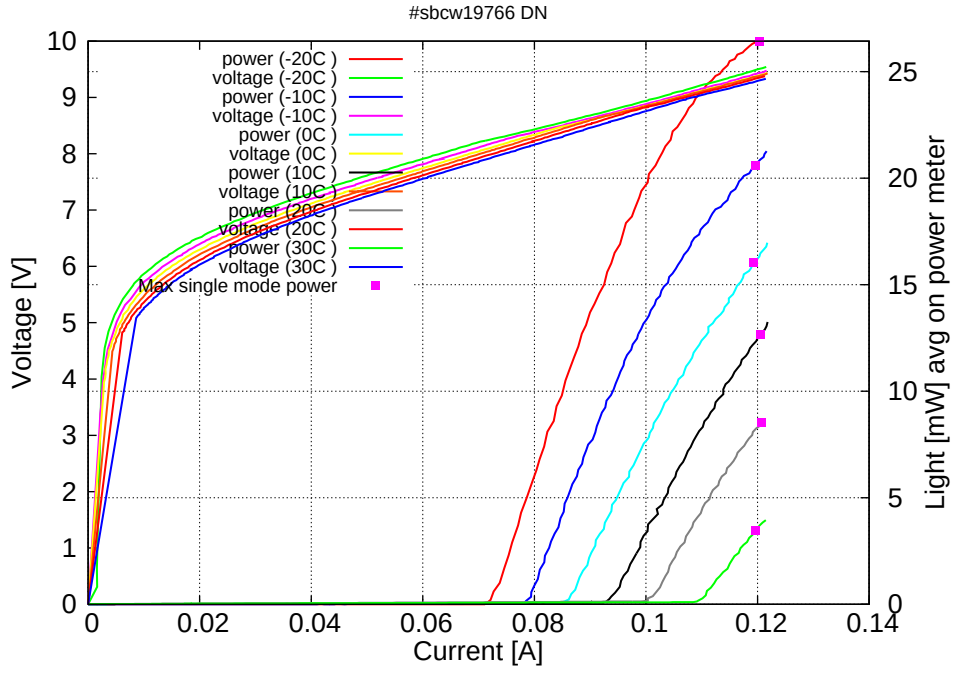

Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: Ith=0.07A / Vth=8.2V (2-wires measurements). Maximum operation

current: 0.122A for all temperatures.

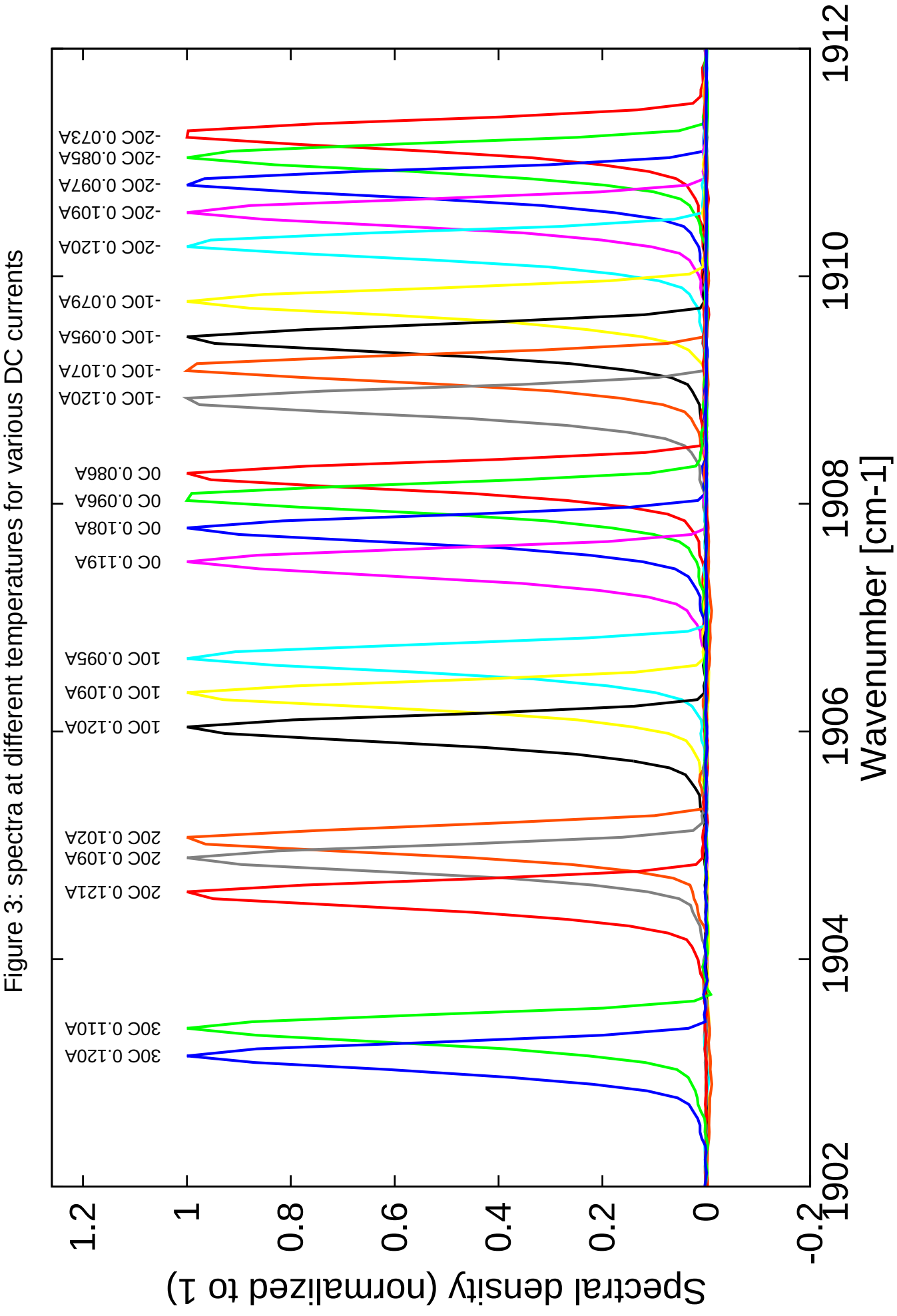

Figure 3: spectra at different temperatures for various DC currents