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 #sbcw24070 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.

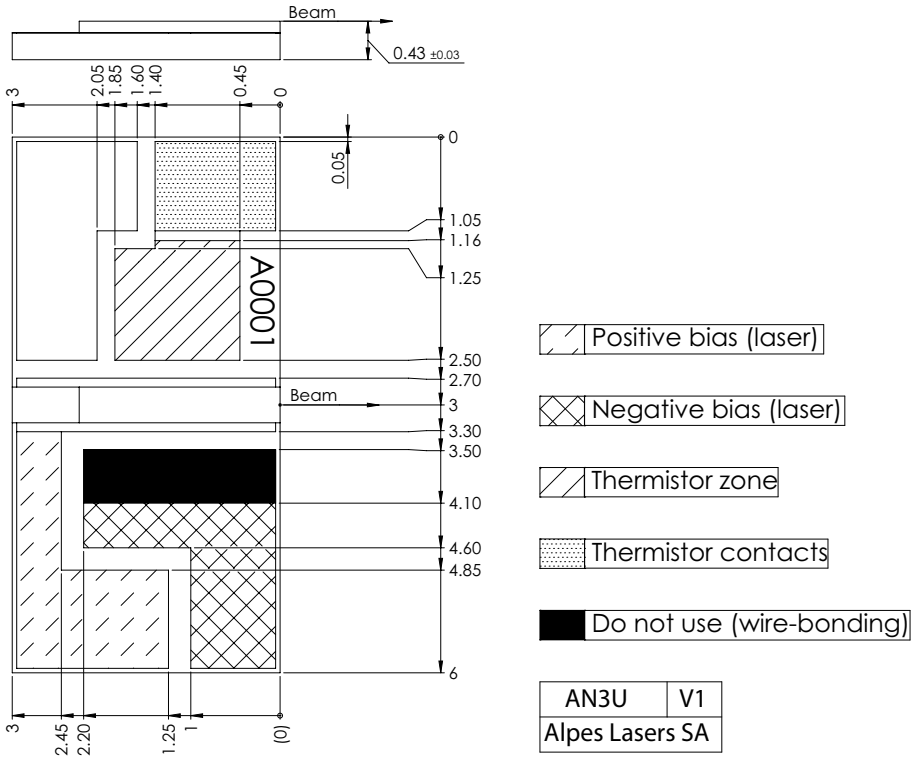

Figure 1: Mechanical and electrical interface for #sbcw24070 DN (please note that AlN submount numbering is A0ZR0)

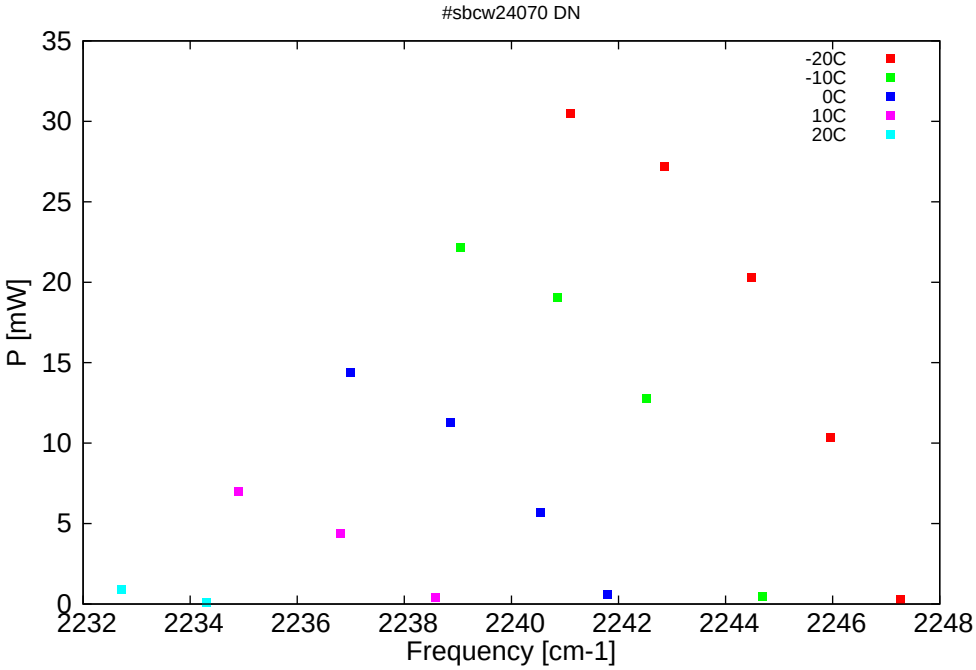

Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

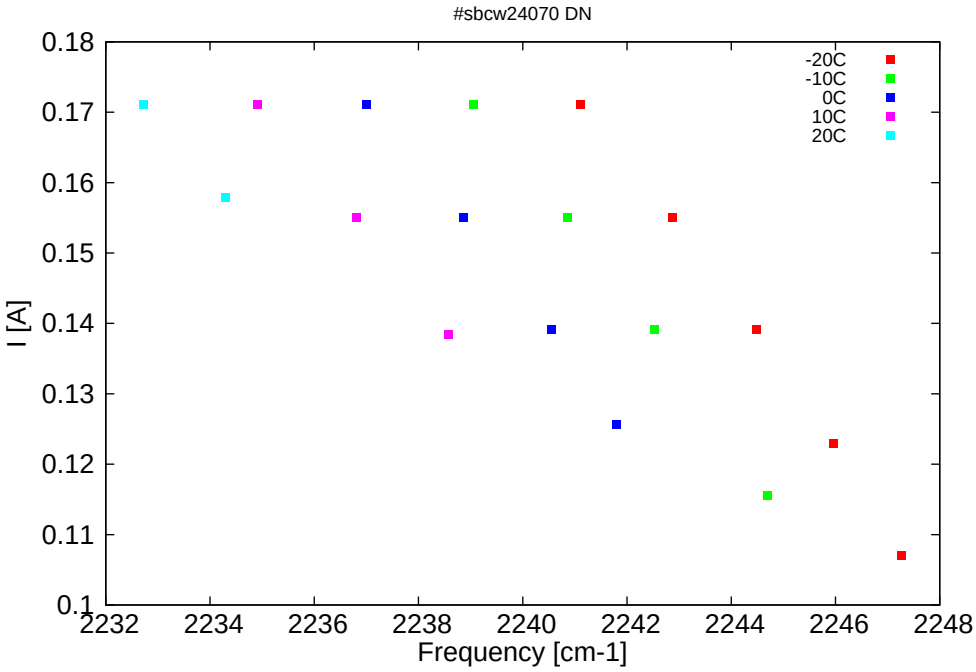

Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
4449.9	2247.3	0.3	-20	13.3	0.107
4452.4	2246	10.3	-20	13.6	0.123
4455.4	2244.5	20.3	-20	13.92	0.139
4458.6	2242.9	27.2	-20	14.24	0.155
4462.1	2241.1	30.5	-20	14.56	0.171
4455	2244.7	0.5	-10	13.35	0.116
4459.3	2242.5	12.8	-10	13.8	0.139
4462.6	2240.9	19	-10	14.11	0.155
4466.2	2239.1	22.2	-10	14.44	0.171
4460.7	2241.8	0.6	0	13.44	0.126
4463.2	2240.5	5.7	0	13.69	0.139
4466.6	2238.9	11.3	0	14	0.155
4470.3	2237	14.4	0	14.33	0.171
4467.1	2238.6	0.4	10	13.6	0.138
4470.7	2236.8	4.4	10	13.91	0.155
4474.5	2234.9	7	10	14.23	0.171
4475.7	2234.3	0.1	20	13.91	0.158
4478.8	2232.7	0.9	20	14.16	0.171

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

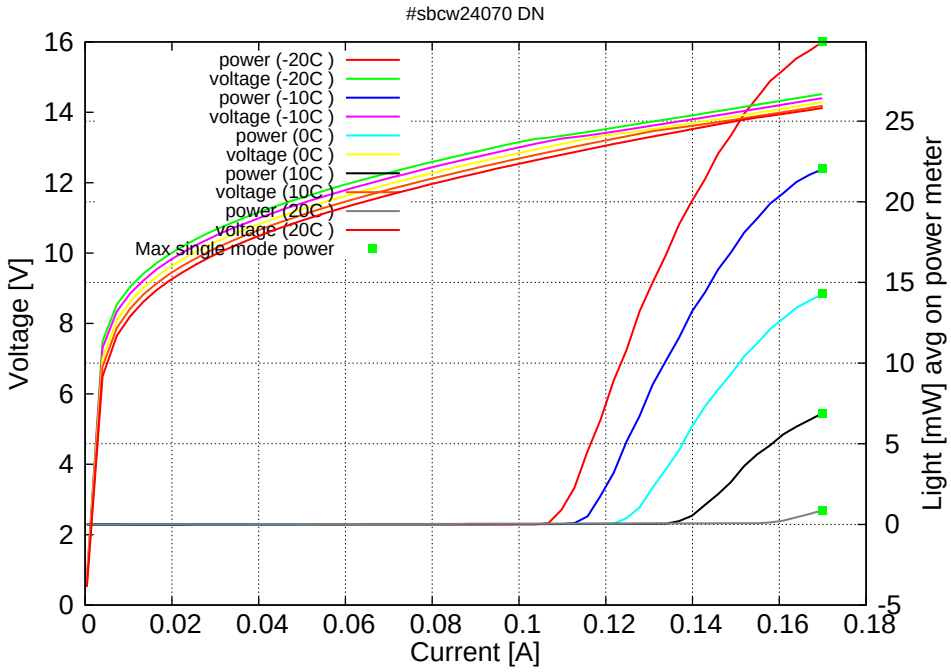

Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: Ith=0.10A / Vth=13.2V (2-wires measurements). Maximum operation current: 0.17A for all temperatures.

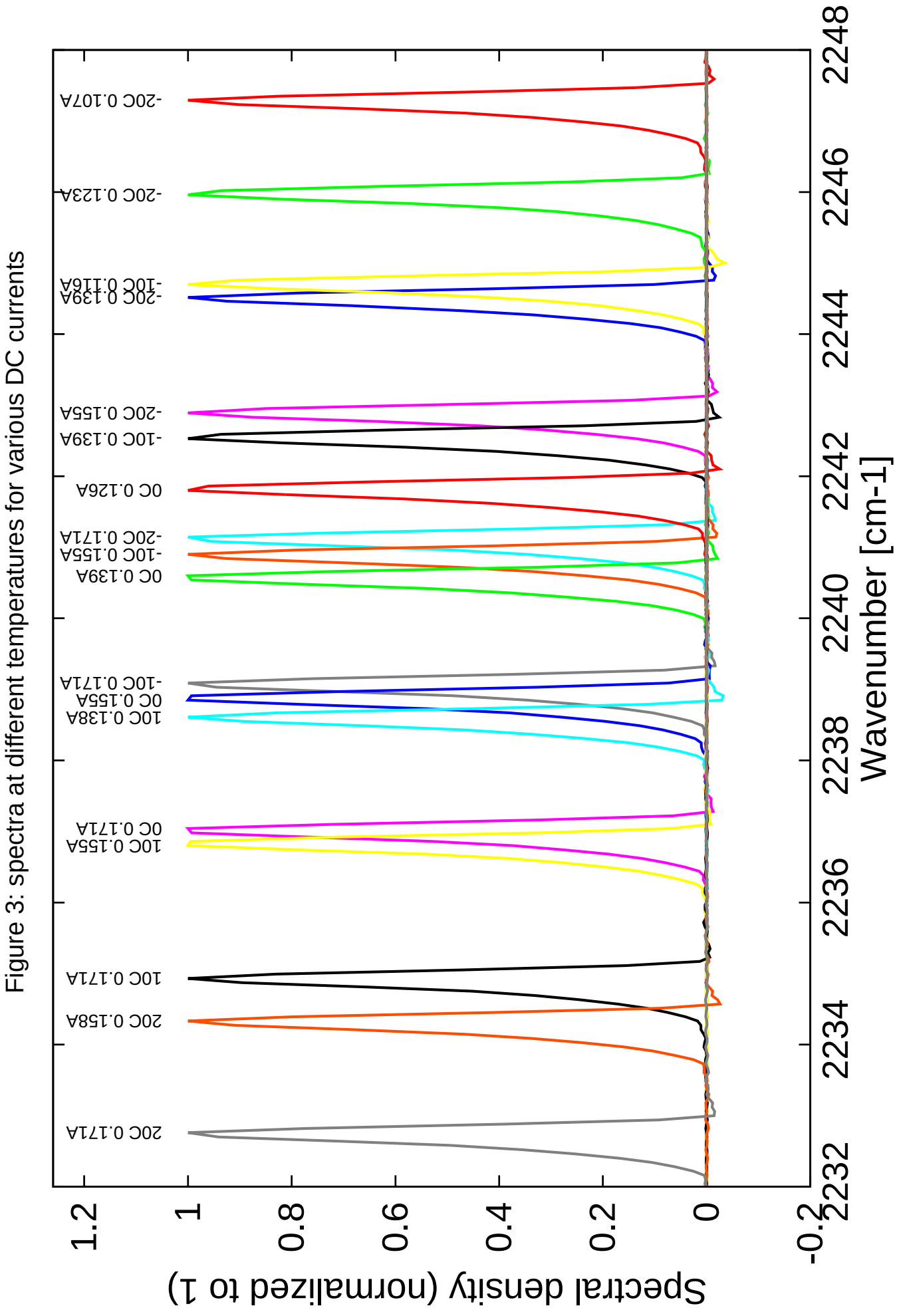

Figure 3: spectra at different temperatures for various DC currents