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 #sbcw23917 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.

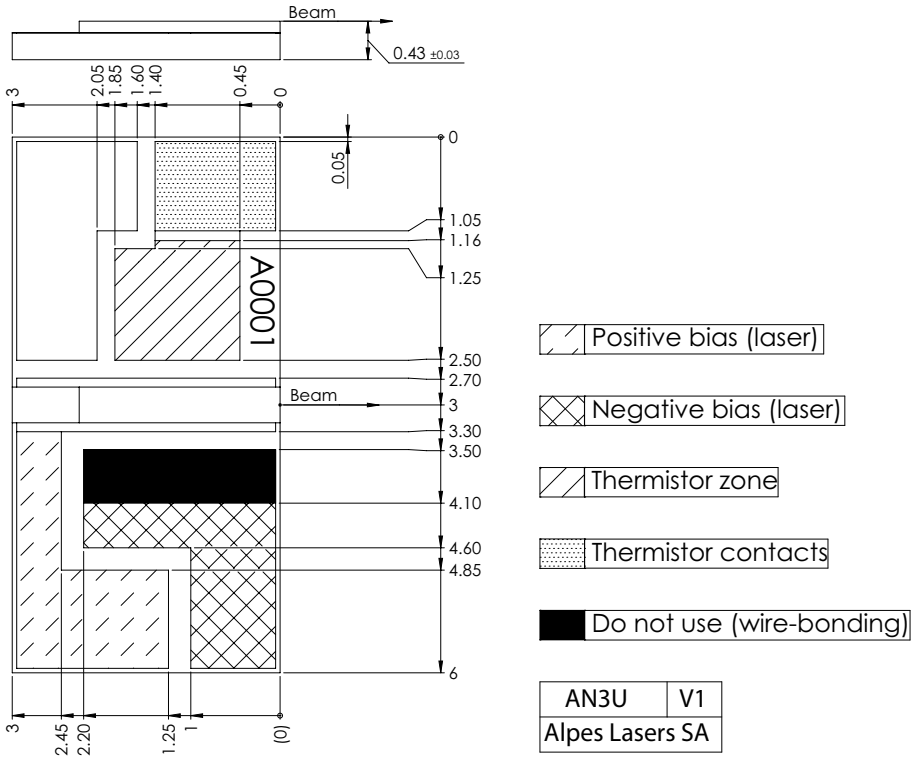

Figure 1: Mechanical and electrical interface for #sbcw23917 DN (please note that AlN submount numbering is A0XPY)

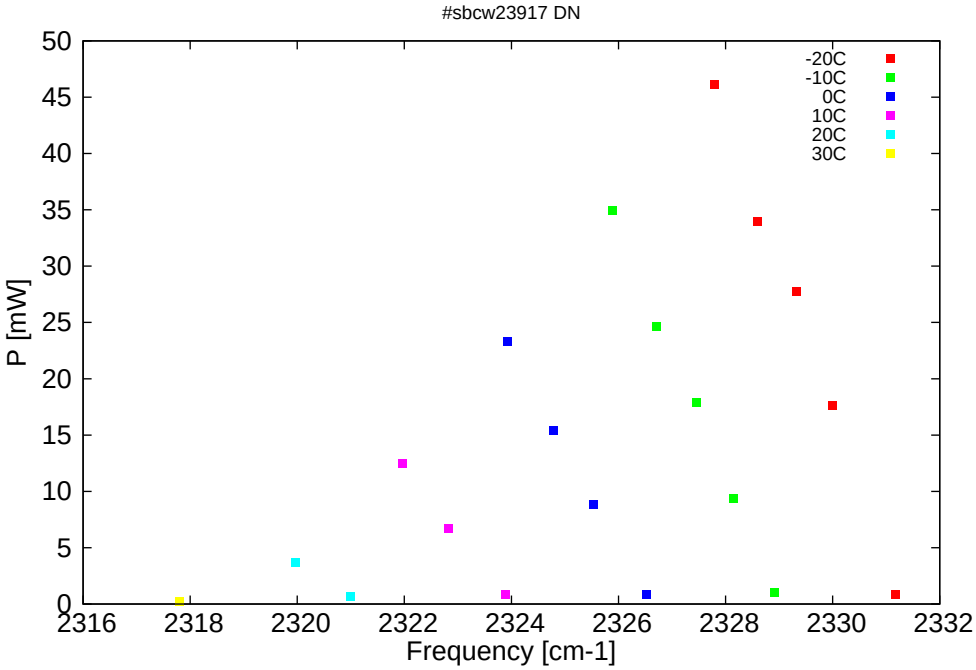

Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

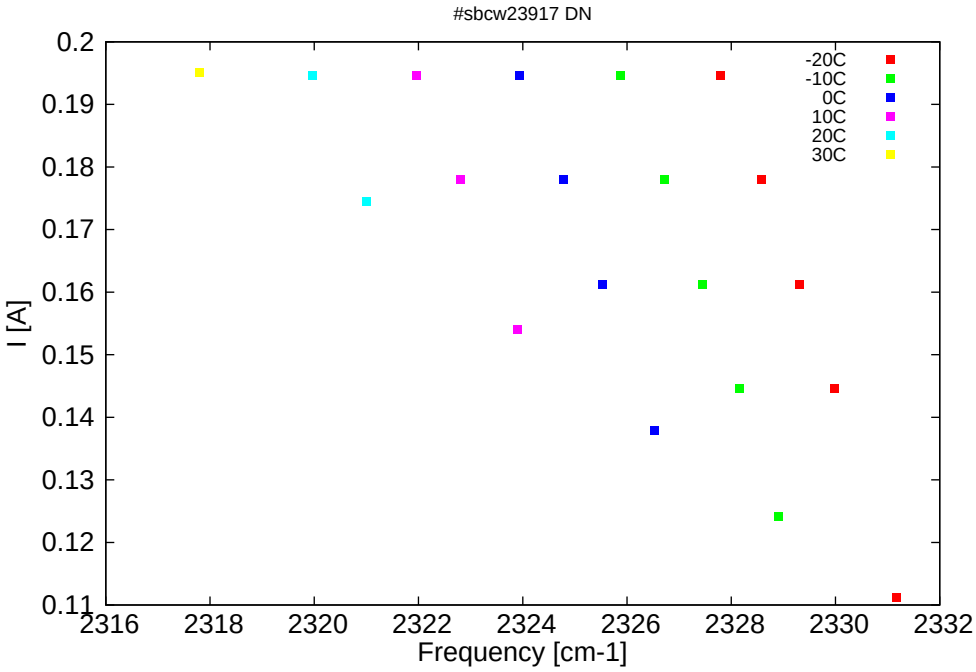

Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
4289.7	2331.2	0.9	-20	12.86	0.111
4291.9	2330	17.6	-20	13.36	0.145
4293.1	2329.3	27.8	-20	13.62	0.161
4294.4	2328.6	34	-20	13.88	0.178
4295.9	2327.8	46.1	-20	14.14	0.195
4293.9	2328.9	1	-10	12.95	0.124
4295.3	2328.2	9.4	-10	13.23	0.145
4296.5	2327.5	17.9	-10	13.48	0.161
4297.9	2326.7	24.7	-10	13.74	0.178
4299.4	2325.9	35	-10	13.99	0.195
4298.3	2326.5	0.9	0	13.05	0.138
4300.1	2325.5	8.8	0	13.36	0.161
4301.5	2324.8	15.4	0	13.61	0.178
4303	2323.9	23.3	0	13.86	0.195
4303.1	2323.9	0.8	10	13.2	0.154
4305.1	2322.8	6.7	10	13.5	0.178
4306.7	2322	12.5	10	13.74	0.195
4308.5	2321	0.6	20	13.4	0.174
4310.4	2320	3.7	20	13.66	0.195
4314.4	2317.8	0.3	30	13.65	0.195

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

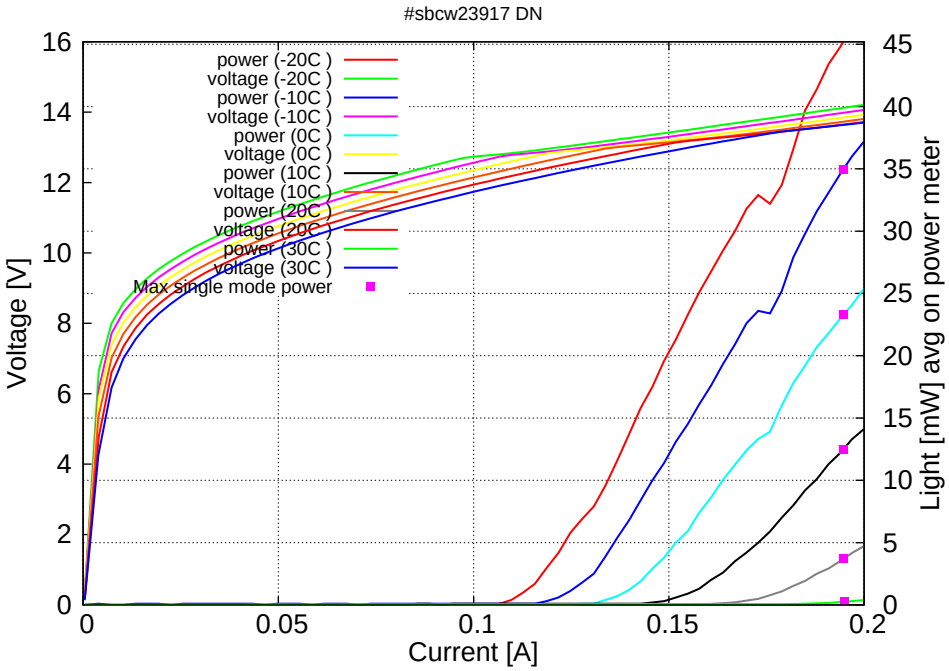

Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: Ith=0.11A / Vth=12.8V (2-wires measurements). Maximum operation current: 0.200A for all temperatures.

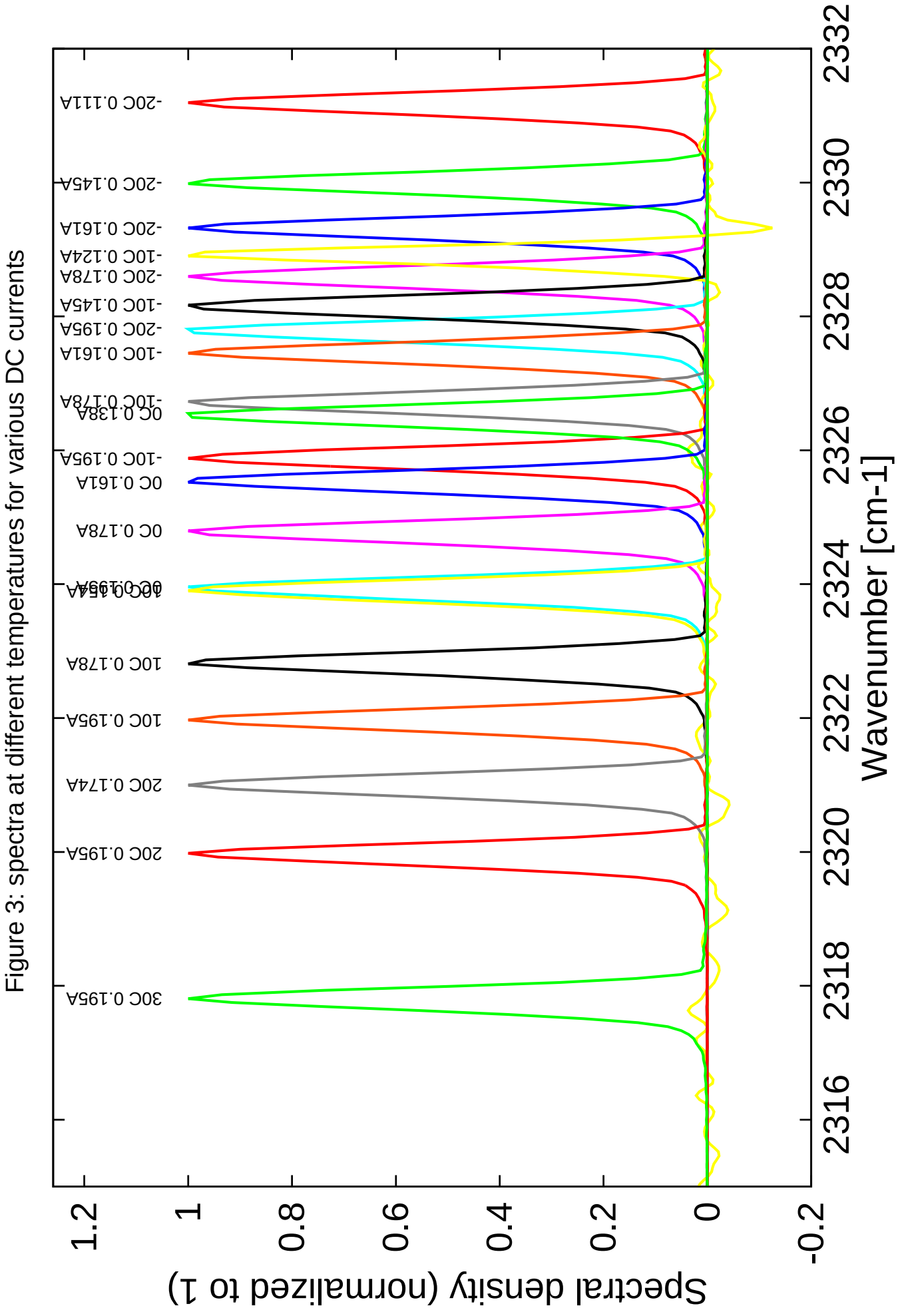

Figure 3: spectra at different temperatures for various DC currents