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 #sbcw25713 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.

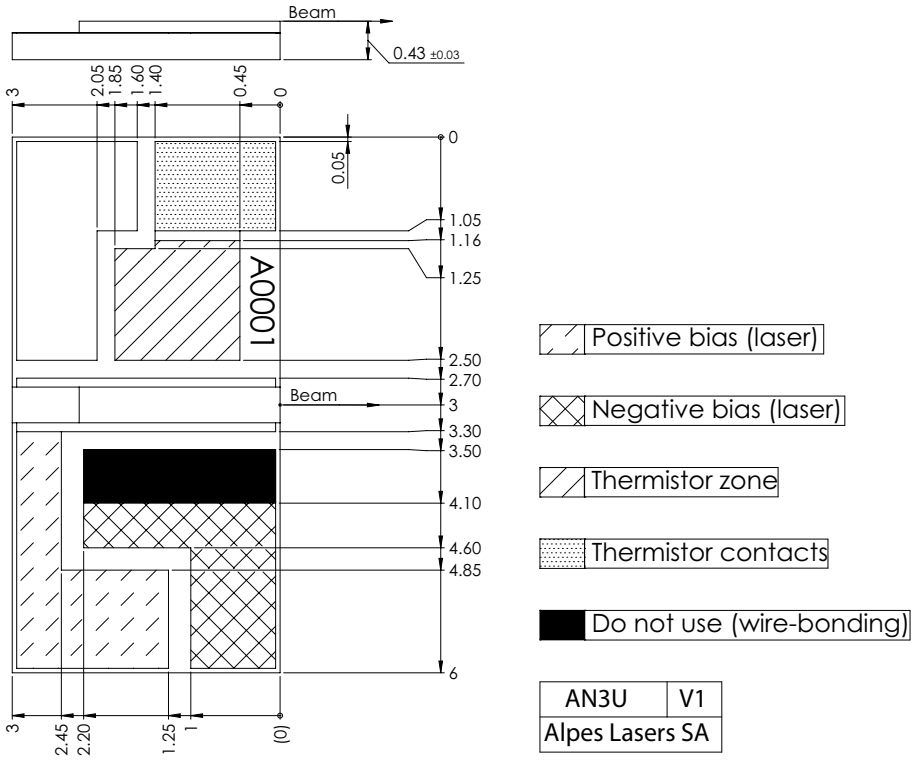

Figure 1: Mechanical and electrical interface for #sbcw25713 DN (please note that AlN submount numbering is A0X6W)

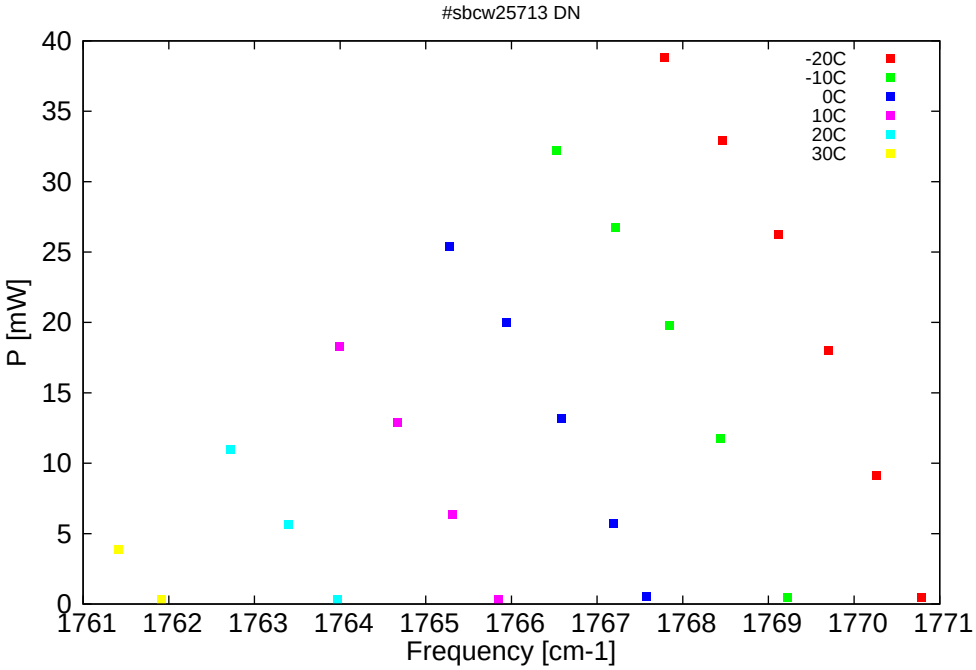

Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

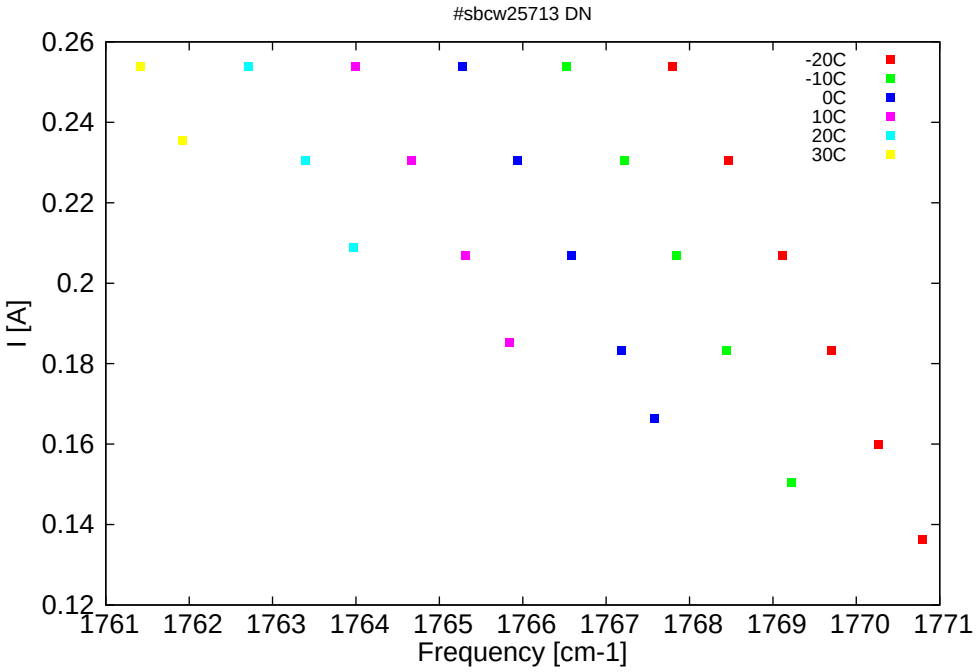

Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
5647.2	1770.8	0.5	-20	11.33	0.136
5648.9	1770.3	9.1	-20	11.73	0.16
5650.7	1769.7	18	-20	12.1	0.183
5652.5	1769.1	26.3	-20	12.44	0.207
5654.6	1768.5	32.9	-20	12.74	0.23
5656.8	1767.8	38.8	-20	13.03	0.254
5652.2	1769.2	0.5	-10	11.16	0.151
5654.7	1768.4	11.8	-10	11.66	0.183
5656.6	1767.8	19.8	-10	11.99	0.207
5658.6	1767.2	26.7	-10	12.29	0.23
5660.8	1766.5	32.2	-10	12.57	0.254
5657.4	1767.6	0.5	0	11.01	0.167
5658.7	1767.2	5.8	0	11.26	0.183
5660.6	1766.6	13.2	0	11.57	0.207
5662.7	1765.9	20	0	11.87	0.23
5664.8	1765.3	25.4	0	12.14	0.254
5663	1765.8	0.3	10	10.9	0.185
5664.7	1765.3	6.4	10	11.18	0.207
5666.8	1764.7	12.9	10	11.47	0.23
5669	1764	18.3	10	11.74	0.254
5669	1764	0.3	20	10.85	0.209
5670.9	1763.4	5.7	20	11.11	0.23
5673.1	1762.7	11	20	11.37	0.254
5675.6	1761.9	0.3	30	10.83	0.236
5677.2	1761.4	3.9	30	11.03	0.254

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

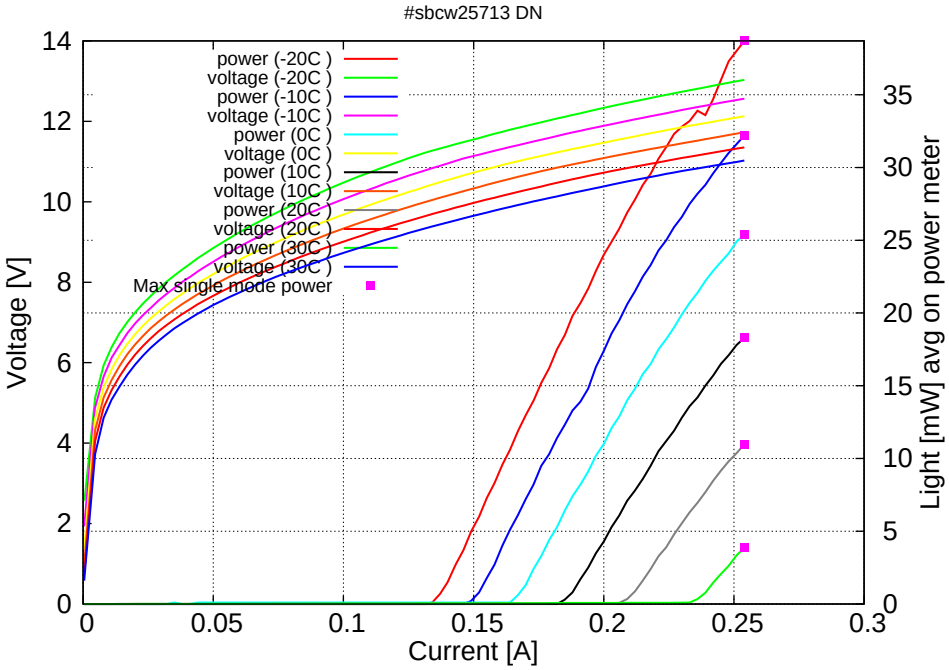

Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: Ith=0.13A / Vth=11.3V (2-wires measurements). Maximum operation current: 0.255A for all temperatures.

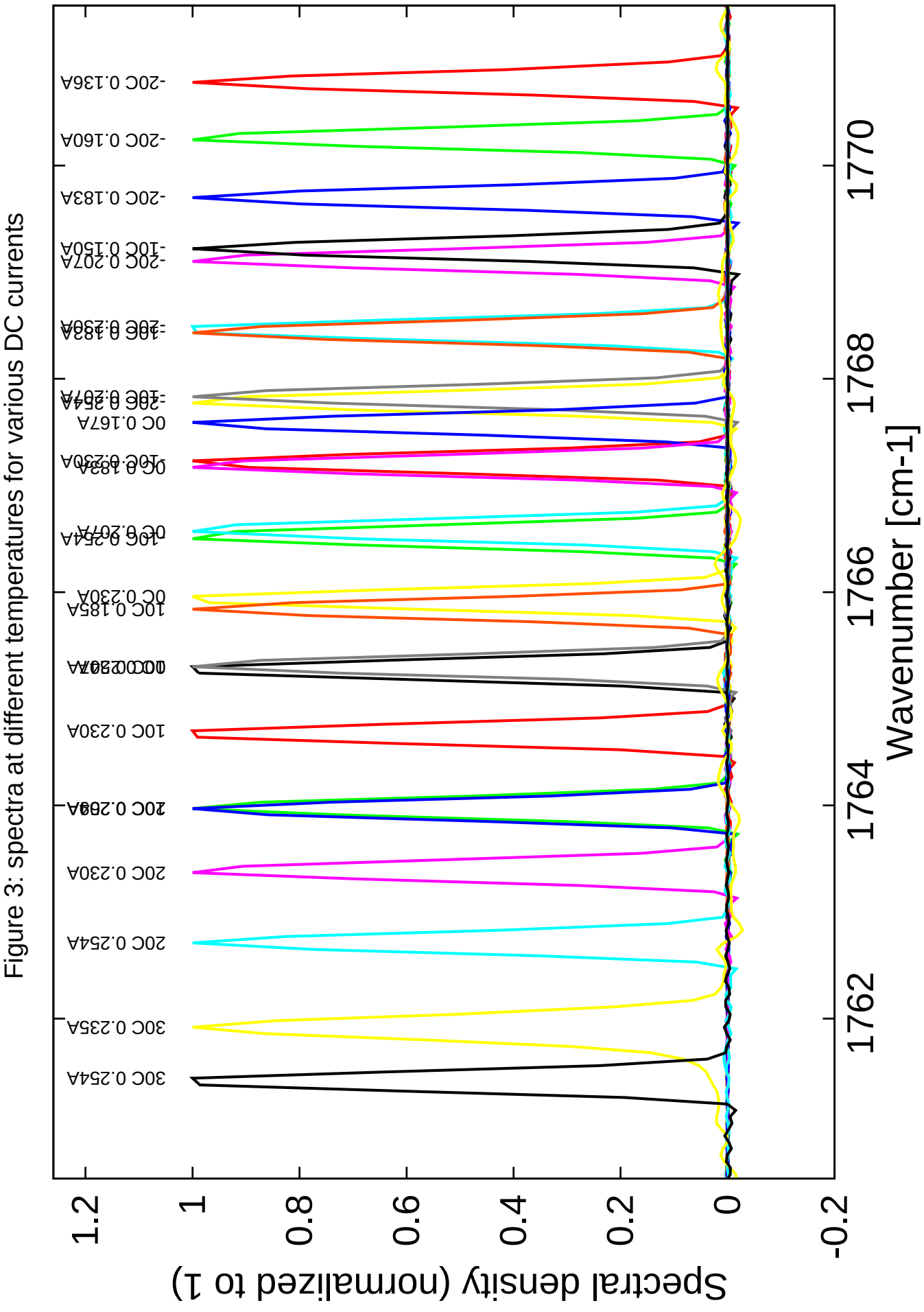

Figure 3: spectra at different temperatures for various DC currents