ALPES LASERS

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 #sbcw7786 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 use with an ILX Lightwave LDX-3232 laser driver, or equivalent.
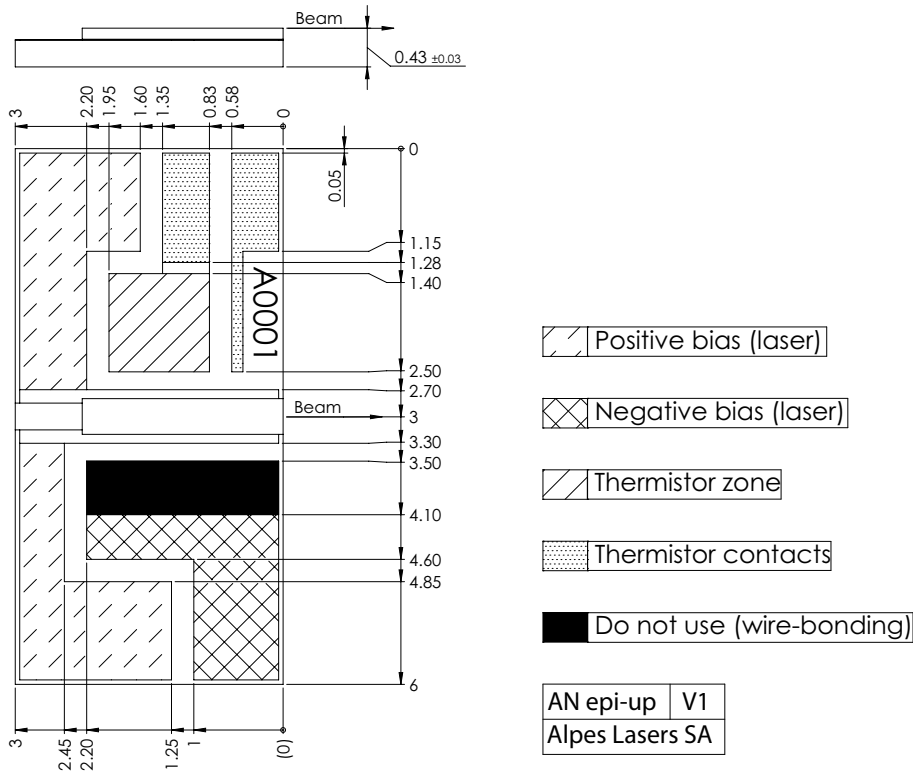

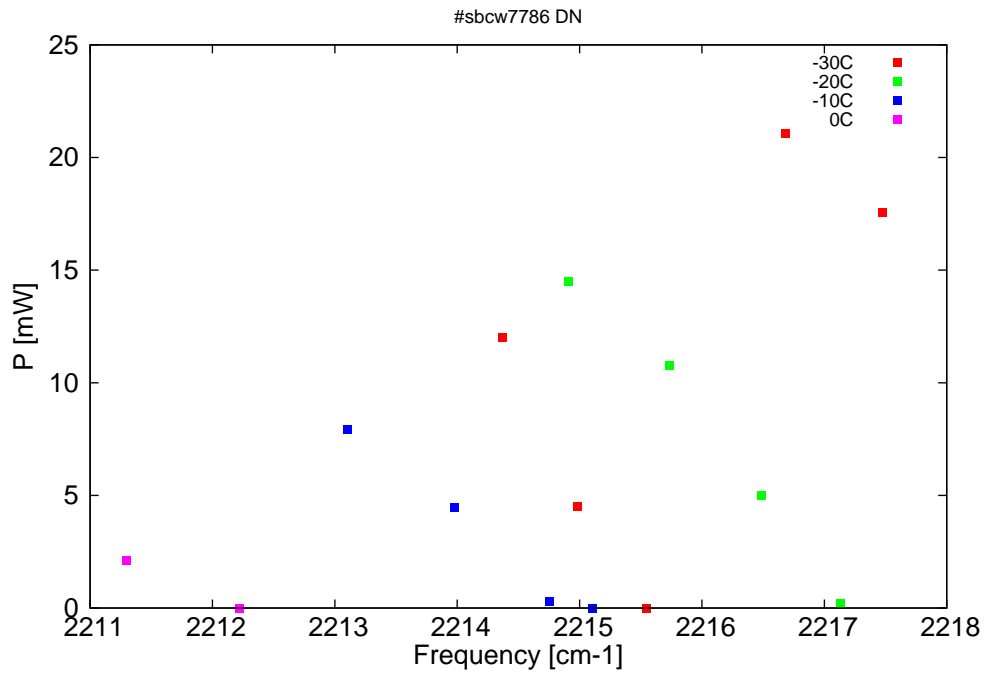Figure 1: Support mounting for #sbcw7786 DN (please note that AlN submount numbering is A022R)

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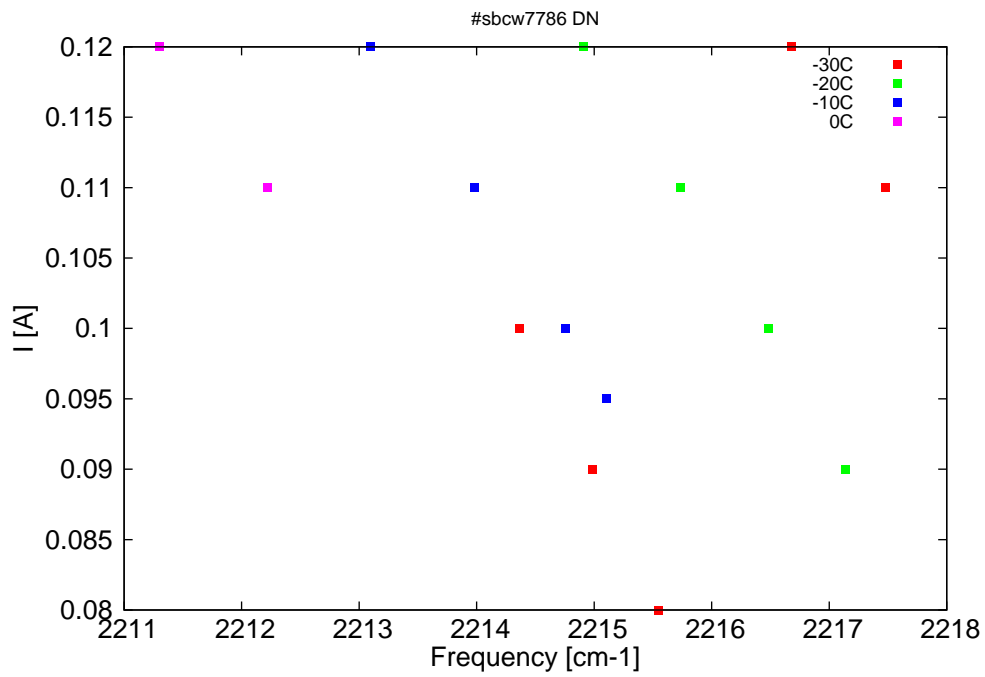

Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
4513.6	2215.5	0	-30	9.6	0.08
4514.7	2215	4.5	-30	9.9	0.09
4516	2214.4	12	-30	10.1	0.1
4509.6	2217.5	17.6	-30	10.4	0.11
4511.3	2216.7	21.1	-30	10.7	0.12
4510.3	2217.1	0.2	-20	9.9	0.09
4511.6	2216.5	5	-20	10.1	0.1
4513.2	2215.7	10.7	-20	10.4	0.11
4514.9	2214.9	14.5	-20	10.6	0.12
4514.5	2215.1	0	-10	10	0.1
4515.2	2214.8	0.3	-10	10.1	0.1
4516.8	2214	4.5	-10	10.4	0.11
4518.5	2213.1	7.9	-10	10.6	0.12
4520.3	2212.2	0	0	10.4	0.11
4522.2	2211.3	2.1	0	10.6	0.12

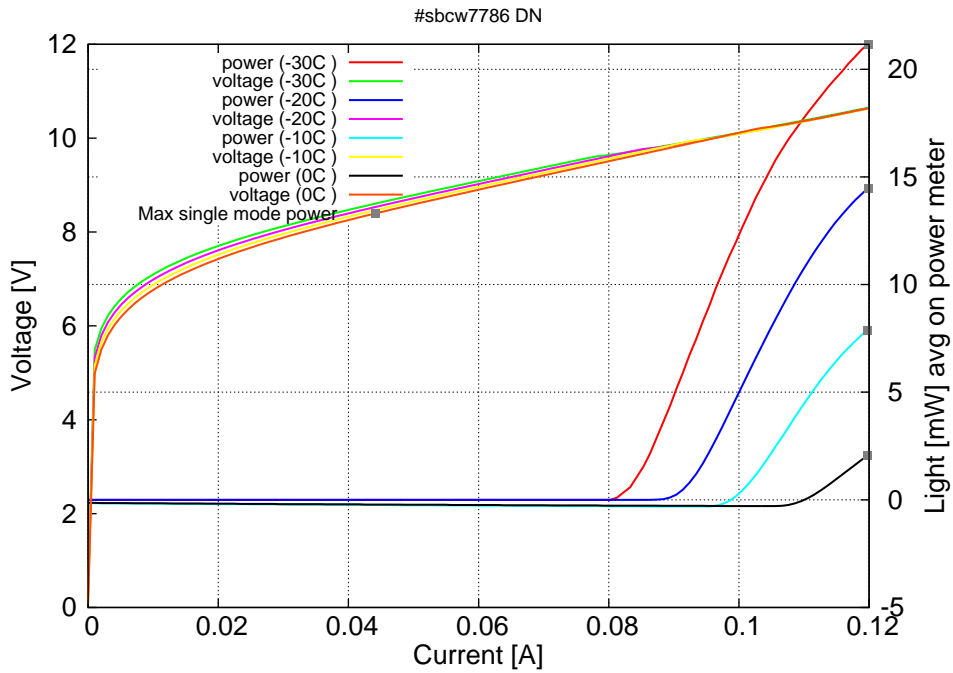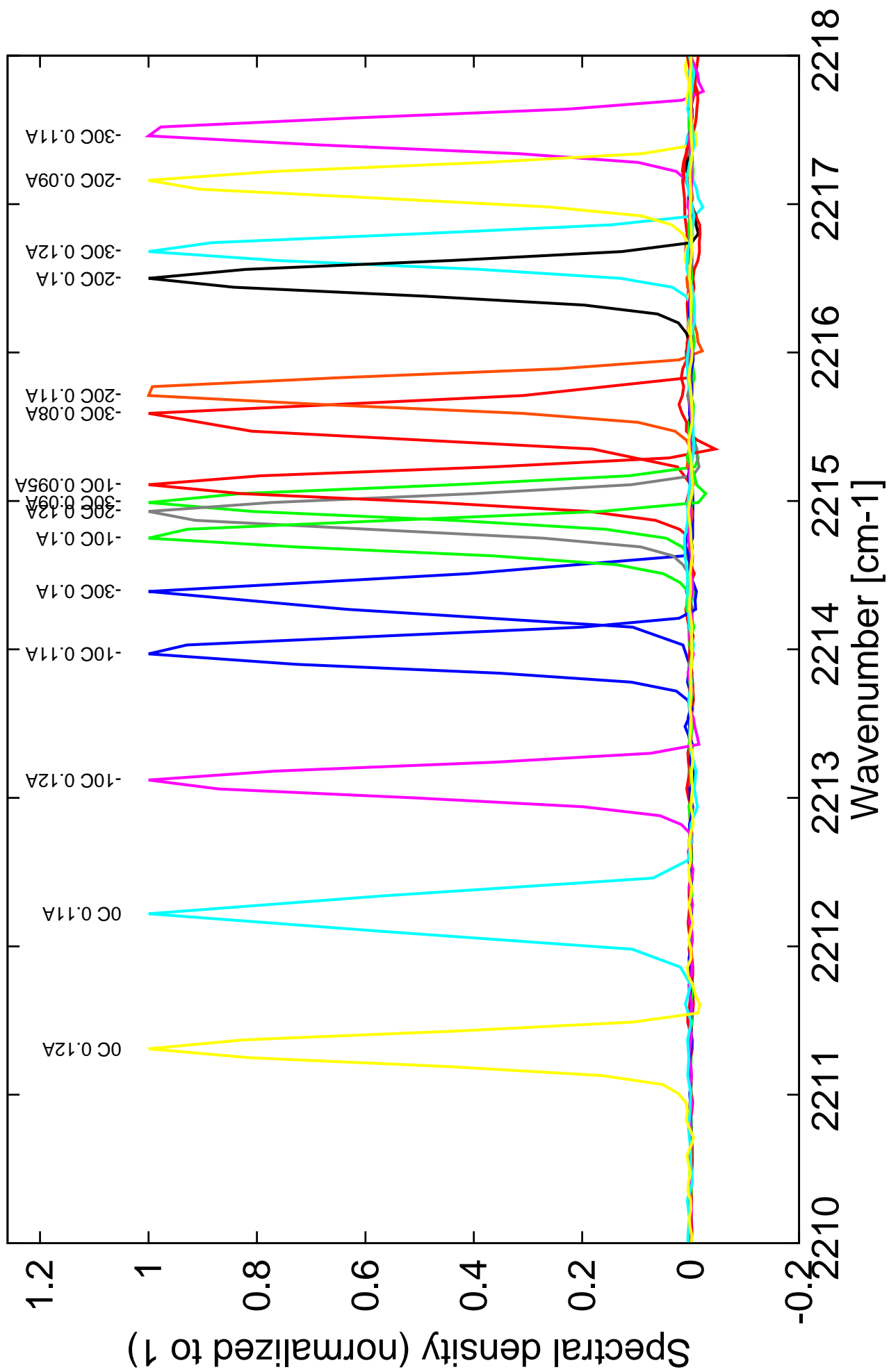Table 1: Singlemode optical output power as function of operating parameters.

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

Note: at -30C: Ith=0.08A / Vth=9.6V (2-wires measurements). Maximum operation current: 0.12A for all temperatures.

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Figure 3: spectra at different temperatures for various DC currents

The figure shows spectral density (normalized to 1) versus wavenumber [cm-1] ranging from 2210 to 2218. Various peaks are labeled:

- 0C 0.12A
- 0C 0.11A
- -10C 0.12A
- -10C 0.11A
- -30C 0.1A
- -10C 0.1A
- -30C 0.12A
- -30C 0.09A
- -10C 0.095A
- -30C 0.08A
- -20C 0.11A
- -20C 0.1A
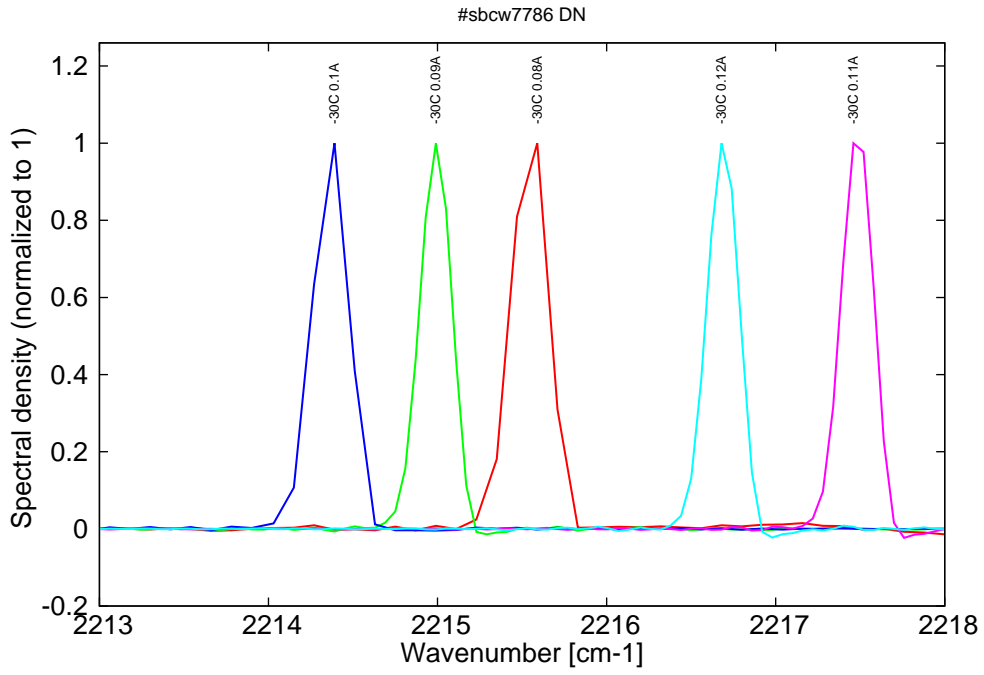- -30C 0.12A
- -20C 0.09A
- -30C 0.11A

Figure 5: spectra at -30C for various DC currents (monomode on mode 1 up to 0.1A, then becomes monomode on mode 2)
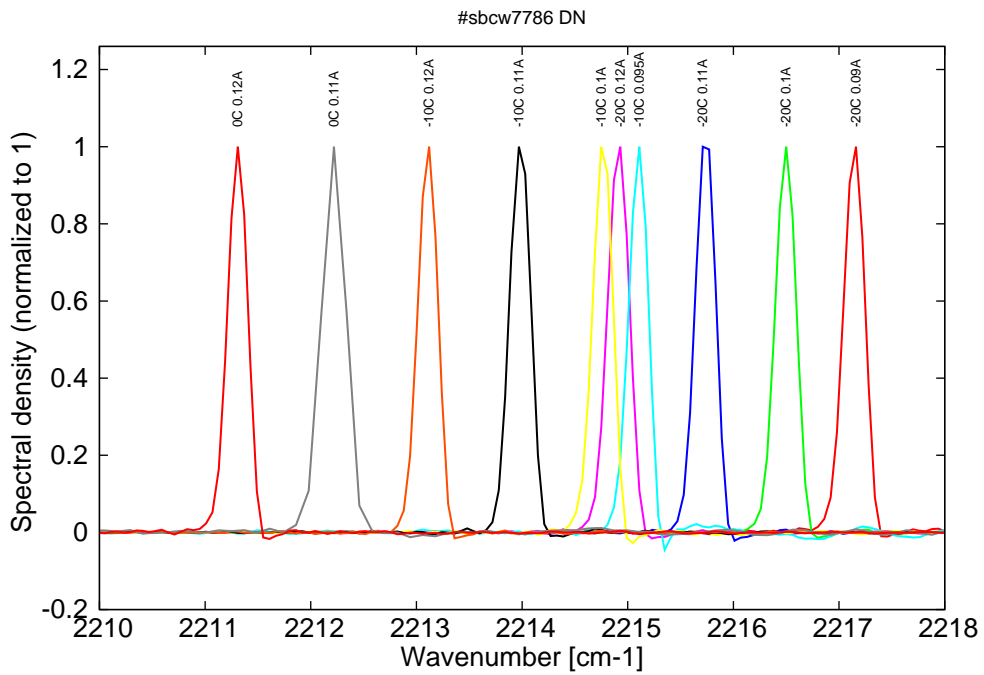

Figure 6: spectra between -20C and 0C for various DC currents (all monomode on mode 2)

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